Postnatal Depressive Symptoms and Social Media Use for Support amongst Mothers and Fathers within the First Year Postpartum

By

Iris-Anda Ilies

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Birmingham City University

Faculty of Business, Law and Social Sciences

August 2022

Abstract

Postnatal depression (PND) can have substantial detrimental effects on the wellbeing and adjustment of mothers and fathers, and ultimately on the development of infants. Whilst many parents have chosen to use social media for parenting support and information, it is unclear what role postnatal mental health plays in digital behaviours. This doctoral research aimed to investigate the impact of maternal and paternal PND symptoms on social media usage and perceived social support, gain a detailed insight into the function of social media in parental adjustment, and examine gender differences in online language related to PND. The current research consisted of five individual studies, and it employed a mixed-methods approach, utilising quantitative (self-reported questionnaires), qualitative (semi-structured interviews) and corpus-linguistic techniques to analyse data collected from mothers and fathers with at least one baby under one year old. The results from the quantitative studies indicated that mothers and fathers with higher risk of PND were more likely to engage in online comparisons with other parents, and to report lower levels of perceived social support, compared to parents with low risk of PND. The qualitative studies revealed that parents identified social media sites as advantageous in connecting with other parents and receiving night-time support, as well as disadvantageous due to unreliable information, curated content, and an imbalance in the maternal versus paternal-specific resources. Finally, the fifth study utilised a corpus-linguistic analysis of PND-related Twitter content and revealed that there were gender differences in the language used to discuss PND online. Female Twitter users were found to be more likely to discuss PND from a personal perspective, with the use of adjectives that express difficulty, whereas male Twitter users were focused on the PND experiences of other parents. Twitter accounts representing organisations, such as charities, medical or educational institutions, were considerably more inclined to post content focused on motherhood or maternal PND, with limited content related to fatherhood or paternal PND. Overall, this doctoral research indicated that PND symptoms have a clear impact on digital behaviours and perceived support amongst parents, and that there are problematic discrepancies within the accessibility of maternal and paternal online support. The findings have important clinical and practical implications for improved perinatal healthcare practice, policy change, postnatal mental health awareness, as well as technological additions, in the form of evidence-based online parenting platforms.

Acknowledgments

Firstly, I would like to thank the mothers and fathers who volunteered to take part in this research, their involvement has been incredibly valuable and appreciated.

Secondly, I am very grateful to my family, friends, and work colleagues for continuously encouraging and motivating me throughout the PhD programme. They never failed to remind me of my capabilities during difficult moments, ensured that I prioritised self-care and always offered to help me out with little things that made life with a PhD and full-time job much easier. A special thanks goes to my brother, Dragos, who not only helped me massively by always being there to listen and offer advice, but also by taking the time to design a digital programme that automatised my work for the final study which resulted in a much more efficient data analysis.

Finally, a huge thank you to my supervisory team, Dr Emily Coyne-Umfreville, Dr Pelham Carter and Dr Helen Egan, for their incredible support and guidance. I could not be happier and more thankful for getting the chance to work with such an amazingly supportive and dedicated team. Your patience, advice and expertise have been greatly appreciated.

Table of Contents

Chapter One: General Introduction to Postnatal Depression and Social Media Use

1.1. What is postnatal depression? 11
1.2. The aetiology of postnatal depression – Risk Factors 12
1.3. Impact of the Covid-19 pandemic on perinatal mental health and support 16
1.4. Impact of PND on parent-baby bond 18
1.5. PND impact on infant development 20
1.6. Treatment and Interventions 23
1.7. Social support in the postnatal period 26
1.7.1. Overview of social support in the transition to parenthood 26
1.7.2. Social support for fathers 29
1.8. Online Support 31
1.9. Social media use amongst parents 32
1.9.1. Benefits of social media use in the perinatal period 33
1.9.2. Social media use and PND 35
1.9.3. Social media use amongst fathers 36
1.9.4. Disadvantages of social media use in the perinatal period 38
2.1. The current thesis 40
2.1.1. Rationale 40
2.1.2. Overall aims, research questions and hypotheses 41

Chapter Two: General Methodology

2.2. Mixed-methods design 44
2.2.1. A sequential-explanatory design 46
2.3. Philosophical approach - Critical Realism 48
2.4. Structure of Methodological Design 49
2.5. Quantitative approach (Studies 1 & 3) 51
2.5.1. The research sites 51
2.5.2. Participants 52
2.5.3. Materials 53
2.5.4. Design 61
2.5.5. Ethical Considerations for Study 1 and Study 3 63

2.6. Qualitative approach (Studies 2 & 4) 64
2.6.1. The research sites 65
2.6.2. Participants 66
2.6.3. Materials 67
2.6.4. Design 68
2.6.5. Ethical Considerations for Study 2 and Study 4 68
2.7. Corpus Linguistic Approach (Study 5) 70
2.7.1. The research sites 70
2.7.2. Participants 71
2.7.3. Measures and Design 71
2.7.4. Ethical considerations for Study 5 73
2.8. Concluding remarks on methodology 74

Chapter Three: Study One: Postnatal Depressive Symptoms and Social Media Use amongst Mothers within the First Year Postpartum

3.1. Maternal PND and parental stress 74
3.2. Support and treatment barriers for maternal PND 76
3.3. Social Media Use 77
3.3.1. Advantages and disadvantages of social media use amongst mothers 78
3.3.2. Social media usage and depression 79
3.4. Study rationale 80
3.5. Research Questions and hypotheses 81
3.6. Methodology 82
3.6.1. Design 82
3.6.2. Participants 83
3.6.3. Materials 85
3.6.4. Procedure 88
3.7. Results 89
3.8. Discussion 95
3.8.1. Strengths and limitations 97
3.8.2. Implications and conclusion 98

Chapter Four: Study Two: A Qualitative Exploration of Motherhood and Digital Behaviours of Mothers in the First Year Postpartum

4.1. Adjustment to motherhood- changes, expectations and social support 99

4.1.1. Impact of expectations on adjustment to motherhood 100
4.1.2. Impact of social support on adjustment to motherhood 102
4.2. Use of social media and online support for mothers 103
4.3. Rationale and aims of present study 105
4.4. Methodology 106
4.4.1. Participants 106
4.4.2. Interview schedule 107
4.4.3. Procedure 108
4.4.4. Analysis 108
4.5. Findings 113
4.5.1. Motherhood as a challenge to identity 113
4.5.2. "Community at your fingertips" 120
4.5.3. The dark side of social media 126
4.6. Discussion 133
4.6.1. Study implications, strengths and limitations 139
4.6.2. Conclusion 140

Chapter Five: Study Three: Postnatal Depressive Symptoms and Social Media Use amongst Fathers within the First Year Postpartum

5.1. Paternal postnatal depression 141
5.2. Social support and help-seeking behaviours among fathers 142
5.3. Digital behaviours of fathers and online support 145
5.4. Study Rationale and Aims 148
5.5. Research questions and hypothesis 148
5.6. Methodology 149
5.6.1. Design 149
5.6.2. Participants 150
5.6.3. Materials 152
5.6.4. Procedure 155
5.7. Results 155
5.8. Discussion 162
5.8.1. Strengths and limitations 167
5.8.2. Implications and Conclusion 168

Chapter Six: Study Four: A Qualitative Exploration of Fatherhood and Digital Behaviours of Fathers in the First Year Postpartum

6.1. Transition into fatherhood 170
6.2. Paternal social support 172
6.3. Digital behaviours amongst fathers 173
6.4. Rationale and aims of present study 175
6.5. Methodology 176
6.5.1. Participants 176
6.5.2. Interview schedule 177
6.5.3. Procedure 178
6.5.4. Analysis 178
6.6. Results 181
6.6.1. "A bit of a rollercoaster" 182
6.6.2. "What about men?" 186
6.6.3. "Men don't talk to each other about that kinda stuff" 190
6.6.4. "Who's a friend, who's a stranger, who's malicious" 196
6.7. Discussion 200
6.7.1. Wider implications 206
6.7.2. Strengths and limitations 207
6.7.3. Conclusion 207

Chapter Seven: Study Five: Gender Differences in Postnatal Depression on Social Media: A Corpus Linguistic Analysis

7.1. Language and social support 208
7.2. Gender differences in language of depression 209
7.3. Parental use of social media and online language 212
7.4. Rationale, hypothesis and aims 215
7.5. Methodology 215
7.5.1. Design & Data Analysis 215
7.5.2. Participants 217
7.5.3. Materials 217
7.5.4. Procedure 218
7.6. Results 219
7.6.1. Frequencies 220
7.6.2. Collocations 223
7.6.3. Keyness tests 229

7.7. Discussion.....239
7.7.1. Implications, strengths and limitations.....243
7.7.2. Conclusion.....245

Chapter Eight: General Discussion

8.1. Quantitative design.....247
8.1.1. Study 1 and Study 3.....247
8.2. Qualitative design.....253
8.2.1. Study 2 and Study 4.....253
8.3. Corpus Linguistic design.....256
8.3.1. Study 5.....256
8.4. What are the links between the five studies?.....258
8.5. Reflexivity.....260
8.6. Implications of the findings.....263
8.6.1. Public awareness.....263
8.6.2. Online resources.....265
8.6.3. Impact on healthcare system.....266
8.6.4. Policy change.....267
8.7. Strengths and limitations.....267
8.8. Suggestions for future research.....269
8.9. Conclusion.....270
References.....272
Appendices.....339

List of Tables

Table 3. 1 Sociodemographic characteristics of final sample of mothers 84
Table 3. 2 Means, standard deviations and significance values based on independent t-tests and Mann-Whitney test for the scores of self-reported scales and single items for the low and high risk of maternal PND 89
Table 3. 3 Pearson Correlation between PND scores, frequency of social media use, SMUIS, perceived social support, online comparisons, parental stress and perceived online support

Table 4. 1 Demographic information of the mothers, including the pseudonyms chosen to maintain anonymity, age, ethnicity, number and age of children 106
Table 4. 2 Presentation of main themes, sub-themes, examples of codes used to form each theme and quotes from the data 109

Table 5. 1 Sociodemographic characteristics of fathers, separated based on the use of social media for parenting support, information or advice 151
Table 5. 2 Means, standard deviations and significance values based on independent t-tests for the scores of self-reported scales and single items for the groups of low and high risk of paternal PND.....156
Table 5. 3 Pearson Correlation between SMUIS scores, PPND scores, perceived social support, perceived online support, frequency of social media use and online comparisons

Table 6. 1 Demographic information of the fathers, including the pseudonyms chosen to maintain anonymity, age, ethnicity, number and age of children 176
Table 6. 2 Presentation of main themes, examples of the codes used to form each theme and quotes from the data.....179

Table 7. 1 Total number of tweets and words for each Twitter user group and for the entire data.....219
Table 7. 2 Top 50 most frequently used words (all data) 221
Table 7. 3 Top 50 most frequently used words from the female user group 221
Table 7. 4 Top 50 most frequently used words from the male user group 222
Table 7. 5 The 20 most frequent words utilised in proximity of the word “depression”, in both the female and male user groups.....224
Table 7. 6 The 20 most frequent words utilised in proximity of the word “help”, in both the female and male user group 227
Table 7. 7 Keyness analysis for the female user group, with the male user group as reference corpus.....230
Table 7. 8 Keyness analysis for the male user group, with the female user group as reference corpus.....232
Table 7. 9 Keyness analysis for the organisational group with the female and male user groups as reference corpus.....235

List of Figures

Figure 1. 1 A representation of the structure and sequential-explanatory design undertaken for the methodology of the thesis.....50

Figure 3. 1 Changes in online comparison levels based on low and high risk of postnatal depression amongst mothers.....92

Figure 5. 1 A presentation of multiple-choice responses on the type of online platforms used for parental support, split into two groups pased on the risk of paternal PND.....161
Figure 5. 2 A presentation of multiple-choice responses on the reasons for using online platforms within a parenting context, split into two groups based on the risk of paternal PND 162

Chapter One: General Introduction to Postnatal Depression and Social Media Use

1.1. What is postnatal depression?

Parenthood has been described as a major life event associated with significant psychological, biological, and social changes. The perinatal period, which represents the period before, during and after childbirth, has been shown to present a higher vulnerability regarding the psychological wellbeing of parents, being linked to conditions, such as posttraumatic stress disorder (PTSD) (Grekin & O'Hara, 2014), antenatal and postnatal depression (PND) (Johansson, Benderix, & Svensson, 2020; O'Hara & McCabe, 2013; Philpott & Corcoran, 2014) or anxiety (Fairbrother, Janssen, Antony, Tucker, & Young, 2016), obsessive-compulsive disorder (OCD) tendencies (House, Tripathi, Knight, Morris, Newport, & Stowe, 2016) and psychosis (Jones & Shakespeare, 2014). It has been shown that, generally, the risk of developing mental health issues is higher in the postnatal period, with suicide being one of the biggest causes of maternal (Cantwell et al., 2011; Goldman-Mellor & Margerison, 2019) and paternal death (Quevedo et al., 2011) in the period post-childbirth.

Postnatal depression (PND) is a mental health condition that affects around 10-19% of mothers (O'Hara & McCabe, 2013; Woody, Ferrari, Siskind, Whiteford, & Harris, 2017) and 5-13% of fathers (Cameron, Sedov, & Tomfohr-Madsen, 2016; Paulson & Bazemore, 2010) and it can occur in the first weeks after childbirth and last for up to a year (O'Hara & McCabe, 2013). The symptomology of PND includes prolonged sadness or low mood, fatigue, hopelessness, inconsistent eating or sleeping patterns (Robertson et al., 2004), feelings of shame or guilt, difficulty in bonding with the infant (Field, 2010), or thoughts of harming the self or the baby, in more severe cases (Jennings, Ross, Popper, & Elmore, 1999). Maternal and paternal PND manifest in similar ways, although fathers are more likely to experience depressive symptoms due to a self-perceived feeling of hopelessness in their desire to support their partner (Letourneau et al., 2011). Whilst the majority of these symptoms are commonly found in other depressive-related illnesses, the experience of PND also includes psychological struggles related to the adjustment to parenting, which constitutes

the parent-baby dyad. Studies suggest that PND can be detrimental on the caregiver-infant bond, influencing the interactions with the baby or childcare behaviours (e.g. Field, 2010; Field, Diego, & Hernandez Reif, 2006).

1.2. The aetiology of postnatal depression – Risk Factors

The aetiology of postnatal depression (PND) can be discussed utilising the biopsychosocial model (Martínez-Borba, Suso-Ribera, Osma, & Andreu-Pejó, 2020; Norhayati, Hazlina , Asrenee, & Emilin, 2015). Whilst the medical model, which is often to the leading theoretical approach in the literature, proposes that PND is a medical condition caused by biological factors outside of a mother's control (Beck, 2002), the biopsychosocial model considers the psychological and social risk factors, alongside the biological factors, as predictors of depression in the postnatal period. From a biological perspective, studies have suggested that PND can be explained by components such as age (Martínez-Borba, Suso-Ribera, Osma, & Andreu-Pejó, 2020), childbirth complications or trauma (Roberston et al., 2004), hormonal fluctuations (Halbreich & Kahn, 2001; Skalkidou, Hellgren, Comasco, Sylvén, & Poromaa, 2012) or neurotransmitter dysfunction, such as low serotonin levels (Moses-Kolko et al., 2008). A paper by Yim et. al (2015) presented a systematic review of a large number of studies published between 2000 and 2013, research studies which explored the biological and psychological factors associated with a higher risk of developing PND. The outcomes of this systematic review suggested that the biological aspects that showed the highest prediction of PND were hormonal and immunological imbalances, or genetics, whilst the psychological aspects consisted of life stressors, lack of social support and quality of marital relationship. However, this review proposed that it is important to acknowledge the timing of these factors, as one study found that low relationship satisfaction may be a result of PND, rather than a cause (Whisman et al., 2011). Similarly, it has been indicated that some of these elements may be interconnected, as the ability to cope with stressful life events could be dependent on access to support resources. Additionally, availability to social support may be influenced by the quality of relationship with partner, as marital challenges could limit the access to help resources, whilst provoking further stress simultaneously (Yim et al., 2015). From a psychological perspective, the main risk factors identified as increasing the likelihood of PND are a history of mental illness, antenatal depression or anxiety (Milgrom et al., 2008) and personality traits, such as increased neuroticism (Martin-Santos et al., 2012). A large cross-sectional study conducted on an Australian population of pregnant women revealed that

the strongest predictors of postnatal depression were significant life events, antenatal depression or anxiety, previous history of depression and social support (Milgrom et al., 2008). Although the authors of this study recognised that the use of the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987) for the determination of PND symptoms does not provide a diagnosis of the condition, the outcomes displayed a strong relationship between these risk factors and PND symptoms.

The social perspective within the biopsychosocial model proposes that the environment plays an important role in predicting the risk of PND, including stressful life events (e.g. unemployment, bereavement, divorce) (Ward, Kanu, & Robb, 2017; Zaidi, Nigam, Anjum, & Agarwalla, 2017), lack of social support (Paulson, Bazemore, Goodman, & Leiferman, 2016; Pao, Guintivano, Santos, & Meltzer-Brody, 2019), marital issues (Milgrom et al., 2008) and low socioeconomic status (Goyal, Gay, & Lee, 2010). In terms of socioeconomic status (e.g. level of education, income, financial stability), it has been found that parents who have a lower level of education, a lower income and financial instability are at a higher risk of developing PND (Fisher et al., 2012). The high risk of PND amongst populations with low income may be associated with the reduced access of information regarding symptomology and treatment of PND, as well as increased stressors linked to income strains.

Using the biomedical model as a primary base for understanding and treating PND may further result in overlooking crucial factors that have been found to impact access to care and likelihood of developing PND, such as ethnic background or socioeconomic status (Duberstein et al., 2021). Prior research suggests that parents from ethnic minority backgrounds and with a low socioeconomic status (Almond & Lathlean, 2011), are less likely to seek perinatal care or to receive the professional support needed during the perinatal period, compared to parents who have a White background and a high socioeconomic status. Thus, this highlights the importance of considering the psychological and social context when discussing and treating PND. The article by Ros and Toner (2004) recognised that, just as the biomedical model or the psychological model are not sufficient in understanding PND and its treatment on their own, the same applies to the feminist or social model, further underlying the benefits of the biopsychosocial perspective.

It is important to consider the holistic nature of the biopsychosocial model in understanding PND symptoms and treatment, particularly when focusing on paternal PND. Early interpretations of PND were primarily concentrated on the mother's experience,

specifically viewing this condition as an illness caused by physical factors, as mentioned previously, and cared for using treatment. This was considered problematic as it disregarded the meaningful impact of psychological processes, as well as the environment, on the adjustment to parenthood. The biomedical perspective was also believed to neglect some of the symptoms that mothers with PND were experiencing, such as the feelings of guilt regarding parental performance, troubled parent-baby bond, or perceived loss of personal identity, as healthcare professionals would solely consider the DSM symptomology to assess and treat parents (Ugarriza, 2002). By taking the psychological and contextual factors that have an impact on PND into consideration, the focus would swiftly switch from pharmacological treatment to ensuring parents have access to a support network and interventions to assist their psychological adjustment. Viewing PND as a condition caused by biological factors was found to be common amongst parents who communicate on online forums as well, with mothers taking on the role of "professionals" when trying to reassure and support others during their experience with PND (Jaworska, 2018); these conversations were often constructed in an objective manner, both in regards to the information provided, as well as the language used to express the message, thus creating an emotional gap between the mothers who were providing support and the mothers on the receiving end.

Alongside the limitations of the biomedical model in explaining the complexity of maternal PND, this perspective lacked concern for the existence of paternal PND. As the physical aspect of becoming a parent (i.e., pregnancy, childbirth), and its effects are normally associated with mothers, this automatically excludes the postnatal experience of fathers, and therefore, negates the likelihood of developing a mental health condition after undertaking the role of a father. In other words, relying on the biomedical model to explain and understand PND may result in mistakenly perceiving PND as a gendered condition, thus overlooking the presence and detrimental symptomology of paternal PND. A lack of consideration for the existence and severity of PPND would not only have a grave impact on the wellbeing and functioning of men who became parents, but it could also be detrimental on the development and accessibility of interventions, treatment, and resources for fathers, as well as the overall understanding of postnatal mental health, professional training or even health policy. This being said, there are findings to suggest that fathers undergo physical changes in the early moments of parenthood, such as a reduction of testosterone (Gettler, McDade, Feranil, & Kuzawa, 2011), which has been proposed to increase the desire to nurture and care for the baby. These physical changes could potentially play a role in the psychological adjustment of fathers in the postnatal period, element which may fall under the

assumptions made within the biomedical model. These potential issues highlight the importance of considering the psychological and social factors that increase the risk of maternal and paternal PND, alongside the biological elements. Although the literature around the role of the biopsychosocial model in understanding PPND is sparse, it is clear that this model is the most effective and reliable in accurately acknowledging and assisting symptoms of PPND.

It is important to note that some of the findings regarding various risk factors of PND have been inconsistent throughout previous research. For instance, age has been described as a factor that can influence the wellbeing of parents in the early postnatal period, with some studies suggesting that younger mothers are at a greater risk of developing PND (Bottino et al., 2012), whilst another research found the opposite, proposing that older mothers are more likely to face mental health struggles after childbirth (Carolan, 2005). Yet, another study presented no connection between age and risk of PND (McMahon et al., 2011). Similarly, mixed findings have been found regarding the number of children, with some studies reporting that new mothers (also known as primiparous mothers) had a higher likelihood of PND compared to multiparous women (e.g. Asano et al., 2014; Enatescu et al., 2017), particularly during the first month postpartum (Iwata et al., 2016), whilst other research found that parity had no impact on risk of PND (e.g. Afolabi, Bunce, Lusher, & Banbury, 2020; Horowitz et al., 2011). One of the motives for the increased tendency for primiparous mothers to be at risk of PND was their perceived inability to cope with their new responsibilities (De Castro et al., 2015) or perceived lack of support (Leahy-Warren et al., 2011).

Multiparous mothers have been found to have higher parental confidence compared to primiparous mothers, which could be explained by the additional experience (Kristensen et al., 2018). As parental confidence has been described as an essential factor in parental mental health and likelihood of PND (Sockol et al., 2014), it was proposed that, multiparous women may be at a lower risk of developing depression after childbirth compared to primiparous mothers (Do et al., 2018). Interestingly, one study found that multiparous women may be at a higher risk of psychological distress in the case of a disastrous event, such as hurricane Katrina (Harville et al, 2009). However, in a later study, the same author found that, in fact, women in the perinatal stage developed their resilience as a result of going through a traumatic event (Harville et al, 2010). Likewise, a recent study exploring the impact of the COVID-19 pandemic on the psychological wellbeing of expectant and postpartum women

found that multiparous women were at a higher likelihood of experiencing depression or anxiety (Molgora & Accordini, 2020). This finding was associated with the increased childcare tasks or household chores, responsibilities which intensified, especially as a consequence of governmental measures implemented to alleviate the risk of virus transmission (e.g. lockdown, working or studying from home). Therefore, it could be assumed that the impact of parity on maternal mental health is dependent on other factors that could influence the postpartum adjustment.

1.3. Impact of the Covid-19 pandemic on perinatal mental health and support

A novel life stressor that has been described as a risk factor in the development of postnatal depression, as well as other perinatal mental health issues, such as anxiety or posttraumatic stress disorder, is the coronavirus disease (COVID-19) outbreak that occurred in 2019 (Molgora & Accordini, 2020). Infection with the COVID-19 virus involves respiratory difficulties, a loss of smell and taste (Menni et al., 2020), as well as long term effects in the form of fatigue, chronic pain or hindered cognitive functions (Hosey & Needham, 2020). Numerous preventative measures were put in place to control the spread of the virus, including hygiene-related procedures, such as regular hand washing, disinfecting objects or surfaces, using face masks and engaging in social distancing (Donders et al., 2020; Li, Liu, Li, Qian & Dai, 2020). The pandemic restrictions and isolation have resulted in policy changes around visitors in maternity units, meaning that pregnant women were not allowed to have their partners present, with a few exceptions (Ostacoli et al., 2020). The expectation that fathers would not be present during labour or delivery has been associated with increased anxiety amongst mothers and heightened childbirth apprehension (Molgora & Accordini, 2020). The availability of the partner during childbirth has been found to play a significant role in the emotional wellbeing of mothers-to-be, as their absence has been shown to increase the risk of postnatal anxiety and PTSD (e.g. Michels et al., 2013; Tani & Castagna, 2017).

The quarantine and isolation rules intended to decrease the spread of the virus resulted in women in the perinatal period being unable to connect with friends and family face-to-face or to engage with peer support groups, resources that are influential in the transition to parenthood. Feelings of anxiety were also linked to the belief that mothers would not receive sufficient support or assistance from healthcare professionals (Molgora & Accordini, 2020).

Expectations of the perinatal care process have not been met throughout the pandemic, as mothers reported a dissatisfaction with the quality of the perinatal services and the disruption within the birth plans (Lebel et al., 2020). Alongside the feelings of anxiety, the reduced accessibility to sources of support and limited social interactions negatively influenced the wellbeing of mothers by inducing a state of loneliness and alienation (Sade et al., 2020). At the same time, organisations, such as the National Childbirth Trust (NCT), that aim to support and educate parents in the postnatal period, were also affected by the Covid-19 pandemic, thus leading to not only a reduction in social support opportunities, but a reduction in education around PND as a whole. The diminished access to sources of informal and formal support during the perinatal period represents a cause of concern, particularly as social support has been described to have a buffering effect on the development of perinatal mental health issues (Paulson, Bazemore, Goodman, & Leiferman, 2016) and the lack thereof has been associated with higher rates of PND. Further effects caused by the COVID-19 pandemic amongst parents have been financial instability, feelings of frustration and boredom, dysfunctional sleeping patterns, confusion (Brooks et al., 2020), concerns of infection or complications with the foetus and higher risk of PND (e.g. Haruna & Nishi, 2020; Spinola, Liotti, Speranza, & Tambelli, 2020).

On the other hand, a recent study did not find an association between increased rates of maternal perinatal depression and the pandemic in a healthy population, but the link was found in mothers who went through high-risk pregnancies or who suffered from pre-existing psychiatric conditions (Koyuncu, Alan, Sakin, Aktaş, & Angın, 2020). Another study by Pariente and colleagues (2020) reported low rates of postnatal depression in the early post-childbirth period amongst women who gave birth during the COVID-19 pandemic, and they based that result on a number of factors. Firstly, it was suggested that mothers were able to receive better support from their household during the lockdown restrictions, as the time spent around their immediate family increased, due to working schedules changing, thus leading to improved family connectiveness. Secondly, being able to maintain a sentiment of safety by remaining at home, was also linked to heightened appreciation and relief for the good health of their baby. An intensified gratitude for life, better self-resilience and reconsideration of priorities have been identified in individuals following a traumatic event (Harville et al., 2010). Third, an improved mother-baby bond was believed to be positively influenced by the prolonged time spent together due to isolation guidelines.

An alternative source of support that has been characterised as appropriate and beneficial to parents during the Covid pandemic is the internet. As the lockdown restrictions have reduced the opportunities for face-to-face meetings with friends and family, as well as appointments with healthcare providers, most of these interactions have transferred onto digital platforms (Aziz et al., 2020). Medical institutions have implemented changes that allowed patients to attend virtual appointments and screenings, and interventions have been modified and adapted for online engagement (Viaux et al., 2020). In addition, it has been found that expectant mothers use Twitter, a popular social media platform, to discuss their thoughts and experiences with the COVID-19 pandemic, disclosing difficulties with stress, depressive symptoms, solitude and lack of sleep (Talbot, Charron, & Konkle, 2021). However, the research surrounding the use of internet for parenting support during the Covid-19 pandemic is sparse. Therefore, it is important to consider the impact of major health-related events on help-seeking behaviours amongst parents, aspect which is evaluated in Study Five of this thesis (see Chapter Seven), where Twitter content related to PND was collected during the beginning of the Covid-19 pandemic and analysed using a corpus linguistic approach.

1.4. Impact of PND on parent-baby bond

There are two main behavioural approaches that mothers with PND apply in the interaction with the infant, namely a possessive and overcontrolling attitude, or a more distant and unresponsive attitude (e.g. Field, 2010; Hayakawa et al., 2012; Malphurs, Raag, Field, Pickens, & Pelaez-Nogueras, 1996). The study by Malphurs and colleagues (1996) utilised self-reported scores of depression to categorise a sample of mothers in depressed and non-depressed mothers, who were later instructed to interact with their babies while they were being recorded for a period of three minutes. The observation of the interactions between the mothers and their babies included three main elements, namely the type of touch exhibited by the mother (no touch, negative, positive), the type of mother (good, intrusive, withdrawn) and the reaction of the baby (neutral, positive, negative). Their findings indicated that the mothers who scored higher on levels of depression were more likely to display “negative touch”, such as shaking or rough tickling, and an intrusive attitude, meaning communication and interaction with the infant that was not reciprocated or in sync with the baby’s response. The same study additionally showed that infants of mothers with an intrusive-type behaviour were more likely to present negative states, namely upset or distressed facial expressions or vocal

cues. Fathers with depression have been found to display similar behaviours towards their babies, such as reduced responsiveness in their interaction with the infant, limited affection and increased chances of aggressive behaviour (Wilson & Durbin, 2010), and disengagement towards their infant manifested in decreased desire to engage in play (Sethna et al., 2015).

Mothers with depression have been shown to be less affectionate, both physically (Ferber, Feldman & Makhoul, 2008) and emotionally, displaying a decreased interest in making eye-contact or smiling towards the infant (Righetti-Veltema et al., 2002). Face-to-face interactions between mothers with sub-clinical depression and their babies were examined by Braarud and colleagues (2017). This study included live and replay interactions between mothers and their babies and found that the mothers with levels of sub-clinical depression did not adjust their facial expressions based on the change between the live and replay interactions, whereas the mothers with no depression were more attuned to the changes in their babies' behaviours. Whilst the sub-clinically depressed mothers appeared less sensitive to their babies' responses, both groups of mothers displayed a decrease in positive affect and heightened distress towards the end of the experiment (Braarud et al., 2017). Additionally, maternal depression has been associated with increased irritability amongst mothers (Lovejoy et al., 2000) and higher likelihood of rejection (Kitamura et al., 2013) or neglect of the infant (Sagami, Kayama & Senoo, 2004). Research has found that mothers with depression have a more negative perception of their infant regarding their adjustment (Clark, Tluczek & Wenzel, 2003), they interpret their infant's behaviour as more challenging (Forman et al., 2007) and they are less capable of accurately deciphering the communicative cues of their infants (Vik, 2011).

One of the main factors found to contribute to the poor interaction between parents with PND and their infants is reduced maternal receptivity to the baby's needs, which can lead to reduced responsiveness (Musser, Ablow, & Measelle, 2012; Stein et al., 2012), and eventually to an impaired or altered parent-infant attachment (Ip et al., 2018; Śliwerski, Kossakowska, Jarecka, Świtalska, & Bielawska-Batorowicz, 2020); the negative impact between reduced parental responsiveness, depressive symptoms and infant attachment has been found amongst both mothers and fathers. However, the systematic review by Sliwerski and colleagues (2020) indicated that most studies conducted in this field only identified an association between maternal depression and insecure infant attachment when the symptoms of maternal depression were assessed using a clinical interview, rather than self-reported measures. The relationship between postnatal mental health and infant attachment is presented later in the chapter (see section 1.5).

Similarly, depressed mothers seem to be less capable of recognising infant positive facial expressions, such as smiling, and this has been indicated by results showing diminished maternal neural reactions in response to infant positive cues (Wonch, Steiner, De Medeiros, Barrett, Fleming, & Hall, 2012). The reduced sensitivity and awareness to infant signals has been associated with lower mind-mindedness in depressed mothers (Bigelow, Beebe, Power, Stafford, Ewing, Egleson, & Kaminer, 2018; Pawlby, Fernyhough, Meins, Pariante, Seneviratne, & Bentall, 2010). Maternal mind-mindedness is a component of maternal sensitivity, and it refers to a parents' ability to accurately recognise, understand and acknowledge a baby's thoughts, feelings or needs based on their behaviours (Meins, Fernyhough, Fradley, & Tuckey, 2001). Mind-mindedness can be attuned, where the parent is accurate in their interpretation of the infant's needs and internal experiences, or non-attuned, where the parents' reflection of the infant's experience is incorrect or misinterpreted (Meins et al, 2012). The longitudinal lab-based study by Bigelow and colleagues (2018) used self-reported questionnaires and an observation of mother-baby interactions to assess the relationships between mind-mindedness, maternal depression and infant attachment. Their results revealed that risk of depression in the early postnatal period (6 weeks post-childbirth) was linked to poor mind-mindedness in the later stage of the postnatal period (4 months post-childbirth), even when the risk of depression had lowered by that point in time. Additionally, the mother's inability to accurately decipher and respond to their infants' cues was associated with insecure (disorganised) infant attachment at one-year post-childbirth.

1.5. PND impact on infant development

Alongside the detrimental effect that PND can have on mothers and fathers, another concerning aspect of PND is represented by its negative impact on the cognitive, emotional and social development of the infant. The cognitive, emotional and social development of the infant can be influenced by the type of infant attachment. Attachment has been defined as a parenting aspect that refers to the emotional connection that forms between the child and the primary caregiver in infancy (Bowlby, 1969). Within this relationship, the infant seeks proximity to the caregiver in moments of distress and the caregiver is seen as a "secure base" that offers the child the ability to explore the outside world, whilst maintaining a feeling of comfort and security. This affectionate connection develops the child's understanding of expectations and behaviours regarding their relationship with themselves and with others (e.g. Bowlby, 1969; Bretherton & Munholland, 2008). Infant attachment has been categorised

as secure and insecure, with the insecure category being formed of insecure-avoidant, insecure-anxious and insecure-disorganised, and it is typically assessed utilising a lab-based experiment named "The strange situation" (Ainsworth, Blehar, Waters, & Wall, 2015). It is important to consider the impact of parent-infant attachment, as it can have substantial effects on the infant's cognitive, emotional and social development (Groh, Fearon, van IJzendoorn, Bakermans-Kranenburg, & Roisman, 2017), with notable long-term effects found in adults who experienced insecure attachment as infants (Moutsiana, Fearon, Murray, Cooper, Goodyer, Johnstone, & Halligan, 2014). Whilst Bowlby's attachment theory (1969) brought important knowledge in the field of infant development, there has been some criticism. Bowlby and Ainsworth considered that the child's personality and development would be strongly influenced by their attachment to the primary caregiver, usually the mother, and although fathers were also identified as essential caregivers, their theory proposed that infants typically have a preference over their mother. In contrast, contemporary literature suggests that fathers play an important role in infant attachment and development, as they can also be perceived as a "secure base" in times of distress (Hunter, Riggs, & Augoustinos, 2017; Palm, 2014).

Research has found that a secure attachment can have a significant contribution in the transition into adulthood, leading to increased confidence in one's sense of worth and ability to successfully form and maintain relationships, higher trust in others, better emotional regulation (Psouni, Di Folco, & Zavattini, 2015) and easier access to coping mechanisms. Conversely, an insecure attachment, often caused by inappropriate engagement in social interactions with the infant, such as absence of attentiveness to infant signals or unavailability, has been associated with symptoms of PND, and consequently, to challenges in the emotional, cognitive (Fearon et al., 2010; Groh, Fearon, IJzendoorn, Bakermans-Kranenburg, & Roisman, 2017) and social development of the infant. Research showed that a disconnected maternal attitude caused by PND has been linked to infants being less reactive, less interested in the objects around them, more prone to anger and irregular crying and more likely to avoid the gaze of their mothers (Tronick & Reck, 2009). Simultaneously, PND has also been associated with a troubled infant behaviour, involving increased crying or poor sleep quality (e.g. Radesky et al. 2013; Vik et al. 2009), suggesting a bidirectional relationship between difficult infant behaviour and maternal depression, as it appears that they may influence each other.

Insecure attachment has been found to be associated with decreased cognitive abilities amongst infants, with increased difficulties in memory and learning abilities, as well as social and behavioural impairments. A study by Murray and colleagues (2010) where they assessed the relationship between maternal depression and cognitive development amongst children indicated that insecure attachment had long term effects on cognitive development, such as school performance, shown in adolescents up to 16 years old. It has been shown that a healthy parent-infant interaction involves a well-balanced emotional connection which can switch from coordinated to uncoordinated affective states in a continuous cycle (Feldman, 2007). Coordinated affective states refer to synchronised emotional reactions between mothers and babies, and uncoordinated states refer to moments when mothers and babies do not match each other's emotional state and response to each other's behaviour. It is believed that this cycle can be helpful to infants' cognitive, emotional and social development, by improving adaptability and resilience to stressors, enhancing emotion regulation, and contributing to a secure attachment (Feldman, 2007). Additionally, the cycle of coordinated and uncoordinated emotional states within the mother-infant connection is considered beneficial for assisting in self-regulation of arousal, tolerance to pressure, better involvement and adjustment in social settings, and development of internalisation of moral beliefs and empathy (Feldman, 2007).

On the other hand, the synchronicity and emotional coordination are often reduced amongst depressed mothers and their infants (Reck et al., 2011; Riva Crugnola et al., 2016). Whilst non-depressed mothers and their infants can quickly shift from mismatched affective states to balanced states and effectively restore the connection, depressed mothers and their babies can encounter obstacles, struggling with a prolonged period of uncoordinated affective states and issues with rebuilding the emotional connection (Feldman et al., 2009). The lack of synchronicity within the interactions of self-reported depressed mothers and their infants has been linked to reduced eye-contact coordination, elevated emotional alertness and physical disengagement, in which the infant seeks proximity whilst the mother retreats, aspects found in four-month-old infants (Beebe et al., 2008).

From a biological point of view, research has found that infants of mothers with depression show higher levels of cortisol and an increased heart rate (Murray & Cooper, 1997). Multiple studies suggested that EEG findings of infants of mothers with depression were similar to the EEG results found in mothers and adults diagnosed with major depression, indicating heightened cortical activation in the right frontal lobe (e.g. Field et al.,

2004; Jones, Field, & Almeida, 2009). One cognitive ability that has been described as potentially affected by PND is imitation, a skill that is part of the parent-infant engagement (Masur, 1998) and is usually acquired in infancy (Jones, 2009). Imitation has been linked to other abilities, such as causal knowledge (Kiraly, Csibra, & Gergely, 2013), memory (Rose, Feldman, Jankowski, & van Rossem, 2011) or joint attention (Carpenter, Nagell et al., 1998). An experimental longitudinal study conducted by (Perra, Phillips, Fyfield, Waters, & Hay, 2015) on a sample of firstborn British infants revealed that the capacity to succeed in an imitation task was lower in infants of mothers with depression.

In terms of longer-term consequences of PND on infants, research has found that children and adolescents of depressed mothers are more likely to engage in use of harmful substances, to display lower academic performance, higher rates of anxiety (Goodman & Gotlib, 2002), diminished interpersonal skills and decreased self-confidence, as well as more frequent physical challenges, such as colds or chronic illnesses (e.g. Goodman & Gotlib, 2002; Lloyd-Fox et al., 2017; Stein et al., 2014; Timmer et al., 2011). The higher levels of cortisol that infants of depressed mothers can experience, have been found to alter the child's ability to cope with distressing moments later in life, due to problematic neural activity in the prefrontal cortex and the hypothalamic-pituitary-adrenal axis (Gerhardt, 2014). Moreover, attachment type in infants of mothers with PND has been linked to neural changes when the children reached the age of 22 years old, showing heightened activation in the prefrontal lobe and lower activation in neural systems linked to positive affect regulation (Moutsiana et al., 2014). The long-term effects of PND have also been shown in the review by Warfa, Harper, Nicolais, and Bhui (2014), where they found associations between PND symptoms and insecure attachment in adulthood.

1.6. Treatment and Interventions

As PND is a medical condition that can have significant detrimental effects on the wellbeing of mothers, fathers and the development of their infants, it is crucial that treatment resources are available and accessible to all. A literature review done by Boath and Henshaw (2001) proposed that the most appropriate treatment for PND could be divided into five models, namely pharmacological, psychological and pharmacological combined (e.g. antidepressants plus cognitive-behavioural therapy), psychological and psychodynamic

combined (e.g. cognitive behavioural therapy, group psychotherapy), hormonal (e.g. oestradiol skin patches), and social support and relaxation techniques. Additionally, a systematic review conducted on twenty-eight clinical trials, revealed that psychosocial interventions, including interpersonal therapy, postpartum home visits or telephone-based peer support, played an important role in preventing the development of PND (Dennis & Dowswell, 2013). Depending on the severity of the symptoms, treatment approaches for PND can range from home appointments with health visitors for low levels of PND, to antidepressants, cognitive behavioural therapy or psychotherapy for medium or high levels of PND (Sockol, Epperson, & Barber, 2011).

It has also been indicated that the preferences in treatment approaches can vary depending on the type of treatment or the source of the treatment, and these preferences can be influenced by different factors, such as the socioeconomic status or the perinatal stage (ante-, postnatal stage) amongst mothers and fathers with PND. Generally, it has been indicated that treatment preferences involve a combination of approaches, ranging from help from family and friends to professional support, individual support consultations or group work (Letourneau et al., 2007). A study exploring treatment preferences has identified that some parents prefer to seek initial support from family and friends, rather than a healthcare professional, whilst others would contact their family practitioner for help and advice (Kingston et al., 2014). The same research suggested that self-help approaches or internet-based assistance were the least favoured types of support amongst parents, with women being more likely to seek parenting information or advice online, compared to fathers. Internet-based interventions for mental health issues have been found to be greatly advantageous, due to benefits such as increased accessibility and convenience (Henshaw et al., 2011), anonymity (Beattie et al., 2009) or cost-effectiveness (Andrews et al., 2010). In terms of types of treatment that parents with depression prefer to utilise, research has suggested that the most favourable resources are psychotherapy or counselling, and many parents preferred the consultation and treatment sessions to take place in an obstetrical consultation room, rather than a mental health setting (Goodman, 2009), most probably due to fear of judgement related to mental health stigma.

The stigmatisation of mental illness has often been reported as one of the main motives behind the reluctance of seeking support or engaging with the resources that are available (e.g. Dennis & Chung-Lee, 2006; Rusch, Evans-Lacko, Henderson, Flach & Thornicroft, 2011). Similarly, stigma was also suggested as a motivation for preference of

talking therapies as treatment rather than medication (Boath, Bradley & Henshaw, 2004), as well as breastfeeding concerns (Dennis & Chung-Lee, 2006). Previous literature found that some mothers were hesitant and cautious in disclosing symptoms of psychological distress due to various reasons, such as fear of being viewed as incompetent in their parenting skills or as a safety risk to their child (e.g. Byatt, Biebel, Friedman, Debordes-Jackson & Ziedonis, 2013; Flynn, Henshaw, O'Mahen & Forman, 2010), worries about having their child taken away by social services (e.g. Anderson et al., 2006; Dennis & Chung-Lee, 2006), as well as the lack of knowledge or capability in recognising symptoms of PND (Dennis & Chung-Lee, 2006). The ability to acknowledge and identify the various mental or emotional difficulties related to the perinatal period as signs of an illness, rather than regular responses to life stressors, has also been linked to the likelihood of seeking professional mental health care (e.g. Gurung et al., 2018; Woolhouse et al., 2009). It has been proposed that the parents who are less inclined to access professional support and may prefer to rely on themselves or on their immediate social circle, tend to view their psychological distress as common reactions to the challenges of parenthood. On the other hand, the parents who perceive their symptoms as caused by a medical condition, would be more likely to seek formal support and engage with healthcare professionals (Gurung et al., 2018).

Additional treatment barriers have been found to be associated with treatment cost, childcare commitments or overall time constraints (e.g. Boath, Bradley & Henshaw, 2004; Goodman, 2009), unemployability (Ride & Lancsar, 2016) or the socioeconomic status, with low-income individuals or ethnic minorities at a higher risk of limited support availability or reduced likelihood of engaging with healthcare professionals (Almond & Lathlean, 2011). Regarding the access and availability of support and treatment during the perinatal period, studies have found that fathers are particularly lacking the necessary resources and support opportunities, that are otherwise available for mothers (Reupert & Maybery, 2011). For instance, multiple research studies presented reports of fathers feeling neglected or excluded by healthcare professionals during home visits or appointments, with mentions of not receiving enough information and advice on how to support the mother or themselves and an overall absence of acknowledgement or support for paternal mental health.

There have been various factors associated with reduced perinatal support opportunities for fathers, namely the lack of medical training on paternal mental illness, but also the reluctance to disclose psychological distress or engage with medical services amongst fathers; this may be related to additional motives, such as societal pressures and

gender role stereotypes, work commitments, focus on mother and baby or the lack of a non-judgmental and open environment that may encourage fathers to seek help (see Chapters Five and Six for further detail on availability and barriers to support for paternal mental health). Whilst paternal postnatal depression, and the general need of paternal mental health support services, have started to receive increasing attention from researchers, as well as the medical system, it is evident that fathers continue to struggle with insufficient care and acknowledgement.

1.7. Social support in the postnatal period

Social support has been described as a protective factor during the postpartum period (Don & Mickelson, 2012), as the lack thereof could hinder the adjustment to parenthood and increase the risk of developing various mental health conditions, such as postnatal anxiety or depression (e.g. Beck, 2001; Leahy-Warren, McCarthy, & Corcoran, 2012; Leahy-Warren et al., 2011).

1.7.1. Overview of social support in the transition to parenthood

Social support commonly refers to the exchange of resources between individuals (Stansfeld et al., 2006) and it can be classified in four main functional levels, namely informational, practical or instrumental, appraisal (also known as affirmational) and emotional (House, 1981 cited in McLeish, Harvey, Redshaw, & Alderdice, 2021). Informational support involves providing the individual with information and advice meant to strengthen their skills and knowledge (Stansfeld et al., 2006), thus consisting of information regarding childcare or other parenting responsibilities in a perinatal context (House, 1981 cited in McLeish, Harvey, Redshaw & Alderdice, 2021). Practical support, also known as instrumental support, relates to offering assistance through actions that may involve engaging in housework or childcare duties, meant to alleviate the demands of parenthood. Appraisal and emotional support both refer to providing words of reassurance, encouragement or praise, meant to support the recipient in feeling more optimistic, appreciated and self-assured (House, 1981 cited in McLeish, Harvey, Redshaw & Alderdice, 2021). Additionally, depending on the source, social support can be formal when it is provided by trained workers or professionals and informal when it is provided by a social group, which may consist of family, friends, peers or community.

A factor that plays an influential role in the effectiveness of help-seeking behaviours and the likelihood of accessing and receiving support is the ability to physically disclose potential psychological distress and the need for assistance; this aspect may be referring to the willingness or opportunity to discuss the need for postnatal support, or the actual language involved in communicating these needs. In terms of the language used to express illness or psychological distress, studies have found that gender differences exist (Charteris-Black & Seale, 2013). As such, men were identified to utilise more swear words and metaphors and to maintain an objective perspective when discussing illness, compared to women; these linguistic strategies were associated with the desire to display a portrayal of conventional masculinity. On the other hand, women were found to be more direct when communicating their experiences of illness, with use of strong adjectives (Charteris-Black & Seale, 2013). Regardless of gender, individuals experiencing depressive symptoms have also been identified as more likely to use self-referent words, such as first-person pronouns (Fast & Funder, 2010). Due to societal expectations of gender roles, men and women were not only identified as distinct in the language used in relation to illness, but also in their access to resources, interventions and professional support. Specifically in a parenting context, fathers were found to frequently report a lack of consideration from healthcare professionals (Shorey et al., 2017), and sparse availability of materials designed around the experience of fatherhood or paternal mental health (Oscarsson, Medin, Holmström, & Lendahls, 2018). These issues are further discussed in Studies 3 and 4. It is clear that the ability to physically disclose the need for parental support, as well as the opportunity to express this need, could influence the quality of assistance provided and received by parents in need, thus directly influencing their adjustment to parenthood.

An important benefit resulted from appropriate assistance and support during the postnatal period is the improvement of parental self-efficacy (Leahy-Warren, 2005). Parental self-efficacy refers to the self-perceived confidence in the ability to successfully execute parenting tasks and duties (Leahy-Warren, McCarthy, & Corcoran, 2012). As postnatal depression has been associated with reduced levels of parental self-efficacy (Tuominen et al., 2016) and lower levels of parental self-efficacy have been linked to issues such as a limited period of exclusive breastfeeding or higher risk of maternal abandonment (Rahman et al., 2016), it is essential that this aspect is taken into consideration when discussing maternal mental health. A quantitative research study conducted on a sample of over 400 first-time mothers, found that informal support had a significant positive impact on parental self-

efficacy and maternal mental health, being associated with lower levels of postnatal depression at six weeks post-childbirth (Leahy-Warren, McCarthy, & Corcoran, 2012). According to the findings of this study, the participants' parental self-confidence was more likely to be enhanced by support received from family members or friends, rather than health professionals, with an important assisting role being represented by the women's mothers.

The importance of feeling part of a community during the postnatal period and its impact on parental self-efficacy can be explained by social identity theory. Social identity theory proposes that identity is categorised into personal and social identity, and the way individuals relate to their group membership is essential in maintaining positive self-esteem (Tajfel & Turner, 1986). Personal identity refers to individual personality traits, values or beliefs, whereas social identity refers to self-perception based on group membership, which may include familial roles, occupation, nationality, amongst others (Tajfel, 1974). In a parenting context, the personal identity could be comprised of the parent's temperament or interests, whereas their social identity would be their parental role within the family unit (e.g., mother, father).

In order to experience a feeling of belongingness to the group, individuals may be inclined to engage in group norms that would influence their thoughts and behaviours, with the aim of building a positive association with their social group and perceiving it in a beneficial light when comparing it with other social groups. Some common social norms related to parental roles tend to be rooted in traditional views of parenting, such as the "intensive mothering" concept (Chae, 2015), which creates expectations for mothers to direct their entire focus towards their child, thus overlooking their own needs or desires (Hays, 1996). Another traditional view of parenting that can be considered a social norm would be perceiving the father as the "breadwinner" of the family, thus expecting fathers to be employed and provide financial security for the family, whilst the mother is the primary caregiver (Salzmann-Erikson & Eriksson, 2013). These traditional ways of viewing parental roles based on gender expectations are associated with additional pressures, such as having instinctual abilities in caring for the baby, feeling enthusiastic and joyful about being a parent, or forming an immediate bond with the baby (e.g., Miller, 2007, 2011; Staneva & Wittkowski, 2013). It is well known that these unrealistic expectations create feelings of guilt and shame amongst parents (Britton, Barkhuus, & Semaan, 2019; Dunford & Granger, 2017), which may not only increase the risk of developing postnatal mental health issues (Flykt et al., 2014), but they could also negatively alter help-seeking behaviours as parents end up

feeling inadequate in their roles (Choi et al. 2005). Feeling pressured to comply to social norms, and implicitly, stigmatising the challenges of parenthood, could thus lead to unwillingness to seek parental support (Saunders & Bowersox, 2007), which is highly problematic, as social support has been described as a buffer against psychological distress during the perinatal period (e.g., Da Costa et al., 2015; Don & Mickelson, 2012; Freitas et al., 2016).

According to social identity approach, social comparisons occur between an individual's own social group, also known as an in-group, and other social groups, known as out-groups; these comparisons are arbitrary, and they are meant to evaluate the reputation of the two distinct groups with the aim of viewing the in-group, and thus one's own identity, in a positive light. Odenweller and Rittenour (2017) discussed the way in which some mothers may categorise each other in terms of employment status in the postnatal period (stay-at-home mothers versus working mothers) when evaluating their mothering competencies. It is evident that evaluating one's self-worth by comparing the characteristics of their in-group with those of out-groups, may then lead to forming harmful ways of thinking that contain prejudice and negative judgments; this aspect of social identity theory was affirmed by the research of Amaro, Joseph and de los Santos (2019) where it was identified that mothers who engaged in downward comparisons (viewing themselves as superior in their abilities to others) with other mothers on social media sites felt elevated feelings of belonging and satisfaction with their parenting experience. These findings further suggested that the impact of social comparisons on the experience of parenting was dependent on the emotions and feeling of belongingness associated with the social groups or community that involved the mothers. The impact of social comparisons, as explained by social comparison theory, is further explored in sub-section 1.9.4.

1.7.2. Social support for fathers

Although it has been shown that fathers are also strongly impacted by the changes brought with the perinatal period and they can also experience symptoms of postnatal depression, studies suggest that fathers are lacking in social support (Fletcher et al., 2008). Social support has been associated with increased parental involvement amongst fathers (Lamb, 2000), as it strengthens parental confidence and promotes openness to novel parenting techniques (Hudson et al., 2003), through encouragement and appreciation. Emotional support consisting of reassurance, gestures of affection or empathy, has been identified as particularly meaningful as it has been shown to minimise the risk of

psychological distress or mental health issues (Bielawka-Batorowics & Kossakowska-Petrycka, 2006). An improved awareness of the support needs for fathers can lead to a successful adjustment to fatherhood, as fathers who are assisted in their transition display heightened parental self-efficacy and elevated fulfilment with the parental role (Steen, Downe, Bamford, & Edozien, 2012). However, fathers who do not have access to parental support may feel less confident in their parental capabilities and more vulnerable in their adjustment (Steen et al., 2012). Although previous research has suggested that men tend to be reluctant in their vocalisation of psychological distress (Johnson et al., 2012), other qualitative studies exploring the support necessities of fathers discovered that men appreciate the opportunity to engage with other fathers-to-be (Asenhed, Kilstam, Alehagen, & Baggens, 2014) and communicate their needs with their support network during the perinatal period (Letourneau et al., 2012).

A factor that has been shown to contribute to a smooth transition into parenthood and improved parental mental health is the relationship between the two partners (Roberston et al., 2004), thus the mutual support is essential for a good adjustment into the new role. The support provided by partners by dividing the parenting duties and including fathers in the parenting activities may help fathers feel less excluded from the family unit (Philpott, 2016). Along with support from family, friends and partner, fathers can also receive societal support in the form of paternity leave which is a policy that involves a short absence from work in the immediate period post-childbirth (O'Brien, 2009). Paternity leave allows fathers to be more involved in childcare and deepen the father-infant relationship (Saxbe, Rossin-Slater, & Goldenberg, 2018). Not receiving paternity leave may lead to poor engagement with parenting duties and higher likelihood of paternal postnatal depression (Philpott & Corcoran, 2014). The concept of paternity leave within the context of postnatal mental health and paternal involvement is discussed in more detail in the qualitative study conducted with fathers, found in Chapter Six.

Fathers are often seen as the "supporter", as the focus in the postnatal period tends to be on the mother and the infant, therefore fathers are frequently placed in the position of assisting the mother in her adjustment and potentially neglecting their own needs (Darwin et al., 2017). Due to the difference in parental gender roles which may place additional pressure on fathers to care and provide for their family, fathers may also feel unwilling to disclose any personal difficulties as they might feel inadequate or unworthy of receiving any help. This may eventually lead to increased risk of paternal mental illness, such as paternal postnatal

depression (PPND) (Cameron et al., 2016), which has been linked to elevated rates of maternal PND (Anding et al., 2016) and deficiencies in the cognitive, emotional and social development of the baby (Fletcher et al., 2011). Traditional gender roles have been associated with the lack of training and education amongst healthcare professionals regarding paternal mental health (Hammarlund, Andersson, Tenenbaum, & Sundler, 2015), which eventually results in insufficient care and support resources for fathers and heightened exposure to perinatal mental illness.

Studies have also shown that fathers can have a significant impact on the breastfeeding rates amongst mothers in the early postnatal period, being associated with breastfeeding rates and duration, and breastfeeding commitment (e.g., Al Namir, Brady, & Gallagher, 2017; Hunter, 2014; Tadesse, Zelenko, Mulugeta, & Gallegos, 2018). Although it has been found that fathers play an influential role in the breastfeeding experience of mothers, previous literature suggests that many fathers are dissatisfied with the lack of informational support and guidance from healthcare workers (e.g., Brown & Davies, 2014; Tohotoa et al., 2009), despite expressing high levels of interest in supporting their partners to breastfeed (Brown & Davies, 2014). A systematic review investigating the effect of father-focused interventions on breastfeeding attitudes and behaviours, found that participation in psychosocial or educational interventions was linked to higher levels of paternal breastfeeding support and increased rates of breastfeeding initiation, exclusivity and duration (Abbas-Dick et al., 2019).

1.8. Online Support

Other types of support approaches for postnatal depression that have been described as greatly efficient are web-based interventions (O'Mahen, Woodford, McGinley & Warren, 2013; Foroushani, Schneider & Assareh, 2011), which usually consist of delivering and receiving support, such as counselling sessions or parenting programs, through offline or online platforms. The ability to independently access sources of support via the internet or through other digital platforms, may be particularly useful for parents who have reported geographical distance, lack of time, absence of childcare services or worries of being judged as motives for their reluctancy in seeking different types of support (Woolhouse, Brown, Krastev, Perlen & Gunn, 2009), such as direct communication to a healthcare provider.

Some of the groups who have been found to be less likely to attend parenting programs in person consist of parents from minority backgrounds, parents with low income or low education level, as well as single parents (Heinrichs et al., 2005). As these parents may be less inclined to engage with face-to-face interventions, internet-based approaches or self-help techniques would be a suitable alternative (Baker, Sanders, & Morawska, 2017). However, other studies suggest that people with a lower socioeconomic status have less access to the internet, use it less frequently and have a more limited knowledge of the informational advantages associated with digital platforms, in comparison to individuals from a higher-income backgrounds (e.g. Park et al. 2016; Zickuhr & Smith, 2012). Although it has been suggested that the technological divide based on the socioeconomic status (SES) is gradually closing, due to reduced costs and improved user-friendly (Pantea & Martens, 2014), a stronger focus is placed on the reduced levels of computing-based dexterity in acquiring digital information associated with lower-SES populations, which may emphasise the imbalance in accessibility to knowledge (Van Deursen et al., 2015). The level of self-confidence and comfort in utilising online platforms have been described as important factors in the prediction of digital behaviours amongst parents, compared to income (Doty et al., 2012).

Other factors that have been linked to characteristics of internet users are age and gender. Research suggests that younger parents (under 40 years old) are more inclined to search parenting information or advice on the internet (Madden et al., 2012), compared to older mothers who seem to prefer seeking information from healthcare professionals or books (Bernhardt & Felter 2004). In terms of gender differences, it has been found that mothers are more likely to use social media sites as a parenting support tool, compared to fathers (Duggan et al., 2015; Baker, Sanders, & Morawska, 2017) and it has been proposed that women, as opposed to men, are generally more inclined to use the internet for health-related enquiries (Bidmon & Terlutter, 2015).

1.9. Social media use amongst parents

Social media sites (e.g., Facebook, Instagram, Twitter), parenting forums, websites, blogs or parenting support groups can also act as an alternative source of support (Aichner & Jacob, 2015). Within the current thesis, social media use is referred to the use of online platforms that allow social interactions. Statistics have shown that individuals of childbearing

age are some of the most common users of online platforms, with 75% of people between 18 and 29 years old and 66% of people between 30 and 39 years old using social media sites on a daily basis (Sensis, 2016). Parents use social media for various reasons, such as documentation of their parenting journey, which may include posting photos or announcements related to their child's development, but also for seeking or providing parental information, advice and support (e.g. McDaniel, Coyne, & Holmes, 2012; Lewis & West, 2009), interacting with other parents (Dworkin, Connell, & Doty, 2013) or for keeping in touch with family and friends (e.g. Ellison et al., 2007; Young, 2011). Social networking sites allow users to create individual profiles, under their real identity or anonymously (Kaplan & Haenlein, 2010), and the engagement of users can be either active or passive. Active engagement may consist of creating or sharing content and connecting with other users by liking or commenting on their posts (Beer & Burrows, 2013), whilst passive engagement refers to observing or reading other content without becoming directly involved, also known as "lurking" (e.g., Haslam, Tee, & Baker, 2017; Pedersen & Lupton, 2018).

1.9.1. Benefits of social media use in the perinatal period

Social networking sites have been described as a convenient and accessible tool for maintaining relationships (Tong & Walther, 2011), especially when faced with geographical distance (Young, 2011). Additionally, it has been shown that communicating with other parents may in some instances be more useful than seeking assistance from others who have not experienced parenthood, due a better understanding of the type of support needed (Kingsnorth et al. 2011). A constructionist narrative inquiry-based study revealed that adolescent mothers were associating social media use with decreased rates of parental stress and worries (Nolan, Hendricks & Towell, 2015). The ability to openly communicate difficult internal experiences as soon as they occurred, lead onto increased parental confidence and self-esteem resulted from the encouragement and sense of community formed on the respective digital platforms (Nolan, Hendricks & Towell, 2015). The easy access that parents have to online support can be specifically helpful during the night, when it may be particularly difficult to identify helping resources (Moorhead et al., 2013).

A significant element of internet use amongst parents consists of the ability to engage with other parents and receive or provide peer support. Studies have shown that online-based support groups facilitate the transition to parenthood through emotional or informational support (Niela-Vilén, Axelin, Salanterä, & Melender, 2014). The information shared amongst parents on support groups has been shown to originate both from professional sources but

also from personal experiences; the information provided by parents to other parents has been described as more accurate and suited to specific parenting needs (Niela-Vilén, Axelin, Salanterä, & Melender, 2014). Many parents choose to seek parenting information or advice via the internet when the assistance they received from traditional in-person sources, such as healthcare professionals or family members, is incomplete or incompatible with their needs (Finn & Kerman, 2005). Gender differences have been mentioned throughout literature regarding behaviours related to online support groups and general usage of digital platforms. For instance, mothers seem to be more frequent users of online peer support groups, compared to fathers (Moorhead et al., 2013), contrast which may be caused by the imbalance in the volume of parenting resources and support groups that had mothers and motherhood as a focal point. Additionally, mothers have been found to prefer support groups for psychological support and the feeling of belonging, whilst fathers appeared to favour the use of humour in conversations and the commonality of parenthood experience (Niela-Vilén, Axelin, Salanterä, & Melender, 2014). Moreover, women seem to be generally inclined to post online comments revolving around personal feelings, thoughts and experiences, whilst men tend to focus on creating posts including informational or practical support (Moorhead et al., 2013).

Blogging has been described as another way of interacting with other parents, documenting, and learning about parenting. Blogging allows for the documentation of personal experience, and it provides parents with a method of updating their friends and family with events or challenges of parenthood, as well as the developmental stages of their children, through text or imagery. Blogging has been associated with increased feelings of connectedness with close ones who may not be easy to reach, such as distant family members or friends, allowing for heightened perception of social support and improved overall parental wellbeing (McDaniel, Coyne, & Holmes, 2012). The most common topics that have been found to be discussed by mothers on digital platforms have been related to childrearing practices, particularly surrounding sleeping or feeding methods, children's self-reliance or nutrition (Porter & Ispa, 2013).

Mothers have been shown to participate in debates on parenting forums, exploring the concept of the "good mother" ideal (Pedersen & Lupton, 2018). The study by Pedersen and Lupton (2018) identified that mothers utilised the popular parenting forum Mumsnet to discuss the pressures generated by unreasonable expectations and judgment generated by their social circle or society in general, as well as self-criticism. The mothers were met with compassion, empathy and reassurance by the other forum users, describing the platform as a

coping strategy for obstacles ranging from self-doubt regarding parental self-efficacy, to severe emotional disturbances, such as postnatal depression or suicidal tendencies. Studies show that online platforms that allow for social interactions have been linked to increased bonding social capital amongst mothers (e.g., Bartholomew et al., 2012; Jang & Dworkin, 2014; Nolan et al. 2015) and diminished likelihood of depression and anxiety (De la Pena & Quintanilla, 2015). Although some research has discussed the potential risk of loneliness caused by heightened reliance on online interactions (Forest & Wood, 2012), social media sites have also been shown to facilitate face-to-face meetings amongst mothers (Lupton, 2016). Alongside the encouragement, comfort and understanding provided by connecting with other mothers, social media networks have shown to increase the feeling of taking control (Lupton, 2016), which is a common sentiment that new parents struggle with.

1.9.2. Social media use and PND

Women frequently use online platforms to seek information related to mental health (Fleming, Vandermause & Shaw, 2014), with evidence proposing that a large percentage of women described the internet as a useful resource for information and support on depressive symptoms in the perinatal period (Maloni, Przeworski & Damato, 2013). More importantly, an exploratory study looking at digital behaviours of women in the perinatal period has identified that depressed mothers were more inclined to seek online information surrounding mental health, compared to non-depressed mothers (Fonseca, Gorayeb, & Canavarro, 2016). This finding could potentially be related to the ability to conveniently connect with others in similar situations, therefore diminishing the chances of dealing with stigma or negative judgment (Maloni, Przeworski & Damato, 2013). Social support is crucial for mothers suffering from mental health issues, such as postnatal depression (Leahy-Warren, McCarthy, & Corcoran, 2012), yet very little research has been done to investigate any potential online support resources designed specifically for mothers struggling with PND. A study that used content analysis to examine messages posted on a postnatal depression online support group, revealed that depressed mothers were providing and receiving emotional, practical and informational support related to this condition (Evans, Donelle & Hume-Loveland, 2012). An important aspect of the PND online support group was the ability to disclose and confide in the other users about the challenges of motherhood and the difficulties in bonding with their children (Evans, Donelle & Hume-Loveland, 2012), experiences which may be viewed as incompatible with the idealised portrayal of motherhood. Another study that looked at depressed mothers with high-risk pregnancies (Maloni, Przeworski, & Damato, 2013),

reported that this sample expressed an interest in the internet and digital platforms as an alternative source of PND advice and education, particularly as a result of treatment barriers, such as mental health stigma or insufficient time to access any available services. Preferred online materials described as helpful were also mentioned, for instance video illustration of coping mechanisms, video chatting with PND healthcare experts or parenting blogs (Maloni, Przeworski, & Damato, 2013).

Mothers with PND have been shown to often feel isolated in their feelings of guilt and shame (Pinto-Foltz & Logsdon, 2008), thus it is essential that they have access to a safe space where their experiences are normalised (Scrandis, 2005) and information on treatment is available (Evans, Donelle & Hume-Loveland, 2012). It has been proposed that social networking sites and other digital platforms dispose of an insufficient amount of appropriate information and advice regarding PND (Moore & Ayers, 2011). Although parenting forums and online support groups have been shown to greatly benefit the transition and wellbeing of parents in the perinatal period (Pedersen & Lupton, 2018), it has also been suggested that they could have a negative influence, due to factors such as reducing offline social interactions, heightening stress, feelings of worry and confusion (Dennis, 2003; Tanis, 2008; Ransom, La Guardia, Woody & Boyd, 2010).

1.9.3. Social media use amongst fathers

Social media sites have been found to be utilised by fathers or expectant fathers as well, with the main motives being the documentation of their transition to the new role, the search for parenting information and interaction with other men in similar situations (e.g., Ammari & Schoenebeck, 2015; Fletcher & StGeorge, 2011). An exploration of the blogging behaviours of fathers-to-be described the male users as deeply reflective of their upcoming paternal role, discussing concepts, such as the modernisation of fatherhood, the conflicting ideals of masculinity and the overwhelming nature of the transition to parenthood (Åsenhed, Kilstam, Alehagen, & Baggens, 2014). The same study illustrated that expectant fathers create online content related to their partner's pregnancy and their children's development, as a method of easing anxieties but also for reinforcing the reality of the situation; thus, suggesting that the online self-disclosure is directed towards others, as well as themselves in an attempt of contemplation (Åsenhed, Kilstam, Alehagen, & Baggens, 2014). It appears that a major focus in the digital behaviours of expectant fathers has been the search for pregnancy-related information in the antenatal period, looking to acquire knowledge regarding the development of the foetus, pregnancy nutrition or stages of the pregnancy

(Oscarsson, Medin, Holmström, & Lendahls, 2018). Antenatal paternal involvement has been associated with increased paternal engagement in the postnatal period (Redshaw & Henderson, 2013), therefore it presents as an important predictor of the availability of paternal support.

In the postnatal period, fathers use online platforms, such as online support groups, to disclose their worries related to childcare tasks or their child's wellbeing, as well as the positive moments of parenthood, to connect with other fathers who are experiencing similar concerns (Fletcher & St George, 2011) and to offer advice and compassionate support (Eriksson & Salzmann-Erikson, 2013). Interestingly, some fathers used their extensive lived experience and knowledge of parenthood to assist other men in their adjustment to the new role, by suggesting well-known caregiving techniques or sharing scientific articles to support their advice (Eriksson & Salzmann-Erikson, 2013).

Fathers use forums to discuss their experiences with paternal support in healthcare settings, some highlighting their appreciation for the effectiveness of professional support, whilst others criticising perceptions of parental roles that seem embedded into the healthcare system (Salzmann-Erikson & Eriksson, 2013). A disconnect in fathers' postnatal needs and the support provided by healthcare workers has been identified. It appears that the traditional notions of masculinity and fatherhood that portray fathers as hardly involved in caregiving responsibilities (Wall & Arnold, 2007) and therefore not as affected by the transition to parenthood, have led to insufficient staff training, education and support opportunities created for paternal mental health and wellbeing. In a similar way, it has been shown that a vast majority of parenting digital spaces are aimed at mothers and the majority of users are mothers (Larsson, 2009), suggesting a lack of online venues for fathers. The fathers who engage with online platforms have shown interest in promoting and encouraging dialogue amongst men in their transition to fatherhood, by creating an open and friendly space, using communication that includes humour and self-disclosure, which in turn elevates levels of trust and empathy (Fletcher & StGeorge, 2011). The opportunity for reciprocity and interactivity between users within online platforms, has been recognised as particularly beneficial for the psychological wellbeing of fathers (Murray et al., 2005). Whilst there has been some research on the gender differences in illness-related language (Charteris-Black & Seale, 2013; Johnson et al., 2012), it is unclear whether these distinctions apply to parents when they discuss issues related to postnatal mental health and adjustment to parenthood.

1.9.4. Disadvantages of social media use in the perinatal period

Alongside the advantages of social media platforms, there are disadvantages that can be detrimental to parents, especially as vulnerability is increased in the early postnatal period. The anonymity feature has been associated with bullying and negative online content, as well as increased likelihood of disclosure (Ammari & Schoenebeck, 2015). Another downside of social media use would be the exposure to curated online posts that display a false representation of parenthood. It has been shown that internet users, including parents, tend to present the best version of themselves online (Lee, 2014), thus portraying an incomplete view of the postnatal experience. Being presented solely with the positive aspects of parenthood has been associated with mothers and fathers engaging in negative social comparisons (Rui & Stefanone, 2013), as they may form feelings of inadequacy and self-dissatisfaction. It has also been shown that increased social media use is associated with higher levels of parental stress (Bartholomew et al., 2012), which may be associated with increased exposure to negative online comparisons.

Engagement in online comparisons could be explained using the social comparison theory, which proposes that individuals tend to evaluate their knowledge and abilities by comparing oneself with others who may embody similar characteristics (Festinger, 1954 cited in Coyne, McDaniel, & Stockdale, 2017). Social comparisons have been categorised as upward, downward or lateral (also known as horizontal), and the type of comparison that individuals choose to engage in may be motivated by their intentions. For instance, upward comparisons refer to comparisons with others who may be perceived as superior or more competent in certain knowledge or skills, and individuals tend to engage in this type of comparison as a method of self-improvement (Corcoran, Crusius, & Mussweiler, 2011). Upward comparisons have been described as negative comparisons throughout this thesis, as they are more likely to lead to self-dissatisfaction, and overall harmful outcomes for wellbeing. In fact, prior research found that upward comparisons in an online context present a higher risk of body image dissatisfaction compared to comparisons made in a face-to-face context, as social media users are more likely to be exposed to idealised content online (Fardouly et al., 2017). Downward comparisons are made with others that are perceived as inferior or less competent in certain knowledge or skills, and they are usually conducted with the aim of validating one's capabilities, potentially due to insecurity. Finally, lateral or horizontal comparisons are made with others who are perceived as equal or similar in knowledge and skills, and this type of comparison may be made to provide self-reassurance regarding one's abilities and normalise their experience.

Multiple research studies have found links between online social comparisons and detrimental effects on wellbeing, such as increased risk of depression, poor self-esteem, decreased body-image and negative attitudes toward the self (e.g. Fox & Vendemia, 2016; Smith, Hames & Joiner, 2013; Vogel, Rose, Okdie, Eckles, & Franz, 2015). A cross-sectional study by Coyne, McDaniel and Stockdale (2017) identified that the symptoms of depression amongst parents were not related to the general use of social media sites or frequency of online platforms, but to more specific digital behaviours, namely social comparisons. This study found that engaging in online comparisons with other parents online was associated with higher levels of depression in mothers, and reduced levels of perceived parental competence. These findings suggest that engaging in comparisons with others does not only increase the risk of psychological distress, but it can also alter the way in which mothers view themselves within their role as parents, thus challenging their perceptions of their own identities as mothers. The display of overly positive parenthood experiences online was found to be interlinked with the concept of "intensive mothering" (Chae, 2015), which, as mentioned previously, refers to the expectation of mothers undertaking the majority of childcare tasks and completely devoting their finances, time, emotional and physical resources to fulfil the needs of their children (Hays, 1996). Chae (2015) suggested that celebrity culture present on social networking sites can influence the perception of motherhood that women have, imposing a sense of competitiveness that urges mothers to achieve unrealistic standards of parenting. Although some studies suggest that mothers are likely to be negatively affected by idealised online content due to engaging in upward comparisons (e.g., Coyne, McDaniel, & Stockdale, 2017), other research proposes that some mothers may be more inclined to compare themselves with more relatable online content that presents a realistic view of parenthood, rather than a curated perspective (Kirkpatrick & Lee, 2022); however, the same study identified that exposure to unrealistic views of parenthood online can lead to feelings of envy and anxiety (Kirkpatrick & Lee, 2022). Contrary to the findings by Chae (2015), the study by Kirkpatrick and Lee (2022) also suggested that mothers were more likely to compare themselves online with regular users, rather than "mummy influencers", which may include celebrities. These findings were supported by social comparison theory which proposes that individuals tend to evaluate themselves in relation to others who present similar characteristics. Therefore, it is important to consider the type of comparisons that parents engage in when using social media when exploring whether this digital behaviour has a positive, neutral or negative impact on psychological wellbeing and adjustment to parenthood.

2.1. The current thesis

2.1.1. Rationale

Prior literature has produced an ample perspective into the advantages (Nolan, Hendricks, & Towell, 2015; Pedersen & Lupton, 2018) and disadvantages (Coyne, McDaniel, & Stockdale, 2017; Porter & Ispa, 2013) of social media use on mental health, with some focus on the perinatal period and online behaviours of parents (Ammari & Schoenebeck, 2015; Eriksson, & Salzmann-Erikson, 2013; Pedersen, 2016). However, there is little research that considered the impact of postnatal depressive symptoms and their impact on digital behaviours and help-seeking within an online context during the first year-postpartum. Therefore, the current thesis proposed to clarify the mixed findings regarding the beneficial or harmful effects of social media on postnatal mental health amongst mothers and fathers who have at least one baby under one year old. It is important to gain a better understanding of the first year postpartum, as it has been identified as a high-risk period for the likelihood of developing postnatal mental illness (Cameron et al., 2016; O'Hara & McCabe, 2013).

Social support has been greatly researched in relation to postnatal depression (Da Costa et al., 2015; Leahy-Warren, McCarthy, & Corcoran, 2012), as well as online platforms (Fletcher & St George, 2011; Nolan, Hendricks, & Towell, 2015), however there is no research to evaluate the potential relationship between PND, online support and traditional support. Thus, this thesis aimed to address the gap in the literature regarding the impact of PND on mothers' and fathers' support-seeking behaviours, both online and offline. Regarding online behaviours and depression, there have been studies that linked the tendency to engage in negative online comparisons and (maternal) depression (Coyne, McDaniel, & Stockdale, 2017; Fox & Vendemia, 2016; Vogel & Rose, 2016), however it is uncertain whether this association applies to a population of fathers and PPND levels. The quantitative study presented in Chapter Five has, therefore, addressed this gap by assessing likelihood of engaging in online comparisons with other parents and its potential link to PND levels.

A distinct and essential aspect of help-seeking behaviours and social support is the language utilised to either express psychological distress, or to ask for help and assistance. Most research conducted in the area of parenting and postnatal mental health explored the willingness and opportunity of mothers and fathers to communicate mental health challenges

online or offline, however there is a clear gap around the linguistic aspects of online communication related to experiences or attitudes towards PND. It is known that individuals with depression tend to utilise certain lexical terminology (Fast & Funder, 2010), therefore it is essential to further evaluate these factors in the context of postnatal depression. Since most literature suggests that there are gender differences in discourse of illness (Johnson et al., 2012), it is important to assess whether these distinctions apply to a parenting environment, as potential gender differences may have implications in terms of effective medical screening and treatment.

In terms of methodology, there have been qualitative studies that explored experiences of parenthood (Darwin et al., 2017) and parental use of social media (White, Giglia, Scott, & Burns, 2018), however there has been no in-depth exploration of the adjustment to parenthood and social media usage within the first-year postpartum. Therefore, Studies Two and Four, utilised semi-structured interviews to gain a detailed perspective of the adjustment to the first-year post-childbirth and the impact of social media use on this transition. Additionally, the use of language on online platforms is an important part of digital and help-seeking behaviours. There have been studies that used content analysis to examine whether online language can predict symptoms of PND (De Choudhury, Counts & Horvitz, 2013), however the literature is lacking in an exploration of how internet users construct language to produce discourse related to PND; this was carried out in Study Five where a corpus linguistic analysis was used to assess the frequency and contextual meaning of lexical terms utilised in relation to PND (see Chapter Seven). The combination of qualitative, quantitative and corpus linguistic approaches aimed to address significant gaps in the literature and to provide a comprehensive and holistic exploration of postnatal depression and use of online and offline support.

2.1.2. Overall aims, research questions and hypotheses

The current thesis aimed to investigate the impact of maternal and paternal PND symptoms on social media use and perceived social support, to gain a better understanding of the early postnatal period, in terms of maternal and paternal adjustment to the new role, expectations, access to support and digital behaviours, as well as assess online language related to PND.

The thesis is formed of five individual studies, where a mixed-methods approach was conducted to investigate and explore the PND levels, social support and social media use of mothers and fathers. Each study proposed to address a number of research questions. Study one (see Chapter Three) utilised a quantitative approach to investigate the following research questions a) Are there any differences in emotional attachment to social media and integration of social media in daily life (SMUIS), social support, parental stress, online comparisons, frequency of social media use and online support between mothers with low and high risk of PND? b) Can levels of SMUIS, social support, parental stress, online comparisons, online support and frequency of social media predict PND symptoms? c) Can PND symptoms, social support, parental stress, online comparisons, frequency of social media and online support predict SMUIS? The second study (see Chapter Four) employed a qualitative approach, and it addressed the following research question: How do mothers experience the postnatal period, in terms of adjustment to parenthood, relationship with baby and partner, access to support and use of online platforms for parenting support?

The third study (see Chapter Five) conducted a quantitative approach, and it addressed the following research questions: a) Are there any differences in SMUIS, social support, online comparisons, frequency of social media use and online support between fathers with low and high levels of PND?, b) Can SMUIS, social support, online comparisons, online support, frequency of social media predict PND symptoms?, c) Can PND symptoms, social support, online comparisons, frequency of social media and online support predict SMUIS?, d) What online platforms do fathers use more frequently and is there a difference between fathers with low and high risk of PND?, e) What are the main reasons for using online platforms amongst fathers and is there a difference between fathers with low and high risk of PND? The fourth study (see Chapter Six) included a qualitative approach, and it addressed the following research question: How do fathers experience the postnatal period, in terms of adjustment to parenthood, relationship with baby and partner, access to support and use of online platforms for parenting support? The fifth and final study (see Chapter Seven) included a corpus-linguistic approach, and it addressed the following research questions: a) What language is used in Twitter posts related to PND created by female users, male users and organisational Twitter accounts?, b) Are there gender differences in language style, frequency or meaning of words associated with PND?

Based on previous research, it is expected that mothers and fathers with higher risk of PND would display elevated social media usage, compared to mothers and fathers with low

risk of PND (Bäzner, Breomer, Hammelstein, & Meyer, 2006; Coyne, McDaniel & Stockdale, 2017; McDaniel & Coyne, 2016; Merolli, Gray, & Martin-Sanchez, 2014). Within the context of this thesis, elevated social media usage refers to high SMUIS levels, elevated frequency of social media use, increased online support and heightened likelihood to engage in online comparisons. It is also hypothesised, based on prior research (Da Costa et al., 2015; Freitas et al., 2016; Leahy-Warren, McCarthy, & Corcoran, 2012), that mothers and fathers with higher risk of PND would present decreased perceived social support, compared to parents with low risk of PND who are expected to display higher levels of social support. In regards to the quantitative study with mothers (see Chapter Three), it is expected that mothers with higher risk of PND would presented increased parental stress, compared to mothers with lower risk of PND (Anding et al., 2016). Finally, regarding the fifth study using a corpus linguistic approach, it is hypothesised, according to prior literature (Fast & Funder, 2010; Johnson et al., 2012), that there will be gender differences in the language style used on Twitter to discuss PND, in terms of frequency and meaning of lexical terms.

The next chapter consists of a general overview of the methodological approach employed in the current doctoral thesis, proposing to provide a clear and detailed justification for the use of mixed methods design to address the research questions highlighted previously. The General Methodology chapter includes a description of the methodology employed for each of the five studies, including the choice of participants, recruitment methods, data collection, materials and analytical approach. The second chapter further presents the philosophical stance that guided the methodological decisions within the current thesis, namely a critical realism perspective.

Chapter Two: General Methodology

2.2. Mixed-methods design

The methodological approach adopted in the current doctoral thesis included a mixed-methods design, involving both qualitative and quantitative techniques within the same research project (Fetters & Molina-Azorin, 2017). The mixed-methods procedure involved a sequential-explanatory design, where the quantitative approach was employed first, followed by the qualitative approach. Alongside the quantitative and qualitative methods used in individual studies, a corpus linguistic approach was undertaken, which utilised both quantitative and qualitative techniques within the same study; further details are provided in the paragraphs below. This methodological technique was undertaken to gain a

comprehensive view of the topic under investigation, namely the potential links between postnatal depressive symptoms and social media usage.

Mixed-methods designs have been described as beneficial in overcoming the individual limitations of qualitative and quantitative approaches (Kelle, 2006; Plewis & Mason, 2005). Quantitative designs have been found to be greatly effective due to their ability to conduct comparisons and associations between groups and variables, investigate statistically significant values, test hypotheses and measure constructs accurately. However, quantitative techniques have also been criticised for decreased ecological validity and the inability to explore the underlying meaning of experiences, opinions or events (Moghaddam, Walker, & Harre, 2003). The quantitative approach was employed for two of the studies within this thesis, namely the studies in Chapter Three and Chapter Five. These quantitative studies included data collected via self-reported questionnaires that assessed differences in social media usage and perceived social support amongst mothers and fathers with low and high risk of PND. Data analysis was then conducted using statistical analysis. This approach was suitable as an initial methodological technique as it provided a general view into the digital behaviours of mothers and fathers, and it allowed an investigation of potential differences between participants with low and high likelihood of developing PND. Once the statistical analysis and interpretation of the data produced an overview into the social media usage and social support amongst mothers and fathers with low and high risk of PND, the next step involved a deep dive into these elements, to gain a more detailed understanding of the associations between postnatal mental health and online behaviours.

Qualitative techniques have been favoured due to their capacity to conduct in-depth explorations of personal thoughts, emotions, attitudes or behaviours, captured in different contexts, such as the family system or cultural backgrounds (Plano Clark, Huddleston-Casas, Churchill, Green, & Garrett, 2008). Simultaneously, limitations of qualitative research have also been mentioned, such as the difficulty in assessing links between constructs or generating generalisable, definitive and verifiable conclusions (Kirk & Miller, 1986). The studies in Chapter Four and Chapter Six included a qualitative methodological approach, as the data were collected using semi-structured interviews, which was later analysed using Thematic Analysis. These qualitative studies consisted of an in-depth exploration of adjustment to the postnatal period, access to support, and usage of social media for parenting support or information, involving a sample of fathers and a sample of mothers. These

qualitative studies allowed for a comprehensive view into the elements found in the initial quantitative stage, providing context and meaning to the initial findings.

The final study within this thesis (see Chapter Seven) employed a corpus linguistic approach, where data collected from public Twitter accounts were investigated using three main procedures within corpus linguistic analysis, namely keyword analysis, collocations and concordance. The keyword analysis included examining the lexical terms that are significantly more likely to occur in one corpus compared to another, therefore significance values were utilised to check significance. Afterwards, a concordance search was employed to examine the context of the words that occurred statistically more frequently in one corpus over another, using quotes that displayed the tweets in which the lexical terms were utilised; these quotes were interpretated in a qualitative manner to provide meaning and a better understanding of the data. Therefore, this study employed both quantitative and qualitative techniques, which were valuable in providing an insight into gender differences in online language used to discuss PND.

Adopting both qualitative and quantitative techniques was essential in ensuring a holistic analysis of the research topic, whilst controlling for the methodological flaws associated with a single-methods design approach. It was also important to address the gaps in the literature within the topic of postnatal depression and social media use for support, as there is a lack of research investigating and exploring the impact of PND symptoms on digital behaviours. Additionally, a gap in the literature exists regarding the language utilised to communicate and discuss PND on social media, thus this issue was addressed using the corpus linguistic approach. Finally, as postnatal depression and social media usage are vast topics, which may be strongly interconnected, this reinforced the importance of conducting a mixed-method approach, so that the research questions could be considered from multiple perspectives.

2.2.1. A sequential-explanatory design

The current thesis used a sequential, explanatory design, where the progression of the methodological techniques was initiated by a quantitative approach, followed by a qualitative approach. The studies within this thesis were conducted using a quantitative approach as an initial procedure, followed by the qualitative technique, where the first two studies were employed using a sample of mothers and the following two studies included a sample of

fathers. Finally, a corpus linguistic approach was employed to examine PND-related language created by female and male Twitter users; this technique involved a combination of quantitative and qualitative methods. As the experiences of PND, as well as digital behaviours amongst parents, have been previously, individually, explored (see section 1.9. in Chapter One), it was considered more effective to begin the process using a quantitative rather than a qualitative method. In this way, it was possible to gain a general view of the potential associations between the two elements, before exploring it in more detail.

Mixed-methods designs have been categorised as sequential or concurrent (Creswell, Plano Clark, Gutmann & Hanson, 2003). The sequential design refers to the qualitative and quantitative data being collected individually and in different stages, one following the other. Contrastingly, the concurrent design is based on data being collected simultaneously from both quantitative and qualitative approaches. The sequential design has been divided into three types, namely exploratory, explanatory, and transformative (Castro, Kellison, Boyd, & Kopak, 2010). The categorisation of sequential designs is based on several factors, such as whether the focus is mainly on the quantitative or the qualitative approach, the chosen data analysis technique, and the aims of the theoretical foundation within the methodological approach (i.e. societal change or advocacy) (Creswell et al., 2003). Within a sequential, explanatory design, the quantitative element precedes the qualitative element, and the qualitative data are utilised to clarify or interpret the initial quantitative data (Creswell & Plano Clark, 2007). The order of the methodological sequence (i.e., quantitative techniques followed by a qualitative approach) was employed in the current thesis to provide an initial overview of the potential relationships and differences between variables, followed by an in-depth exploration of the initial findings, which could then lead to a well-rounded and strong discussion.

Collecting qualitative and quantitative data from the same sample of participants has been considered advantageous in providing a comprehensive and meaningful insight into the research topic, as concluded in the study by Bishop (2015) where they conducted a mixed-methods design to investigate and explore the use of placebos in primary care. Alongside this, using the same sample of participants within a mixed-methods project is considered a more efficient method of participant recruitment, as it is time-efficient and ensures the participants meet the inclusion criteria. This method of data collection was initiated in the current project, as the data were gathered from three different samples (i.e., mothers, fathers, Twitter users), each undertaking a mixed-methods approach in data collection and analysis. The end of each

of the quantitative studies directed the participants to an external page where they could include their contact details if they were interested in participating in the qualitative stage. As the inclusion and exclusion criteria was the same in both quantitative and quantitative studies, it was suitable for the participants to be purposefully recruited from the same sample.

It is important that the choice of design is guided by the research questions (Tashakkori & Teddlie, 2010). As the research questions of the present thesis involved investigating associations and differences amongst the main variables (i.e., digital behaviours, perceived social support and postnatal depressive symptoms), as well as gaining a deeper understanding of the use of social media during the postnatal period, a mixed-methods design was deemed the most appropriate technique (see section 2.1.2. in Chapter One for research questions in full). As an example, the quantitative study that involved a sample of mothers (see Chapter Three) found that there was no statistically significant difference between low and high risk of maternal PND and perceived online support. As this was an unexpected finding, it was useful to explore it further using the qualitative strategy, to better understand the associations between postnatal mental health and using online platforms as a support tool. The research questions of this thesis further included queries about the language style used when producing online content related to PND on Twitter, as well as potential gender differences in the usage of lexical terms and meaning behind the online textual information. To address these questions, a corpus linguistic approach was employed (see Chapter Seven) to explore another facet of postnatal depression and use of online platforms for support, more specifically, examining linguistic factors and gender discrepancies.

2.3. Philosophical approach - Critical Realism

The philosophical approach that informed the current thesis in terms of epistemology and ontology was critical realism. It has been suggested that critical realism can address the limitations of positivism and interpretivism (Wiltshire, 2018) and it may be applied to mixed-methods research (Ryba, Wiltshire, North, & Ronkainen, 2022). The framework underlying the quantitative studies within this thesis was based on the universality, objectivity and quantifiable nature of reality, whilst the qualitative studies within this thesis perceived reality as subjective and constructed based on the personal experiences of individuals, as well as social structures. There were three main components that this research aimed to investigate

and explore, namely postnatal depressive symptoms, perceived social support and social media usage. The quantitative studies (see Chapter Three and Chapter Five) investigated whether there was a difference in social support and social media use amongst mothers and fathers with low and high levels of PND. The qualitative studies (see Chapter Four and Chapter Six) explored the underlying causes of those potential differences, and aimed to produce a detailed insight into each of those concepts, namely postnatal wellbeing, access to support after childbirth and digital behaviours amongst parents. Based on the critical realist stance, the understanding of the potential associations between PND symptoms, social support and social media use was dependent on prior theory and literature. Simultaneously, it was acknowledged that the potential relationships between the three elements may be influenced by multiple factors, such as socioeconomic status, age, number of children, ethnicity, societal structures, or psychological wellbeing, amongst others.

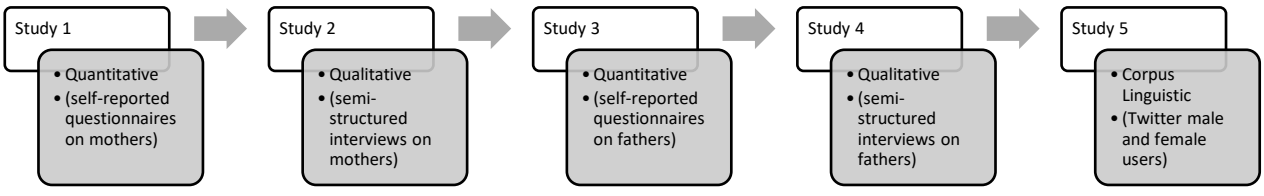
In other words, this research was based on the knowledge that the postnatal period is an intensive life stage that can pose major physical, psychological and social influences on mothers and fathers; it is also known that social support is a valuable and protective factor in the postnatal period, and that parents use online platforms to produce or receive information, advice or support about parenting. Whilst this research was based on this knowledge, the data collection and analysis allowed for an open and flexible interpretation of these experiences, considering the specific characteristics of the sample and overall social context. This research did not focus solely on the personal experiences of parents, rather it proposed to explore the expectations, causes and barriers linked to those experiences, as well as the views of external entities, such as relevant organisations or public figures (see Chapter Seven). In this way, it was possible to generate an all-encompassing perspective of these experiences, approach which can produce findings with important clinical and practical wider implications.

2.4. Structure of Methodological Design

This thesis is constructed of five studies, two used a quantitative approach (see Chapters Three & Five), two used a qualitative approach (see Chapters Four & Six) and the fifth one used a corpus linguistic approach, which employed a corpus linguistic technique (see Chapter Seven). The quantitatively-led mixed methods procedural process for all five studies can be observed in Figure 1.1, which displays the structure and the sequential nature of the methodology. The main topic under investigation across all five studies was the postnatal experiences in the first year-postpartum (focal point on postnatal depressive symptoms), and the use of social media for parenting support. The first two studies investigated a population of mothers, the following two studies involved a population of fathers, and the fifth study looked at the general population within a digital context (i.e., Twitter). The next paragraphs present an outline and evaluation of the methodological aspects of all studies, categorising them based on the design approach.

Figure 1. 1

A representation of the structure and sequential-explanatory design undertaken for the methodology of the current thesis



Note: The figure includes the five individual studies within this thesis, with the specific methodological design, data collection method and type of sample

2.5. Quantitative approach (Studies 1 & 3)

The studies in Chapter Three and Chapter Five were conducted using a quantitative approach, as data were collected using self-reported questionnaires that assessed the differences in social media use, amongst mothers and fathers with low and high symptoms of PND. Additional variables were also added in the analyses, such as perceived social support and parental stress.

2.5.1. The research sites

The self-reported questionnaires for both quantitative studies were delivered using Qualtrics and they were advertised on multiple sources, social media sites (Facebook, Twitter, Instagram), through local children's centres and nurseries via posters (see Appendix I), parenting organisations (i.e., National Childbirth Trust, Acacia Family Support), as well as parenting websites and forums, such as Mumsnet, Netmums and Dads Unlimited. The use of parenting forums such as Netmums has been found to be an effective method of recruiting participants from a population of mothers (O'Mahen et al., 2013). As some of these online platforms were private, approval was requested and accepted by the forum administrators, and this was verified and approved by the BLSS Ethics Committee (see Appendix J).

Online recruitment has been found to be a quick, convenient, and cost-effective method of advertising and recruiting participants (Smith et al., 2012; Warmerdam, Smit, van Straten, Riper & Cuijpers, 2010). The study by Maloni, Przeworski and Damato (2013) explored the recruitment rates and internet preferences amongst women with PND and were able to collect a large amount of data, suggesting that mothers with depression are frequent users of the internet, and they are willing to discuss issues surrounding perinatal mental health for scientific or personal purposes. This type of sample recruitment was considered particularly suitable for the current research project due to a number of reasons. Firstly, the early postnatal period is usually linked to time-constraints and reduced capacity for activities unrelated to childcare (Saligheh, McNamara, & Rooney, 2016). Therefore, allowing parents to participate in research without the need of travelling to a different location was helpful from a participant's point of view, as it led to increased personal comfort amongst individuals

who were interested in taking part. Online recruitment was also considered useful also from a researcher's point of view, due to cost-effectiveness and time advantages (Donker, van Straten, Riper, Marks, Andersson & Cuijpers, 2009; Meyer et al., 2009). Secondly, as the research project explored sensitive topics, such as the adjustment to the postnatal period, perinatal mental health and effects of social media engagement, it was expected that participants would feel more comfortable disclosing their thoughts and experiences via an anonymous online questionnaire, rather than through face-to-face participation (Maloni, Przeworski, & Damato, 2013). Third, as one of the principal elements of this project included an evaluation of digital behaviours, it was evident that valuable information regarding online engagement would be provided by individuals who were users of such platforms, thus making online recruitment greatly advantageous. Finally, prior literature has suggested that fathers, and generally men, are less likely to take part in research, due to factors such as lack of interest, time restrictions (Markanday, Brennan, Gould, & Pasco, 2013) or not being asked to participate (Davison, Charles, Khandpur, & Nelson, 2017). Therefore, a convenient, accessible and anonymous method of recruitment and data collection via online-based platforms, was considered most appropriate for this type of sample (Pollard, 2007; Robertson & Williams, 2009). Whilst participant recruitment via online platforms represented the main source of data collection, the other various recruitment sites (i.e., children's centres, nurseries) were included to elevate the diversity of the sample.

2.5.2. Participants

The first quantitative study conducted, presented in Chapter Three, was comprised of a self-selected sample of mothers (N=206), and the second quantitative study conducted, presented in Chapter Five, was formed of a self-selected sample of fathers (N=106). The sample size for each of the studies was considered appropriate based on previous similar studies (e.g., Anding, Röhrle, Grieshop, Schücking, & Christiansen, 2016; Cameron, Hunter, Sedov, & Tomfohr-Madsen, 2017; Demontigny, Girard, Lacharité, Dubeau, & Devault, 2013; Dunford & Granger, 2017; McDaniel, Coyne, & Holmes, 2012). A G* Power analysis was additionally conducted post-data collection, to assess and confirm the suitability of the sample size required when running independent sample T-tests. The G*Power analysis revealed that, to detect at least a medium effect size, a suitable total sample size for the study conducted with mothers would be of 210 participants (with 95% confidence power), whilst the study conducted with fathers would require around 128 participants (with 80% confidence

power). Therefore, whilst the decision regarding sample size for both quantitative studies was based mainly on previous relevant literature, the G*Power analyses that were conducted after the data was collected were used as confirmation that the final sample sizes for both studies were appropriate.

The participants were recruited through purposive and snow-balling sampling. As this research project targeted a specific pool of participants (Rai & Thapa, 2015), namely mothers and fathers with at least one baby aged 12 months or less, purposive sampling was deemed most suitable. The current thesis investigated specifically the first year postpartum, as mothers tend to start experiencing symptoms of PND in the first-year post-childbirth (O'Hara & McCabe, 2013), and men's risk of developing depression significantly increases in the first year of fatherhood (Cameron et al., 2016; Paulson & Bazemore, 2010).

It was essential that this research project evaluated and analysed the experiences of both mothers and fathers, as it has been shown that the postnatal period and transition to parenthood can pose a major influence on the mental health of both samples (e.g., Anding et al., 2016; Mao, Zhu, & Su, 2011; Paulson, Dauber, & Leiferman, 2006). Although most research investigating issues surrounding PND is centred around the experience of motherhood, it is evident that fathers' wellbeing can also be impacted by the adjustment to the new role. As a result of this, this research project acknowledged the exploration and investigation of postnatal experiences of both mothers and fathers as equally important.

2.5.3. Materials

Both quantitative studies (Study One and Study Three) involved the use of self-reported questionnaires (see Appendices K and L) to collected data from the two samples of mothers and fathers. Questionnaires formed of multiple choice, closed-ended questions were the chosen method of data collection as these studies aimed to investigate statistical differences and associations between the main variables (i.e., postnatal depressive symptoms, social media usage, perceived social support).

The Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987)

One of the main variables under investigation represented the level of postnatal depressive symptoms, and this was assessed using the EPDS (Cox et al., 1987) (see Appendix K for the full version of the EPDS). The EPDS was used to assess symptoms of maternal, as

well as paternal postnatal depressive symptoms. The EPDS has been described as one of the most frequently used self-reported tools for measuring PND symptoms, as it has shown high reliability and validity (e.g., Cox et al., 1987; Yonkers et al., 2001). The EPDS includes 10 items created to assess symptoms of perinatal depression, including statements referring to mood, anxious feelings or self-harming intentions (please see the Materials sub-section in Chapter Three or Chapter Five for a full description of the EPDS). The EPDS has been described as an effective and convenient screening tool, both in clinical contexts, as well as scientific research. The cut-off scores that differentiate between low and high risk of PND varies across studies (Levis, Negeri, Sun, Benedetti, & Thombs, 2020), and it can differ depending on the characteristics of the sample (Halbreich & Karkun, 2006). The initial study conducted by the creators of this scale (Cox, Holden & Sagovsky, 1987), as well as research by Hewitt and colleagues (2009), identified the score of 10 or above as an appropriate threshold in assessing the likelihood of experiencing PND symptoms amongst mothers. Regarding a population of fathers, a cut-off score of 11 or above was found to be an effective threshold for screening the risk of developing PPND (Edmondson et al., 2010) (see full example of the EPDS in the Appendix L).

The reliability and generalisability of the EPDS has been criticised in the study by Halbreich and Karkun (2006) where they have discussed the reduced cultural sensitivity of the cut-off score, which has been shown to vary across nationalities. The sample used in the study by Halbreich and Karkun (2006) presented a cut-off score fluctuating between 9 to 13. Thus, it has been suggested that different cut off scores ought to be considered in order to acknowledge cultural influences (Cryan et al., 2001). Cultural differences, such as interpretation or perception of symptoms, personal beliefs or stigma surrounding mental health, may bias the responses to the scale (Dankner et al., 2000), thus influencing the final outcomes and accuracy of the PND prevalence. It has been found that Western and Eastern cultures have contrasting ways of expressing symptoms of depression (Park & Dimigen, 1995), thus this aspect could lead to inconclusive research findings in studies that examine symptoms of depression; however, the current quantitative studies included a majority of White-British participants, therefore it is expected that culture did not have an impact on the final results. Moreover, it has been shown that parental expectations differ across Eastern and Western cultures, as some societies expect mothers to rest or take time off from work in the early postnatal period (Huang & Mathers, 2001), oppositions which can have an impact on accessibility to support. Differences in expression of emotions could also be a factor, as well

as lack of knowledge regarding PND, or downplaying the severity of the symptoms, both of which may lead to PND being underreported or underrecognised (Chandran et al., 2002; Hau & Levy, 2003). The process of translation of the EPDS in different languages may also affect the internal reliability of the scale, as the psychological or linguistic meaning of the various items may differ across languages (Huang & Mathers, 2001).

Despite these limitations, the EPDS has been widely used in assessing PND symptoms, both in clinical contexts, as well as research, including quantitative studies looking at potential associations between PND symptoms and perceived social support (Leahy-Warren, McCarthy, & Corcoran, 2012; Xie, He, Koszycki, Walker, & Wen, 2009), maternal self-efficacy (Leahy-Warren, McCarthy, & Corcoran, 2012), treatment barriers and online interventions (Maloni, Przeworski, & Damato, 2013), and maternal shame (Dunford & Granger, 2017), among others. The EPDS has also been utilised in studies exploring paternal mental health (Edmondson et al., 2010), usually in relationship to perceived social support (Gray et al., 2018; Philpott, 2016; Top, Cetisli, Guclu, & Zengin, 2016; Wee, Skouteris, Pier, Richardson, & Milgrom, 2011), as well as assessing the use of the EPDS by healthcare professionals to screen for paternal postnatal depression (Whitelock, 2016). Whilst these studies produced valuable knowledge to the field of perinatal mental health, they displayed some methodological disadvantages, such as small samples (Maloni, Przeworski, & Damato, 2013) or no cause and effect (Dunford & Granger, 2017). In order to improve on this, the current thesis was conducted using a larger sample size. Most importantly, the EPDS showed high internal reliability and consistency in the present thesis, as it could be seen in the studies conducted with mothers (see Chapter Three) and fathers (see Chapter Five), each presenting a Cronbach's alpha of α=.90.

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988)

Research has often associated PND with perceived social support, element which has frequently been measured using the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) (see Appendix K for full version of the MSPSS). Perceived social support represented a main component of the current thesis, present in both quantitative studies and measured using the MSPSS. The MSPSS is a 12-item self-administered scale, each item rated on a seven-point Likert scale, ranging from "very strongly disagree" (1) to "very strongly agree" (7), with the highest score indicating the

highest levels of perceived social support. The scale was developed to measure the perceived sense of support received from three sources, namely family, friends and significant other and it consists of 12 items (e.g. “I get the emotional help and support I need from my family”). The MSPSS has shown sound psychometric characteristics, with adequate internal and test-retest reliability, high factorial validity and acceptable construct validity (Zimet, Dahlem, Zimet, & Farley, 1988). Whilst the original study was conducted on a sample of undergraduate students, the psychometric attributes of the scale were later assessed within different populations, such as a sample of pregnant women (N=265) (Zimet, Powell, Farley, Werkman & Berkoff, 1990). The study by Zimet and colleagues (1990) indicated that the MSPSS has sound psychometric characteristics across different samples. More specifically, the scale showed a high internal reliability amongst the sample of pregnant women (Cronbach’s alpha of .92) and good construct validity, as it was indicated that the participants could clearly distinguish between the three sub-scales (i.e., perceived social support from significant others, family, friends). Within the current thesis, the MSPSS demonstrated high internal reliability, as the study with mothers in Chapter Three showed a Cronbach’s alpha of α=.92 and the study with fathers in Chapter Five showed a Cronbach’s alpha of α= .91.

The MSPSS has been previously used in several studies looking at experiences of parenthood, such as the research by Top and colleagues (2016), where they conducted a cross-sectional study examining risk factors for paternal depressive symptoms and assessing EPDS and MSPSS scores, alongside other variables, such as self-esteem, work-family conflict and marital adjustment. Their findings indicated that paternal depressive symptoms were influenced by an imbalance between family and work responsibilities and decreased marital adjustment. Additionally, this research, in contradiction to other research (Da Costa et al., 2015), found no relationship between perceived social support and risk of paternal depression. The authors of this study associated the inconsistencies in their results with the sample size and cultural particularities of the sample.

The MSPSS has some limitations that should be considered. Firstly, there is an assumption that the participants who complete this scale have a significant other, namely a romantic or marital partner that they could refer to; however, this aspect was not confirmed for the group of individuals who took part in the current studies, thus that may affect the validity of the responses. Regardless, as the scale items do not explicitly clarify that “a special person” refers to a romantic or marital partner, it is expected that this title could be applied to any person who is in a close relationship with the individual completing the scale.

Still, a systematic review of the psychometric qualities of the translated versions of MSPSS found that the term "a special person" referred to in the scale may be interpreted differently depending on cultural background (Dambi et al., 2018). Secondly, the MSPSS does not consider perceived social support received from other sources, such as healthcare professionals, information which may be useful in understanding the experience of seeking and receiving support amongst parents. However, the perceived social support related to a healthcare setting was explored in the qualitative studies of this thesis (see Study Two and Study Four), where the quantitative results were further examined using semi-structured interviews. Despite these limitations, the MSPSS has demonstrated excellent psychometric characteristics, with high internal reliability and consistency across multiple studies (e.g., Haslam, Tee, & Baker, 2017; Top, Cetisli, Guclu, & Zengin, 2016), thus it was considered an appropriate scale to measure perceived social support in the current thesis.

Online Social Support (Haslam, Tee, & Baker, 2017)

Social media engagement represented a significant aspect of this thesis, therefore it was important to assess the particularities of perceived online support. Perceived online support was assessed using a four items scale based on the MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988), rated on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree", including items, such as "When facing difficult situations, I am more likely to talk about it online than with others face-to-face". The 4-item scale that examines perceived online support was initially implemented in the study by Haslam, Tee and Baker (2017), a cross-sectional study that investigated a sample of parents (N=523) and their digital behaviours, including reasons for social media use, preferred social media platforms, and use of social media for support. A limitation of the perceived online support scale may be that most of the items specifically refer to accessing online support from friends, overlooking other potential sources of support that may be accessed through online platforms, such as family members, or users of online groups and communities. Despite this downside, the internal consistency of the perceived online support scale was found to be very high in the research by Haslam, Tee and Baker (2017) (Cronbach's alpha= .91), and this strength followed up in the quantitative studies of the current thesis, with a Cronbach's alpha of .85 in the study conducted with mothers, and a Cronbach's alpha of .87 in the study conducted with fathers.

The Social Media Use Integration Scale (SMUIS; Jenkins-Guarnieri, Wright, & Johnson, 2013)

The third main scale that was utilised in both quantitative studies was the Social Media Use Integration Scale (SMUIS; Jenkins-Guarnieri, Wright, & Johnson, 2013), which assessed the emotional attachment to social media use and integration of social media use in daily life; this measurement was generally described as SMUIS throughout this thesis.

This scale was originally designed to measure Facebook use, however its flexibility allowed for it to be adapted to assessing other social media platforms. The SMUIS consists of 10 items and they were categorised in two subscales, namely the Social Integration and Emotional Connection Subscale (e.g. "I would be disappointed if I could not use Facebook at all") and the Integration into Social Routines subscale ("Using Facebook is part of my everyday routine"). In the current thesis, the SMUIS was adjusted to measure use of multiple social media platforms, such as Facebook, Twitter, Instagram, not solely Facebook, therefore the participants were exposed to questions such as "I would be disappointed if I could not use social media at all". This modification was applied in other studies, such as the research by Woods and Scott (2016), where they investigated the relationship between social media usage, sleep quality and emotional wellbeing, and the study by McDougall and colleagues (2016), where they explored the association between social networking sites, perceived support and depressive symptoms. Within the current thesis (see Studies One and Three), the SMUIS variable was included in the analyses by considering the total scores based on both sub-scales, due to the scale showing very good psychometric values, including strong test-retest reliability and high internal consistency in the current quantitative studies. Moreover, the aspects evaluated by the two sub-scales, namely emotional attachment to social media sites and integration of social media sites in daily habits, are expected to be closely interconnected, as any activity that is integrated within one's daily routine will impact on one's psychological and emotional state. Due to these advantages, the SMUIS was considered a suitable scale in assessing a general view towards social media, including emotional attachment to social media sites and the integration of social media sites in daily habits.

This scale was designed to address to the limitations of previous scales measuring social media use, such as the well-known Facebook Intensity Scale (FIS) by Ellison and colleagues (2007), an 8-item social media measuring tool that assessed emotional attachment and social integration of Facebook, as well as Facebook frequency usage and Facebook

friendships. It has been suggested that the intention to measure multiple factors related to social media usage within an 8-item scale (Ellison et al., 2007) was not based on appropriate psychometric and validity evidence (Jenkins- Guarnieri, Wright & Johnson, 2013). Therefore, the final version of SMUIS focused solely on the emotional attachment and integration of Facebook in daily routines, as the process of designing this scale indicated that frequency usage may be a distinct construct; this scale displayed strong test-retest reliability and adequate internal consistency and validity (Jenkins- Guarnieri, Wright & Johnson, 2013). The SMUIS showed high internal consistency in both quantitative studies within this thesis, as the study conducted with mothers showed a Cronbach's alpha of .87, and the study conducted with fathers showed a Cronbach's alpha of .89. As a scale's reliability is considered acceptable when the Cronbach's alpha is .70 or higher (Taber, 2018), it is clear that the SMUIS has demonstrated great reliability and consistency in the current studies.

The SMUIS was previously utilised in research investigating mental health, sleep quality and social media engagement amongst adolescents (Woods & Scott, 2016), as well as research looking at the relationship between social media usage, loneliness and impulsivity (Savci & Aysan, 2016), and showed good reliability in both studies. Another study that utilised the SMUIS and was influential in the design of the quantitative elements of the current thesis, was the research by McDougall and colleagues (2016). This research study was conducted on a clinical sample (N=301) and examined the impact of social media engagement on the relationship between perceived social support and depressive symptoms. Contrary to their hypothesis, they found no significant impact of social networking sites (SNS) use on perceived social support and or the protective benefit of support on depressive symptoms. The current thesis aimed to address the inconsistencies related to the associations between SNS use, perceived social support and depressive symptoms, and examine whether these findings apply to a non-clinical population of parents.

Single items examining digital behaviours

Other factors related to social media engagement that were considered important in utilising and examining as a part of the quantitative element of this thesis, were frequency of social media use (McDougall et al., 2016) and online comparisons (Coyne, McDaniel & Stockdale, 2017). Frequency of social media use was measured using one item that consisted of three categories, namely "Weekly", "Once a day" and "Several times a day". Engagement in online comparisons was measured using a single item rated on a five-point Likert scale,

ranging from “strongly disagree” (1) to “strongly agree” (5). These items were included in the present thesis as they have been previously associated with parenting behaviours online, as well as postnatal depressive symptoms (e.g., Coyne, McDaniel & Stockdale, 2017). Although these variables were only measured using one item each, they were considered valuable additions to the main variables, as they provided meaningful knowledge in what could be further explored in future studies.

Parental Stress Scale (PSS; Berry & Jones, 1995)

An additional scale that was included in the quantitative study conducted with mothers was the Parental Stress Scale (PSS; Berry & Jones, 1995). The PSS was composed of 18 items (see Appendix K for full example of the PSS), which included a positive theme that revolved around the joy and satisfaction of caring for a child, and a negative theme that reflected difficulties and concerns (see the Materials sub-section for the full description of the PSS). The Parental Stress Scale (Berry & Jones, 1995) was chosen as part of this study, as it demonstrated good validity and reliability (Lovisotto, Caltabiano, & Hajhashemi, 2015; Berry & Jones, 1995), prior research indicates that parental stress was a strong predictor of PND and it could easily be affected by social media usage (Nolan, Hendricks, & Towell, 2015; Bartholomew et al., 2012). The PSS demonstrated strong internal consistency in the quantitative study presented in Chapter Three with a Cronbach’s alpha of .89.

The PSS was only used in the study conducted on mothers, and not in the study conducted with fathers, for two reasons. Firstly, although the study by Gordo and colleagues (2018) suggested that parental stress was associated with postnatal depression amongst both mothers and fathers, most of prior literature surrounding PND, parental stress and social media has been conducted on a population of mothers (Bartholomew et al., 2012; Coyne, McDaniel, & Stockdale, 2017; Nolan, Hendricks, & Towell, 2015), thus parental stress was not identified as a prevalent feature in the postnatal experience of fathers, particularly in relation to social media use. Secondly, as it is known that men tend to be less likely to participate in research studies (Markanday, Brennan, Gould, & Pasco, 2013), it was important to ensure the length of the scale was adequate in order to maintain the interest of the sample, and this was done by only focusing on the main factors related to the research questions of the thesis (i.e. postnatal depressive symptoms, perceived social support, social media use).

Online platform type and reasons for social media use

Two additional multiple-choice items (see Appendix L) were included in the quantitative study conducted with fathers (Chapter Five), to collect further information regarding their digital behaviours. The use of two multiple-choice items was considered a development in study design following the first quantitative study with mothers, which did not contain these two questions, as it was believed it would add to the knowledge regarding online behaviours. These two items were initially constructed and mentioned in the study by Haslam, Tee and Baker (2017); they examined the type of online platform that was more frequently used for parenting support and the reasons for using social media platforms within a parenting context. The item referring to the most frequently used social media platform included options such as the most popular social media sites, Facebook, Instagram, Twitter, but also online platforms such as parenting forums, blogs or YouTube. These aspects were investigated as part of the current quantitative study with fathers, as prior literature identified that some men use blogs, forums or online parenting groups to document or discuss their experiences with fatherhood (Ammari & Schoenebeck, 2015; Åsenhed, Kilstam, Alehagen, & Baggens, 2014; Eriksson & Salzmann-Erikson, 2013; Scheibling, 2020a), however there is limited knowledge on the impact of PPND on digital behaviours.

Demographic information

Both quantitative studies of the current thesis included an initial demographic scale that collected information on age, ethnicity, socioeconomic status, mental health background, current PND diagnosis status, number of children and age and gender of youngest child. Research has shown that these factors, including age of parents, age and gender of infant, ethnicity, socioeconomic and employment status or mental health background may increase the risk of developing maternal and paternal PND (Demontigny, Girard, Lacharité, Dubeau, & Devault, 2013; Fonseca, Gorayeb, & Canavarro, 2016; Giallo et al., 2013; Habel, Feeley, Hayton, Bell, & Zelkowitz, 2015; Milgrom et al., 2008; Park, Karmaus, & Zhang, 2015). Due to the knowledge found in prior research, these components were included in the quantitative studies to be assessed as potential risk factors.

2.5.4. Design

Both quantitative studies investigated differences, as well as associations between variables, with the use of independent samples T-Tests and multiple regressions. Firstly, a between-participants design was employed to investigate differences in social media use

amongst mothers and fathers with low and high risk of PND, where independent samples T-Tests were conducted. Although multiple T-tests were conducted within the same data set, no correction was added for the quantitative studies of this thesis. It is acknowledged that not running a correction after employing multiple T-tests may result in making a Type 1 error (rejecting the null hypothesis when it might be true); thus, this risk should be considered when interpreting the results.

Prior to the T-Test analysis, the participants were allocated to each condition (i.e. low risk of PND or high risk of PND) based on their scores on the EPDS scale. The cut-off score for the female participants was a score of 10, where any scores below this cut-off point indicated reduced risks of developing PND and any scores above the cut-off point represented increased likelihood of maternal PND (Cox et al., 1987). The cut-off score for the male participants was a score of 11, with anything below this point indicating low risk of developing paternal PND and any scores above this point representing elevated risk of PPND (Cox et al., 1987). The suitability of 11 as the EPDS cut-off score for a population of fathers was confirmed in the study by Edmondson and colleagues (2010).

Whilst there are benefits to assessing the risk of PND based on a cut-off score, and ultimately transforming a continuous variable into a categorical variable, there are also some disadvantages that ought to be acknowledged. Firstly, the significance of the risk associated with each group may be underestimated when participants who are close in overall score but are placed on separate sides of the cut-off point, are more likely characterised as greatly distinct rather than similar (Altman & Royston, 2006). Secondly, dichotomising the risk of PND variable might result in interpretative information being lost, and reduced statistical, as well as confidence power regarding the sample size (Cumberland et al., 2014). Thus, it is possible that separating the participants into groups based on low and high scores on the EPDS scale, could lead to risk of false positive results, as well as decreased statistical power. Regardless, the interpretation of the EPDS scores based on the cut-off point has been used effectively in clinical settings, the scale has been found to have adequate split-half reliability, and high sensitivity in recognising changes in severity of depressive symptoms over time (Cox et al., 1987). Additionally, the risk of PND variable was used as a continuous variable as part of the multiple regression analyses, thus ensuring that a clear evaluation of the associations between risk of PND and the rest of the variables was conducted.

In the independent samples T-Test analysis, the independent variable was represented by the PND symptoms, which included two conditions (i.e., low risk of PND and high risk of PND), and the dependent variables were represented by perceived social support and digital behaviours, including social media integration and emotional attachment to social media (SMUIS), online support, online comparisons and frequency of social media use. The study conducted with mothers included an additional dependent variable, namely levels of parental stress, and the study with fathers investigated two additional multiple-choice items – the preferred social media platforms and motivations for social media use. Further analyses were performed to examine associations between variables; this was conducted using multiple regression to assess whether the PND levels or social media integration and emotional attachment to social media (SMUIS) could predict or be predicted by the other variables.

2.5.5. Ethical Considerations for Study 1 and Study 3

The two quantitative studies were approved by the Ethics Committee at Birmingham City University. All the elements of these studies, including survey creation, participant recruitment, data collection, analysis, write-up and dissemination were conducted following the four ethical principles of the British Psychological Society's Code of Ethics (BPS, 2018), namely respect, competence, responsibility and integrity. All individuals who opened the survey link were presented with a Participant Information Sheet (see Appendices C and E) that clearly informed them of the aims and objectives of the study, their role as a participant, duration of the study and examples of the survey questions, as well as potential risks and advantages of taking part and sources of support. Participants were also informed that their participation is voluntary, and they could decide to withdraw their data or consent at any point during or after the study. It was essential that participants were provided with sources of support specific to the particularities of the sample, such as family-support charities or hotlines for mothers and fathers with perinatal mental health issues, specifically as the study involved sensitive topics, such as PND. As parents in the first-year post-partum can be considered a vulnerable population, it was also important that they were presented with examples of the survey questions before providing their consent, and that they felt comfortable withdrawing from the study at any point, with no explanations needed. Providing a comprehensive and clear Participant Information Sheet ensured that any potential risks were mitigated, and all participants were able to provide their informed consent.

The consent to take part in the study was provided using the Consent Form (see Appendix A) that followed the Participant Information Sheet. The Consent Form included statements related to the inclusion and exclusion criteria, confirmation that the Participant Information sheet was read and understood, the outcomes of the paper (e.g., dissemination in conferences or publication), and finally, acceptance to take part in the study. Finally, after completing the online survey, the participants were presented with a debrief form (see Appendices G and H) that reiterated the aims of the study and re-introduced the sources of support that could be contacted in case of distress, alongside the contact details of the researcher. The debrief was used to inform the participants that the study examined levels of PND, detail which was omitted in the Participant Information Sheet to reduce potential bias, but also to ensure the participants were able to utilise any support services if needed and contact the researcher for any questions or concerns.

As the quantitative studies within this thesis included data collection via Qualtrics, an online-based survey tool, the projects were considered internet-mediated research studies. According to the ethical guidelines for internet-mediated research (IMR) outlined by the British Psychological Society (BPS, 2017), it is important to consider the particularities of research designs conducted using internet platforms when following the four main ethics principles outlined above. A key issue that ought to be considered when implementing and evaluating an IMR study, and that applied to the present quantitative studies, is the possibility that participants may exit the online study before being debriefed or without clarifying whether they want to withdraw their data and whether their incomplete information can still be used. To solve these potential challenges, participants were clearly informed of the sensitive nature of the research topic using the Participant information Sheet and Consent Form, and they were presented with sources of support prior to taking part in the study, whilst also being informed that in order to withdraw their consent or the data, they would need to contact the researcher via email. In this way, the participants had access to sources of support and the researcher contact details before accessing the Debrief form, in the potentiality of exiting the study before completing it in its entirety.

2.6. Qualitative approach (Studies 2 & 4)

The studies presented in Chapter Four and Chapter Six were conducted using a qualitative approach and they consisted of an in-depth exploration of the experience of motherhood (Study Two, Chapter Four) and fatherhood (Study Four, Chapter Six) in the first-year postpartum, including expectations and concerns, parent-baby bond, relationship with partner, family and friends, support available, and most importantly, the engagement with social media platforms for parenting support, advice or information. The research questions of these two studies, alongside the questions included in the Interview Schedules, were informed by the findings of the two quantitative studies presented in Chapter Three and Chapter Five, as well as relevant literature (e.g. Ammari & Schoenebeck, 2015; Cameron et al., 2016; Carlson et al., 2014; Haslam, Tee, & Baker, 2017; O'Hara & McCabe, 2013).

The two qualitative studies are considered a continuation to the quantitative studies, as they were largely conducted to provide a deeper interpretation of the statistical findings within Studies One and Three. An important finding within both quantitative studies was that there were significant differences in perceived social support amongst the participants with low and high risk of PND. Due to this, the qualitative studies ensured that the discussion formed as a result of the interviews would closely revolve around the concept of support in the postnatal period and its potential impact on adjustment and wellbeing. Another important quantitative finding was that both mothers and fathers with higher risk of PND were more likely to compare themselves with other parents online, in comparison to parents with low risk of PND. Thus, the qualitative interviews involved questions regarding the use of social media in the postnatal period and its impact on parental mental health. The quantitative study with fathers also revealed that the male participants with higher risk of PND were more likely to perceive online platforms as a suitable support tool, whereas fathers with low risk of PND were less likely to believe so. This finding informed the semi-structured interviews provided to fathers, as the questions touched on the potential associations between paternal adjustment and use of social media for support. In this way, it was important that the studies within this thesis were conducted in a coherent and well-informed manner, to establish a clear and accurate representation of the associations between postnatal depression, social support and social media use.

2.6.1. The research sites

The data were collected using semi-structured interviews which were conducted either face-to-face (n=1), over the phone (n= 19) or on Skype (n=3), based on the availability and convenience of the participants. It has been shown that there are numerous advantages

associated with conducting qualitative interviews over the phone or online, rather than face-to-face. Some of the benefits of phone interviews consist of increased perceived anonymity and privacy that leads to reduced social desirability bias, decreased likelihood of researcher bias, heightened accessibility to hard-to-reach populations and cost-effectiveness (Vogl, 2013). These factors were considered when conducting the qualitative studies within this thesis, due to the particularities of the sample and the research questions. It was essential to ensure that participation in the study was convenient and accessible to the participants, especially due to the sample-type that included parents with babies, who may generally have limited time allocated for voluntary activities, such as taking part in research.

A disadvantage of conducting most interviews over the phone or online could be that the rapport between the researcher and the participants is not created as easily. However, this aspect was refuted according to the study by Ward, Gott, and Hoare (2015), where they identified that participants felt less distracted and more relaxed and comfortable during a phone interview, thus strengthening their perceived relationship with the researcher. This potential challenge was also overcome by ensuring that ice-breaker questions were asked at the beginning of the interviews and by maintaining an approachable, empathetic and compassionate attitude throughout the interviews. These measures were taken to ensure that the participants felt comfortable disclosing their experiences related to the postnatal period, social support and use of social media.

2.6.2. Participants

The participants that took part in the qualitative studies were 13 mothers (see Chapter Four) and 10 fathers (see Chapter Six), each with at least one child under one year old. Most of the participants had previously taken part in the quantitative studies within this thesis and volunteered to be contacted regarding participation in the qualitative studies. Some of the male participants were recruited through word-of-mouth or social media posts. The sample size was considered adequate for the type of methodology used, as qualitative research focuses on gaining an in-depth understanding of experiences, attitudes or events amongst specific cases, therefore it does not require the standardisation or generalisation typically seen within quantitative research. The inclusion and exclusion criteria for the participants that took part in the qualitative studies is equal to the criteria imposed for participant recruitment in the quantitative studies (see Methodology in Chapter Three and Chapter Five).

In terms of demographic information, all participants were White or White British, except for one female participant who was from New Zealand, with an age range between 25 and 41 amongst the female participants and 28 and 41 amongst the male participants. Within the qualitative study conducted with female participants, seven of the mothers had only one baby, whereas the rest of the mothers had two children, with an age range between 3.5 and 12 months for the youngest baby. Within the qualitative study conducted with male participants, nine of the fathers had only one baby, with one father having two children, with an age range between 4 and 12 months for the youngest baby.

2.6.3. Materials

The materials utilised in both qualitative studies consisted of two interview schedules that were constructed based on the findings from the quantitative studies (see Chapter Three and Chapter Five), as well as prior research in the field (Darvill, Skirton, & Farrand, 2010; Haslam, Tee, & Baker, 2017; Pedersen & Lupton, 2018; Prinds, Hvidt, Mogensen, & Buus, 2014). Although the structure of the interview guides followed a specific plan, starting off with ice-breakers, moving onto in-depth items and ending with familiar topics and space for additional comments (Cridland et al. 2015), the discussion was open to modifications to ensure a spontaneous and natural flow within the conversation (see Appendix M for Study 2 Interview Schedule and Appendix N for Study 4 Interview Schedule).

In terms of the content of the Interview Schedules, both studies explored aspects such as adjustment to parenthood, including early post-childbirth experiences, positive and challenging moments, relationship with baby and partner and parental confidence, accessibility and availability of support, and use of social media as a parenting tool. However, as previous research conducted on populations of fathers suggested that paternal involvement is frequently linked to a smooth transition into parenthood and parental wellbeing (e.g. Gere et al., 2013; Lindsey, 2014), as well as highlighted the sparse paternal online support as a cause of inadequacy and perceived lack of assistance amongst fathers (e.g. Ammari & Schoenebeck, 2015; Duggan & Lehnhart, 2015), these were deemed important additional topics that were included in the interview schedule for the qualitative study conducted with fathers (see Chapter Six).

Whilst prior literature played an essential role in informing some of the components of the interview schedules, the interview structure was also greatly influenced by the findings

of the quantitative studies within this thesis. As this thesis consisted of a sequential, explanatory design, the qualitative studies were utilised almost as a follow-up to the quantitative studies, aiming to provide further detail and interpretation to the initial quantitative findings (Creswell & Plano Clark, 2007). In short, the results of the quantitative studies indicated that perceived social support and online comparisons were significant predictors of maternal (see Findings in Chapter Three) and paternal PND risk (see Findings in Chapter Five), with low social support and increased online comparisons being associated with higher risk of developing PND symptoms. Additionally, statistically significant links were found between paternal PND and online social support, with lower levels of perceived online support being associated with low risk of PPND. Furthermore, the quantitative findings for both mothers and fathers further displayed that the participants who felt they received support from online platforms, used social media more frequently and compared themselves online, were also more likely to feel emotionally attached to social media and integrate social media in daily life. Therefore, it was evident that factors, such as perceived social support, digital behaviours (e.g., online comparisons), online support and their impact on parental wellbeing were relevant topics that required further exploration, whilst considering the slight differences between the two samples.

2.6.4. Design

The studies found in Chapter Four and Chapter Six employed a qualitative design, using semi-structure interviews. Semi-structured interviews have been characterised as an appropriate method of collecting data that explores personal points of view, perspectives (Barriball & While, 1994) or emotionally impactful topics (Astedt-Kurki & Heikkinen, 1994). More importantly, semi-structured interviews are designed to allow flexibility in the conversation (Turner, 2010), as the discussions modulate and develop based on the subjects that hold meaning to participants (Cridland et al. 2015). As the aim of these qualitative studies included exploring sensitive topics related to adjustment to parenthood, challenges, and access to support, amongst others, the use of semi-structured interviews was deemed the most suitable method of collecting data.

2.6.5. Ethical Considerations for Study 2 and Study 4

The methodology and analysis of these qualitative studies followed the four ethical principles within the British Psychological Society's Code of Ethics and Conduct (BPS, 2018), namely respect, competence, responsibility and integrity. In terms of respect as one of the key principles, the participants' autonomy, privacy and dignity were taken into

consideration during the conduction of the study. As the qualitative studies explored sensitive topics that may lead to vulnerability or psychological distress, such as the bond and interaction with the baby, challenges of the postnatal period, access to support, as well as the role of social media in their parenting adjustment, informed consent was a crucial ethical consideration.

In order to ensure an autonomous, voluntary and informed decision, all participants were provided with a Participant Information Sheet (see Appendices D and F) that informed them of the aims and objectives of the study, duration of interviews and examples of interview questions, rights to confidentiality and anonymity, potential psychological harm and sources of support, as well as the ability to withdraw at any point with no explanation needed. Confidentiality and anonymity were ensured by utilising pseudonyms instead of the participants' name, and removing any identifiable information, such as names of cities or organisations, from the transcripts. All data collected, including the consent forms within a different folder, was stored securely on a password protected device in a personal BCU OneDrive account and it could only be accessed by the researcher and supervisory team. Participants were then provided with a Consent Form (see Appendix B) which allowed participants to confirm their understanding of the study and to consent to the specific aspects of the study, such as recording, transcription, publication, and ultimately, to consent to their participation. Following the completion of the study, the participants were debriefed and allowed to make additional comments, ask questions, or discuss potential concerns.

Competence, responsibility and integrity were accomplished by utilising the necessary research expertise and training in conducting the study. In other words, there was responsibility, honesty and fairness when applying the research duties (e.g., sample recruitment, data collection, analysis), and there were clear professional and personal boundaries between the researcher and participants, whilst maintaining an open and compassionate attitude. These values were further followed by controlling for any potential factors that may invalidate the data, such as ensuring that participants that took part in the study met the inclusion and exclusion criteria, that they were able to provide their informed consent and had access to sources of support in case of distress, and the interview locations allowed for limited to no interruptions. Taking into considerations these four ethical principles was essential not only to maintain scientific rigour, but also to maximise benefits and minimising any potential risks or harm.

2.7. Corpus Linguistic Approach (Study 5)

The final study employed a corpus linguistic approach to examine a different facet of the topic of this thesis, and further evaluate the findings of the previous studies within the thesis by exploring online language and gender differences. The previous studies within this thesis showed that social support plays an important part in parental adjustment and postnatal wellbeing, therefore this approach was utilised to examine whether online content related to PND includes terms related to support and interpret these lexical terms in context. Additionally, the findings within the first four studies of this thesis further showed that online comparisons and parental stress were linked to higher risk of PND. Thus, this final study provided an opportunity to explore whether online Twitter content related to PND includes lexical terms that are associated with comparisons or parental stress. Finally, the qualitative findings within this thesis suggest that fathers often feel excluded from healthcare visits or parental duties, whilst also facing a lack of online resources and support aimed at fathers. Due to this, Study Five examined gender differences in online content related to PND, to explore any differences in how male and female Twitter users discuss experiences of PND.

2.7.1. The research sites

The data were collected from one of the most popular social media platforms, namely Twitter (Duggan & Smith, 2013). This online platform allows users to create personal profiles, create posts that include textual information, photographs or videos, observe or interact with other users by messaging them directly, commenting under their posts, or liking and sharing content. Compared to other social media platforms, such as Facebook or Instagram, which are mainly focused on images-type content, Twitter is better known for textual posts that have a wordcount limit of 280 characters. Thus, Twitter is a suitable platform in examining and analysing linguistic information. Previous studies have found that individuals use Twitter to express thoughts or feelings related to experiences of depressive symptoms (e.g., Cavazos-Rehg et al., 2016; De Choudhury, Gamon, Counts, & Horvitz, 2013), therefore suggesting that people experiencing depressive symptoms feel comfortable disclosing their experiences on Twitter.

To our knowledge, this study was the only research that investigated the experience of postnatal depression using Twitter, alongside the study published by De Choudhury, Counts and Horvitz (2013), that assessed the predictability of PND using online language. Therefore, this study has addressed the gap in the literature regarding the way in which parents use language to express their attitudes or experiences of postnatal depression. Due to these aspects, Twitter was considered an appropriate site for collecting and assessing data related to postnatal depression.

2.7.2. Participants

Participants were Twitter users that created posts that included key words related to postnatal depression. The Twitter users did not directly take part in the study, therefore they did not have to be made aware of the data collection, as their posts were public (see the Ethics Considerations Chapter Two). The Twitter users were separated into four categories based on their gender or type of Twitter account, namely "Female users" (9,863 tweets), "Male users" (1,257 tweets), "Organisational/Official users" (2,746 tweets) and "Unknown" (1,984 tweets), creating four corpora of tweets to compare. The tweets were separated based on gender, as prior research has shown that men and women display distinct language styles when discussing health-related issues (e.g., Charteris-Black & Seale, 2013; Fast & Funder, 2010), particularly issues related to depression (Emslie, Ridge, Ziebland, & Hunt, 2007). As this study aimed to explore discourse related to postnatal depression, it was expected that some of the users were experiencing symptoms of depression themselves, therefore separating the groups based on gender, could assess whether there were any group differences in depression-related language. Additionally, as past literature indicated that paternal postnatal depression is sometimes overlooked or poorly acknowledged by healthcare professionals (Shorey et al., 2017), as the focus tends to be on maternal wellbeing in the postnatal period, it was decided that having a category that included organisations or institutions, such as hospitals, universities, charities, amongst others, was essential in assessing for potential language particularities related to PND amongst institutions. A total number of 15,850 tweets was collected and analysed.

2.7.3. Measures and Design

A corpus linguistic (CL) analysis was performed to examine the textual information included in Twitter content collected based on a term search related to postnatal depression (e.g., "postnatal depression"; "PND"; "PPD"), as well as to explore any linguistic differences

based on gender or the type of Twitter account (i.e., “organisational”; “unknown”). CL is a methodological perspective that focuses on the study of language (Baker, 2014) and it was considered a suitable form of analysis for this study as it can manage large amounts of data, or “corpora”, and it generates statistically reliable results (Kennedy, 2014). Corpus linguistic analysis consists of three main procedures in examining data, namely wordlist frequencies, collocations and keyness tests. Wordlist frequencies generates a list of words that occurred the most frequently within the corpora (McEnery & Hardie, 2011), collocations examine words in context by displaying the most common lexical items that occur in proximity to certain specific words (e.g. “depression”), and keyness tests or keyword comparisons examine differences in multiple groups of words, looking at lexical items that were statistically more likely to occur in one corpora compared to another. Within the study that included a corpus linguistic approach, the analysis was conducted using a specialised programme, AntConc (Version 3.5.8) (Anthony, 2019a), which performed wordlist frequencies, collocations, concordances and keyword comparisons (see Methodology in Chapter Seven for more detail on the Corpus Linguistic approach within Study Five).

A similar methodological approach was utilised by De Choudhury, Counts and Horvitz (2013) who assessed linguistic expression on Twitter during the postpartum period, focusing on display of emotion and patterns of online engagement, aiming to examine the potential predictive nature of social media language in regards to postnatal depressive symptoms. Their results indicated that investigating Twitter content related to linguistic style, mood and online activity presented a predictive accuracy between 71-80% regarding significant changes throughout the postnatal period in new mothers. The changes were characteristic of depressive tendencies, low mood and pessimism, emotions found in postnatal depression (Robertson et al., 2004).

Conducting a corpus linguistic analysis on data collected from public Twitter posts was considered a suitable methodological approach, as it provided the advantages of an objective perspective, alongside the subjectivity of self-reported questionnaires and semi-structured interviews utilised in the previous studies (Chapters Three to Six). This methodology was useful in performing a reverse approach to the technique implemented by De Choudhury and colleagues (2013); instead of investigating general language surrounding childbirth-related discourse and its predictability of PND, the current study aimed to explore the linguistic components within conversations focused on PND and assess whether their construction was in line with the conclusions by De Choudhary (2013), as well as prior

literature that looked at depressive-related language (e.g. Charteris-Black & Seale, 2013; De Choudhury, Gamon, Counts, & Horvitz, 2013). Exploring discourse surrounding PND, whilst considering potential gender differences, may also be utilised to make predictions about other PND-related discussions or behaviours, which is considered an additional benefit of the current methodological approach.

A meaningful advantage of the methodological design of the current study is the investigation of PND-related online language amongst groups, such as male users and organisational Twitter accounts. There is little to no research conducted on organisational Twitter content surrounding mental health issues, and the literature exploring language surrounding childbirth is focused on mothers or female participants. Thus, the current study addressed a clear gap in the literature and provided meaningful knowledge that helped construct a more complete view of online discourse surrounding postnatal mental health.

2.7.4. Ethical considerations for Study 5

The fifth and final study was ethically approved by the BLSS Ethics Committee at Birmingham City University. The study followed the four principles of the BPS ethics guidelines for internet-mediated research, which include respect of the autonomy, privacy and dignity of participants, integrity, responsibility, and competence. As the data were collected from public profiles, the participant's consent was not necessary, as they already offered their informed consent to their data being visualised and disseminated when they accepted the Terms and Conditions provided by Twitter (Twitter, 2015). Therefore, whilst some of the information collected could be considered sensitive as some of the Tweets referred to personal experiences of PND, the data were included in the research as it was voluntarily shared on a freely accessible platform. However, to maintain anonymity, no personal contact information was utilised in the write-up or publication of this study, including, usernames, profile names, or any other identifiable elements. Furthermore, some of the quotes included as examples were truncated or slightly modified where necessary to reduce the likelihood of the information being traced to the original Twitter account, however the original tweets were utilised in the analysis. While some of the quotes were truncated or modified, the meaning of the quote was maintained to ensure the authenticity of the data. The practice of paraphrasing quotes was previously discussed in the study conducted on the concept of online self-harm by Whitlock and colleagues (2006). Confidentiality was also

maintained by storing the data in a secure and password-protected computer, that was only accessed by the researcher and supervisors.

2.8. Concluding remarks on methodology

The methodology employed as part of this doctoral thesis consisted of a mixed-method, sequential and explanatory approach, where the quantitative design was utilised to provide a general numeric description and investigation into associations and differences within the data, followed by a qualitative design, which was conducted to provide an in-depth exploration into the topics that emerged in the initial studies. This methodological approach targeted the initial research questions of this thesis, which aimed to assess the impact of postnatal depression symptoms on social media usage amongst mothers and fathers, and gain a better understanding of the role of digital behaviours on postnatal adjustment and parental wellbeing. The sample recruited (mothers and fathers), and the various methods of data collection (i.e., self-reported questionnaires, semi-structured interviews, public Twitter content) and data analysis (i.e., statistical analysis, thematic analysis and corpus linguistic analysis), ensured that the findings would present an all-encompassing outlook into the many facets of postnatal depression and its links to social media usage.

The following chapters presented in this thesis provide a detailed description of each individual study, including literature reviews, methodology used, results and interpretation. Following the presentation of the five studies conducted as part of the thesis, a general discussion is included, to summarise the meaning and importance of the findings in relation to prior literature, identify the strengths and limitations of the thesis, provide suggestions of improvement for future research, and highlight the clinical and practical implications of the current findings.

Chapter Three: Study One: Postnatal Depressive Symptoms and Social Media Use amongst Mothers within the First Year Postpartum

3.1. Maternal PND and parental stress

Maternal PND has been found to affect approximately 10 to 19% of women, and it generally develops within the first weeks after childbirth, lasting up to a year (O'Hara & McCabe, 2013). The symptomology presented is common within other depressive-related illnesses and it includes feelings of hopelessness, guilt, prolonged low mood or disruptive sleeping and eating patterns (Robertson et al., 2004). Symptoms that have been described as characteristic to PND are the inability of bonding with the infant (Field, 2010) or even thoughts of harming the baby, in more severe cases (Jennings, Ross, Popper, & Elmore, 1999). PND affects not only the mother, but also her relationship with her infant (Brockington, Aucamp, & Fraser, 2006; Field, Diego, & Hernandez-Reif, 2006; Malphurs et al., 1996), leading to negative influences on the infant's social, cognitive and emotional development, including high levels of cortisol, social disengagement and poor emotional regulation (Sockol, Epperson, & Barber, 2013).

Maternal PND has been associated with parental stress (e.g., Anding et al., 2016; Gordo et al., 2018; Yim et al., 2015), a psychological experience resulted from perceived difficulty in coping with responsibilities linked to the parenting role (Deater-Deckard, 1998). Gordo and colleagues (2018) utilised a quantitative approach, consisting of questionnaires (i.e., Vulnerable Baby Scale, Kerruish, Settle, Campbell-Stokes, & Taylor, 2005; Parental Stress Scale, Berry & Jones, 1995; Edinburgh Postnatal Depression Scale, Cox et al., 1987; Parenting Sense of Competence, Johnston & Mash, 1989) to investigate the relationships between PND, parental competence and parental stress amongst a large sample of 965 mothers and fathers. Their findings revealed that parents who experienced depressive symptoms were more likely to exhibit higher levels of stress related to their parenting duties and to perceive their child as vulnerable, compared to non-depressed parents. A recent qualitative study conducted by Johansson, Benderix and Svensson (2020) on a sample of 15 parents identified that there are some gender differences in the manifestation of parental stress. Using an interpretative phenomenological analysis, the results suggested that mothers presented distress related to the expectations of the maternal role and the demands of nurturing the family as a unit, whilst fathers presented distress in relation to maintaining an equilibrium between work and childcare responsibilities. Some of the mothers in the study by Johansson, Benderix, and Svensson, (2020) had high scores for PND symptoms on the EPDS scale, and it was suggested that postnatal depressive symptoms were linked to marital issues, loneliness and additional parental stress. Parental stress has been shown to be correlated to maternal burnout (Séjourné, Sanchez-Rodriguez, Leboullenger, & Callahan, 2018) and

fatigue (Cooklin et al., 2012) and to have a negative influence on parental self-efficacy (Gordo et al., 2018), which in turn could affect their parenting behaviours (Belsky, Spanier, & Rovine, 1983). For instance, it has been shown that parents who experience parental stress tend to be more severe in their parenting roles, less supportive and view the interactions with their children as more challenging (Bloomfield & Kendall, 2012). The conflictual parent-child relationship has been shown to impact infant's health and development (Jones & Prinz, 2005), leading to obstacles in child adjustment (Elgar et al., 2007) or behavioural issues (Gjerde et al., 2017). However, studies have found that parental stress decreases over time, as parental confidence increases in terms of knowledge and competency in parenting duties (Leahy-Warren, McCarthy, & Corcoran, 2012), with one study suggesting that levels of parental stress reduced, and maternal mood improved six months post-childbirth (Kristensen et al., 2018).

As PND does not only affect mothers, but also fathers (Cameron et al., 2016) and the health and development of infants (e.g., Barr, 2008; Sockol, Epperson, & Barber, 2013), it is essential that sources of support are available and accessible to meet the needs of mothers during their adjustment in the postnatal period.

3.2. Support and treatment barriers for maternal PND

The types of support that mothers with PND have often orientated towards consist of interventions recommended by health professionals, such as psychotherapy and antidepressant medication (Sockol, Epperson, & Barber, 2013), support coming from family, friends or the community (Leahy-Warren, McCarthy, & Corcoran, 2012) and online peer support (Niela-Vilén, Axelin, Salanterä, & Melender, 2014). Social support has been characterised as a crucial protective factor for mothers during the postpartum period (e.g., Leahy-Warren, McCarthy, & Corcoran, 2012; Xie et al., 2009). Research indicates that mothers manage to have a smoother progression through the period following birth when they receive support from their family and friends (Leahy-Warren, McCarthy & Corcoran, 2012), as well as nurses or midwives (Wilkins, 2006), as they grow in confidence and self-efficacy (Leahy-Warren, McCarthy & Corcoran, 2012).

Previous research indicates that traditional support coming from health care professionals is more often a preference amongst older mothers (Khoo et al., 2008; Plantin &

Daneback, 2009), whilst younger or new mothers tend to choose the internet as a tool for parenting information and advice (Nolan, Hendricks, & Towell, 2015). However, there are a few impediments that could prevent parents from accessing the care needed during the postnatal period. Firstly, reports have been made regarding insufficient medical resources designed for PND, such as educational programs (Wisner, Logsdon, & Shanahan, 2008), treatment resources, equipment or financial support (Horowitz & Cousins, 2006; Wisner et al., 2008). These obstacles could have an impact on the availability and quality of screening sessions meant to prevent complications, as well as on the prescriptions required by mothers diagnosed with PND (Goodman & Tyer-Viola, 2010). Additionally, other issues that could negatively influence help-seeking behaviours amongst mothers with PND would be the stigma surrounding postnatal depression (Goodman, 2009), concerns related to medication during breastfeeding (Fortinguerra, Clavenna, & Bonati, 2009), and the inconvenience regarding the time and distance required to get in contact with the mental health professionals (Haga et al., 2012). Due to the problems in meeting the needs of mothers struggling with postnatal mental health issues, such as stigma, insufficient professional training and resources, as well as practical barriers (e.g., time constraints, financial difficulties), many parents have directed their attention towards the internet as an alternative source of support (Baker et al., 2003).

3.3. Social Media Use

Statistics show that a large percentage of women (approximately 70%), with an age range of 18-49 years old, are involved in internet searches related to health concerns (Fox, 2011a; Fox, 2011b), particularly pregnant women and new mothers (Bernhardt & Felter, 2004). The most common health topics searched on the internet by women revolve around pregnancy and childcare information, as well as mental health difficulties, such as depression, anxiety or stress (Fox 2011a; Fox, 2011b). Depressed mothers, compared to non-depressed mothers, have been identified as more likely to use the internet to seek mental health-related information and advice (Fonseca, Gorayeb, & Canavarro, 2016).

In addition to online platforms such as blogs, forums or informative websites, mothers often engage in social media sites, such as Facebook, Twitter or Instagram (Aichner & Jacob, 2015), platforms described as useful sources of support (Baker & Yang, 2018). These sites

enable users to create a personal profile, share content about their thoughts, feelings or experiences in the form of pictures or textual paragraphs and to get in contact with family and friends or develop new relationships (Lewis & West, 2009). As social media gradually evolved into a daily routine of individuals, various controversies have developed regarding its actual benefits and disadvantages on one's wellbeing, especially regarding people suffering from depression (Rice et al., 2014). For the purpose of this doctoral research, all online platforms that allow social interactions, for instance sites such as Facebook or Instagram, forums, blogs or other online communication applications (e.g., WhatsApp), were described as social networking sites (SNS), as previously suggested by Nolan, Hendricks and Towell (2015), or social media sites (O'Keeffe & Clarke-Pearson, 2011)

3.3.1. Advantages and disadvantages of social media use amongst mothers

In regards to the advantages of social media use, an Australian study that explored the usage of social networking sites among adolescent mothers found that SNS use positively impacted on the young mothers' social experience (Nolan, Hendricks, & Towell, 2015). Their findings showed that social media was seen as a "safe place" where issues and experiences could be shared in an open and honest manner, which then led to lower parental stress levels, increased confidence and a sense of social connectedness. Similar results have been found in other studies which discovered that time spent on SNS was associated with decreased feelings of isolation (Burke et al., 2011) and enhanced emotional well-being (Logsdon et al., 2014). Additionally, a content analysis of online messages created by mothers with PND on a support group revealed that mothers were using this platform to seek and provide support, in what was perceived as a non-judgmental and empathetic space (Evans, Donelle & Hume-Loveland, 2012).

Qualitative research showed that mothers appreciated the convenience of getting prompt answers and information at any time when using SNS, as well as the cost effectiveness of online activity (Tong & Walther, 2011). It has also been stated that online interactions on different platforms are efficient in ensuring good communication between family members or friends and in improving social capital, which would then relieve symptoms of depression (Bessiere, Pressman, Kiesler, & Kraut, 2010). In addition, as depression is a stigmatized condition, being able to connect with people who share similar struggles worldwide has been described as highly beneficial for individuals suffering from this illness (Merolli, Gray, & Martin-Sanchez, 2014). As it was previously mentioned, online

support can also come from online-based interventions which have been seen as an efficient alternative due to their flexibility, anonymity and confidentiality (Henshaw et al., 2011; Kohn et al., 2004). It has been found that mothers are more likely to open up about their thoughts and emotions on an online platform (Le, Perry, & Sheng, 2009), thus suggesting a higher likelihood of disclosing psychological distress and seeking or receiving support and advice.

Despite the number of qualities that social media can possess in the context of parenting support, other studies have suggested that some women still prefer to receive health-related advice from professionals (Patel & Wisner, 2011). A reason for that could be the lack of reliability and validity of information associated with websites offering mental health support (Moore & Ayers, 2011). Moreover, high exposure to social networking sites has been linked to feelings of loneliness or isolation (Forest & Wood, 2012), relationship dissatisfaction (McDaniel, Drouin, & Cravens, 2017) and negative social comparisons (Vogel & Rose, 2016). According to the social comparison theory, individuals tend to make either positive or negative judgments about themselves based on the information gathered about other people, which is used in relation to their own lives (e.g., Festinger, 1954 cited in Coyne, McDaniel, & Stockdale, 2017). Research has found that individuals engaging in social media tend to present the "best version" of themselves, resulting in negative social comparisons which has been associated with increased depressive symptoms, elevated levels of body dissatisfaction and low self-esteem (Cramer, Song, & Drent, 2016; Fox & Vendemia, 2016). Studies have also indicated that high levels of Facebook use are associated with increased parental stress (Bartholomew et al., 2012), which could also be influenced by negative social comparisons (Rui & Stefanone, 2013).

3.3.2. Social media usage and depression

It has already been established that the way in which individuals use social media can have a negative effect on their mental health (Bartholomew et al., 2012; Borelli & Prinstein, 2006; Chen & Yan, 2016), however studies found that people who already suffer from depression utilise the internet in a certain manner (De Choudhury, Gamon, Counts, & Horvitz, 2013). It appears that depressed individuals are more likely to engage in the harmful behaviours mentioned previously, as well as focus on upsetting information and have a pessimistic attitude regarding vague messages posted online (Rude, Gortner, & Pennebaker, 2004). Similarly, they tend to maintain a distant and withdrawn position in social contexts and express feelings of guilt, self-antipathy or hopelessness, characteristics related to major

depression disorder (De Choudhury, Gamon, Counts, & Horvitz, 2013). Individuals with depression seem to utilise specific language, behavior which was noticed in the context of online platforms as well, in the studies by De Choudhury, Counts and Horvitz (2013) and Fast and Funder (2010). De Choudhury and colleagues (2013) investigated the predictability of social media usage and online language in symptoms of PND, and they found that the frequent use of first-person pronouns, increased volume of textual content that implies emotional distress and decreased engagement with online platforms in the prenatal or early postnatal period were linked to higher risk of developing PND symptoms. However, the research that investigates or explores digital behaviours amongst mothers with PND symptomology is sparse, thus strengthening the importance of the current study.

As social media can offer the sense of community, security and acceptance (Burke et al., 2011), many people suffering from depression find themselves posting about their feelings and experiences (Egan & Moreno, 2011). The thoughts expressed via Facebook text posts or Tweets appear to be related to high-risk issues, such as self-harm or suicidal ideation and it has been found that this type of content can act as predictor of possible suicide attempts or other life threating actions (Sueki, 2015). Likewise, a cross-sectional study examining the help-seeking behaviours of women in the perinatal period suggested that women who screened positively for depression were more inclined to utilise digital platforms with the purpose of mental health information, in comparison to non-depressed women (Fonseca, Gorayeb, & Canavarro, 2016). In addition, a study made on threads collected from the popular blog called Mumsnet, showed that writing about their feelings served as a coping mechanism for mothers who were experiencing internal turmoil or extremely negative states (Pedersen & Lupton, 2018). In response, other mothers who were also members of the blog, were able to offer comfort and encouragement or give advice and information on seeking professional support (Pedersen & Lupton, 2018). Similar results were found in a study by Evans, Donelle and Hume-Loveland (2012), where they conducted a content analysis of over 500 messages posted by mothers on an PND online support group, concluding that emotional, informational, and instrumental support was exchanged. Therefore, it is evident that a clear and meaningful connection exists between depressive symptoms and online platforms, and it is important that this relationship is further explored in the context of early motherhood, as it is a neglected topic in the area of digital behaviours and psychological distress.

3.4. Study rationale

Previous studies appear to indicate mixed findings related to the impact of digital platforms on maternal wellbeing, as some research implied positive influences of SNS use in the form of increased social support (Pedersen & Lupton, 2018), maternal confidence (Nolan, Hendricks, & Towell, 2015; Logsdon et al., 2014) and decreased risk of depression (Nolan, Hendricks, & Towell, 2015), whilst other studies associated SNS use to elevated parental stress (Bartholomew, Schoppe-Sullivan, Glassman, Kamp Dush, & Sullivan, 2012; Coyne, McDaniel, & Stockdale, 2017), parental confusion (Porter & Ispa, 2013) and heightened psychological distress (Coyne, McDaniel, & Stockdale, 2017). The current research study aimed to clarify the contradictory findings of previous research by investigating the potential benefits or disadvantages of SNS use on maternal mental health. In other words, this study examined the potential connections between low and high levels of PND and social media use, perceived traditional and digital support and parental stress.

Although social media usage and postnatal depression symptoms remained the focus of this study, perceived social support and parental stress were also introduced, due to prior suggestions of links between these concepts. More specifically, parental stress (Gordo et al., 2018) and social support (Leahy-Warren, McCarthy, & Corcoran, 2012) have been shown to have an impact on the risk of developing PND, and online platforms have been characterised as useful sources of parenting support (Evans, Donelle & Hume-Loveland, 2012), however it is uncertain whether they alleviate (Nolan, Hendricks, & Towell, 2015) or intensify parental stress (Bartholomew et al., 2012), factor which has been linked to PND (e.g. Yim et al., 2015). Within the current study, social support is separated into two categories, namely perceived traditional support which is received from family, friends and significant other, and perceived online support, which is received from online communities (e.g., parenting forums, blogs) or social media sites. It was anticipated that this combination of elements would produce novel results, as past literature has only briefly touched on PND and digital behaviours and primarily focused on major depressive disorder and social media use (e.g., Primack et al., 2017).

3.5. Research Questions and hypotheses

The study aimed to investigate the online behaviours of mothers with low and high levels of PND, whilst answering a number of research questions. The online behaviours, also referred to social media use in this study, includes the emotional attachment and integration of social media in daily life, frequency of social media use, perceived online support and

online comparisons. Firstly, the study has examined whether there are any differences in social media use (emotional attachment and integration of social media in daily life, online comparisons, frequency of social media use, online support), perceived traditional social support and parental stress between mothers with low and high risk of PND. Secondly, this study assessed whether social media use (i.e., emotional attachment and integration of social media in daily life (SMUIS), frequency of social media use, online support, online comparisons), perceived social support and parental stress can predict PND symptoms. Finally, this study investigated whether SMUIS can be predicted by risk of PND, perceived social support, parental stress, online comparisons, online support, and frequency of social media use.

Based on previous literature (e.g., McDaniel & Coyne, 2016), it was expected that participants with higher levels of postnatal depressive symptoms would display increased levels of social media use (i.e., SMUIS levels, online comparisons, perceived online support, frequency of social media use), compared to mothers with low levels of PND. It was also anticipated that the participants who did not show significant depressive symptoms would indicate a lower parental stress score and higher perceived social support coming from family, friends and significant other (e.g., Leahy-Warren, McCarthy, & Corcoran, 2012). In comparison, it was hypothesised that participants displaying PND symptoms would present elevated parental stress levels (Anding et al., 2016) and would be more likely to seek support from the online community, rather than family and friends, due to decreased fear of stigma (e.g., Merolli, Gray, & Martin-Sanchez, 2014).

3.6. Methodology

3.6.1. Design

This study investigated differences, as well as associations between variables, with the use of independent samples T-tests and multiple regressions. A between participants design was utilised to assess differences in social media use amongst mothers with low and high risk of PND using independent samples T-tests. As part of the T-tests analyses, the level of PND symptoms represented the independent variable with two conditions, namely low risk of PND and high risk of PND, and the social media usage, characterised by emotional attachment and integration of social media in daily life (SMUIS), frequency of social media

usage, online comparisons and perceived online support represented the dependent variables. The participants were allocated to each condition based on their scores on the EPDS scale, where a score of 9 or less indicated a low level of depressive symptoms, thus meaning a reduced risk of developing PND and a score of 10 or above indicated high levels of depressive symptoms, thus suggesting an increased risk of developing PND (Cox et al., 1987). The initial study conducted by the creators of this scale (Cox, Holden & Sagovsky, 1987), as well as the research by Hewitt and colleagues (2009), identified the score of 10 or above as an appropriate threshold in assessing the likelihood of experiencing PND symptoms amongst mothers. Further analyses were performed on additional dependent variables, such as the level of perceived social support and parental stress. Multiple regressions were also conducted to analyse the associations between variables, where PND scores and SMUIS levels were used as predictors and the rest of the variables were used as outcome (dependent) variables.

3.6.2. Participants

The initial sample was formed of 234 of participants who accepted to take part in the study, out of which 206 participants completed the study in its entirety. The sample size was considered suitable for this study based on previous similar research (e.g. Anding, Röhrle, Grieshop, Schücking, & Christiansen, 2016; Dunford & Granger, 2017; McDaniel, Coyne, & Holmes, 2012), as well as a G* Power analysis. A G*Power analysis was conducted after the data was collected, to calculate and confirm the appropriate sample size required when running independent-samples T-tests. The G*Power analysis revealed that, to detect at least a medium effect size, a suitable total sample size for the study conducted with mothers would be of 210 participants (with 95% confidence power). The participants who completed the study were a self-selected sample of mothers (N=206) who had at least one child under one year old and were between the ages of 18 and 43 (M=31.38, SD=5.31). The reasoning for the sample selected was justified by previous research which stated that PND can be experienced by mothers and symptoms usually develop during the first few weeks after childbirth and can last for up to a year (O'Hara & McCabe, 2013). Having a baby of 12 months or less was part of the inclusion criteria, alongside being over 18 years old and identifying as a mother.

As it can be noticed in Table 3.1, the participants of this sample identified as White/White British (92.2%), Asian/Asian British (1.5%), Black/Black British (.5%), Mixed (1.9%) and other ethnicities (3.9%). The majority of participants were married (72.8%), have

completed a university degree (38.8%) and were in full time employment (50%). Moreover, 65% of participants had only one child. A percentage of 44.7% of participants have mentioned that they have suffered from a psychological illness in the past (e.g., depression, anxiety) and 16% of the mothers have stated that they have been diagnosed with depression at some point since they last gave birth.

Table 3. 1

Sociodemographic Characteristics of Final Sample of Mothers (N=206)

Variables	*N*	*%*
Ethnicity		
White/White British	190	92.2
Asian/Asian British	3	1.5
Black/Black British	1	.5
Mixed	4	1.9
Other	8	3.9
Marital status		
Married	150	72.8
Divorced/Separated	6	2.9
Single	18	8.7
Other	32	15.5
Education		
Some high school	3	1.5
Completed high school	32	15.5
Technical college qualification	18	8.7
University degree	80	38.8
Postgraduate degree	73	35.4
Employment		
Working full-time	103	50
Working part-time	47	22.8
Not working	41	19.9

Variables	*N*	*%*
Other	15	7.3
Number of children		
One	134	65
Two-Three	70	34
More than three	2	1
Age youngest child		
Under three months	37	18
Three-six months	91	44.2
Seven-twelve months	78	37.9
History of depression/anxiety	92	44.7
Yes	114	55.3
No		
Current diagnosis of PND		
Yes	33	16
No	173	84

Note: The table includes the total number of participants who selected each demographic option (N) and the percentage (%), respectively.

3.6.3. Materials

The **Edinburgh Postnatal Depression Scale** (EPDS; Cox et al., 1987) was used to measure the symptoms of PND. The EPDS is one of the most often used self-reported screening tools for postpartum depression and although it cannot provide a diagnosis, it has been described as a reliable and convenient screening device (Cox et al., 1987; Yonkers et al., 2001). The questionnaire included 10 items (e.g. "I have been so unhappy that I have been crying"), rated on a four-point Likert scale, ranging from "not at all" (0) to "most of the time" (3), with the higher score indicating increased risk of postnatal depression (Cox et al., 1987). The cut-off score chosen to differentiate and categorise the low and high risk levels of PND was a score of 10, with all participants scoring 9 or below being identified as less likely to

develop PND, and participants scoring 10 or above being identified as more likely to develop PND symptoms; the cut-off score was identified as appropriate to indicate risk of maternal PND by the authors of the scale (Cox, Holden & Sagovsky, 1987), as well as the study by Hewitt and colleagues (2009).

Along with being one of the most frequently used tools for assessing PND symptoms, the scale was easy to administer, cost-effective, had sound psychometric properties and a suitable acceptability for both women with depression and non-depressed mothers (Gemmill et al., 2006). An appropriate suitability for both depressed and non-depressed mothers served as an important motive for the introduction of the scale within the current study, as the research question explored the differences within the two groups. Additionally, this scale has been shown to have good construct validity and internal consistency when utilized in internet-based research. The internal consistency of this scale for the current sample was high, with a Cronbach's alpha of α=.90.

As social media usage was one of the main variables of the current study, this was measured using the **Social Media Use Integration Scale** (SMUIS; Jenkins-Guarnieri, Wright, & Johnson, 2013). The SMUIS assessed the integration of social media use in daily behaviours and routines, as well as the emotional involvement attributed to it and it was formed of two subscales, namely Social Integration and Emotional Connection and Integration into Social Routines. The self-reported questionnaire included 10 items (e.g., "Facebook plays an important role in my social relationships"), scored on a six-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (6). The scale demonstrated adequate internal consistency and validity and strong test-retest reliability (Jenkins-Guarnieri, Wright, & Johnson, 2013). Based on the current sample, Cronbach's α was found to be α=.87.

Another measuring tool used in this quantitative research was the **Multidimensional Scale of Perceived Social Support** (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). The scale was developed to measure the perceived sense of support received from three sources, namely family, friends and significant other and it consists of 12 items (e.g., "I get the emotional help and support I need from my family"). The items were rated on a seven-point Likert scale, ranging from "very strongly disagree" (1) to "very strongly agree"(7); they were also divided in three subscales, which represented the sources of support mentioned previously (Hannan, Alce, & Astros, 2016). The internal validity and reliability of the

MSPSS have been established, as well as the cross-cultural acceptability and general convenience among participants, especially new mothers (Denis, Callahan, & Bouvard, 2015). Previous research has defined social support as a major protective factor during the postpartum period, especially for parents with depression (Haslam et al., 2013), and it has been increasingly associated with social media use (Lupton, 2016). Due to its strong association with postnatal depression and online platforms, social support was one of the measured variables, with the MSPSS regarded as the most suitable tool. The internal consistency of the MSPSS scale for the current sample was α=.92.

Additionally, the **Parental Stress Scale** (PSS; Berry & Jones, 1995) was used to measure the stress levels experienced by parents, specifically related to their role as a parent. The PSS was composed of 18 items, which included a positive theme that revolved around the joy and satisfaction of caring for a child (e.g., "I enjoy spending time with my child(ren)"), and a negative theme that reflected difficulties and concerns (e.g. "I feel overwhelmed by the responsibility of being a parent"). The items were answered using a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5), with the positive statements being reverse coded, and the highest scores in the final calculus representing elevated rates of parental stress. The PSS has demonstrated good validity and reliability (Lovisotto, Caltabiano, & Hajhashemi, 2015; Berry & Jones, 1995). The Parental Stress Scale (Berry & Jones, 1995) was utilised as previous literature has indicated that parental stress was a strong predictor of PND and it couldeasily be affected by social media usage, depending on whether the online behaviours have a positive or a negative connotation (e.g. Nolan, Hendricks, & Towell, 2015; Bartholomew et al., 2012). This scale presented a strong internal consistency of α=.88.

Individual items related to the frequency of internet use (McDougall et al., 2016), online social comparisons (Coyne, McDaniel, & Stockdale, 2017) and perceived online social support (Zimet, Dahlem, Zimet, & Farley, 1988) were also included. Frequency of social media use was measured using one item that consisted of three categories, namely "Weekly", "Once a day" and "Several times a day". Engagement in online comparisons was measured using a single item rated on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Perceived online support was assessed using a four items scale based on the MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988), rated on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree", including items, such as "When facing difficult situations, I am more likely to talk about it online than with others face-to-

face". These items have investigated different digital behaviours and they were included in this study as they have been associated with parenting behaviours online, as well as postnatal depressive symptoms (e.g., Coyne, McDaniel, & Stockdale, 2017).

To conclude, the tools selected for the current study seemed to be strongly interconnected, previous studies suggesting that there are noticeable influences between social media use, postnatal depressive symptoms, perceived social support and parental stress (Bartholomew et al., 2012). Alongside the self-reported scale described previously, participants were presented with a participant information sheet and a consent form which were crucial in ensuring informed consent prior to taking part in the study. Mothers also had to complete a demographic questionnaire and were presented with debriefing information at the end of the study.

3.6.4. Procedure

The study was conducted on an online survey tool named Qualtrics. The research project was advertised along with the link to the questionnaires and a poster (see Appendix I) on different online platforms, such as social media sites (Facebook, Twitter, Instagram), parenting forums (NetMums, Mumsnet, Dads Unlimited), Children's Centres and nurseries, and parenting organisations and charities, such as National Childbirth Trust (NCT) and Acacia Family Support. Mothers were able to open the link, read the participant information sheet and consent form and voluntarily decide if they would like to offer their informed consent and take part in the study. The online survey tool provided the option to exit the link, re-open it and continue at a later time if they were not able to complete it all at once; they had one week available to return to the study and finalise the questionnaires. The duration of the study was of approximately 15 to 20 minutes. After completing the scales, some debriefing information was displayed, which informed the participants about the topic, hypothesis and aims of the study, along with contact details of support services. The mothers have also had the option to write down their e-mail address if they were interested in receiving information about the outcomes of the study and if they wanted to be informed about potentially taking part in a second part of the study, involving a qualitative methodology.

3.7. Results

The findings of the current study illustrated the differences between the level of PND symptoms (low versus high) for social media use, perceived traditional and online support, parental stress, frequency of social media use and tendency of online comparisons. As it can be noticed in Table 3.2, the participants were separated into two groups, based on their scores for the Edinburgh Postnatal Depression Scale (EPDS), where a score of nine or below represented a low risk of PND (n=106) and a score of 10 or greater than that represented a high risk of PND (n=100). The new variable was named Risk of PND (PNDRisk). Table 3.2 further presented the descriptive statistics for the scores on the main variables under analysis, namely

utilisation and integration of social media sites in daily life (SMUIS), parental stress, perceived social support, perceived online social support, frequency of social media use and online comparisons.

Table 3. 2

Means,Standard Deviations and Significance Values based on Independent T-tests and Mann-Whitney Test for the Scores of Self-Reported Scales and Single Items for the Groups of Low Risk of PND (<=9) and High Risk of PND (10+)

		N	*M*	*SD*	*p (sig)*
Utilisation and Integration of Social Media Sites	<=9	106	38.38	8.02	.198
	10+	100	39.96	9.55	
Perceived Social Support	<=9	106	5.97	.71	<.001
	10+	100	5.14	1.18	
Parental Stress	<=9	106	38.18	7.38	<.001
	10+	100	46.96	10.23	
Perceived Online Social Support	<=9	106	2.97	.99	.683
	10+	100	2.91	.99	
Frequency of Social Media Use	<=9	106	2.73	.56	.702
	10+	100	2.77	.49	
Online Comparisons	<=9	106	3.17	1.06	.016
	10+	100	3.52	1.25	

Note: M= mean, SD= standard deviation, n= number of participants in each group, p= significance value based on independent samples T-test (for SMUIS, parental stress, perceived online support and online comparisons) and Mann-Whitney test (for Frequency of social media use and perceived social support)

The data were normally distributed when looking at differences in PND risk levels and parental stress scores, emotional attachment to social media and integration in daily life (SMUIS), perceived online support and online comparisons. The skewness and kurtosis levels were within acceptable levels and the assumptions of homogeneity were met, as equal variances could be assumed (only for SMUIS and perceived online support) (see Appendix O for full SPSS output). As a result of this, an independent samples T-test was run.

Independent samples T-tests were conducted to compare the dependent variables (emotional attachment to social media and integration in daily life, parental stress, perceived online social support, and online comparisons) and the level of PND between the two groups

created (low risk of PND; high risk of PND). There were significant differences in scores for the level of PND and parental stress and, online comparisons. Participants with lower risk of PND presented lower parental stress [*M*=38.18; *SD*=7.38, *t*(179.32)=7.029, *p*<.001] when compared with participants with higher risk of PND (*M*=46.95; *SD*=10.23), with a medium to large effect size *r*=.46. The participants with decreased risk of PND also displayed reduced likelihood to compare themselves online [*M*=3.17; *SD*=1.06, *t*(194.74.74)=2.158, *p*=.016], compared to participants with higher risk of PND (*M*=3.52; *SD*=1.25), with a small effect size *r*= .15.

However, there was no significant difference in scores for emotional attachment to social media and integration in daily life for low risk of PND (*M*=38.38; *SD*=8.02) and high risk of PND (*M*=39.96; *SD*=9.55) *t*(204)= 1.291, *p*=.198. Similarly, there was no statistically significant difference between the level of PND risk (*M*=2.97; *SD*=.99 versus *M*=2.91; *SD*=.99) for perceived online social support [*t*(204)=.409, *p*=.683].

Due to the assumptions for the perceived social support and frequency of social media use not being completely met, as the data were slightly skewed, it was decided that a Mann-Whitney test would be conducted to investigate differences in perceived social support and frequency of social media use amongst participants with low and high risk of PND. There was a statistically significant difference in perceived social support across the two groups, with the participants with low risk of PND displaying higher perceived social support (*M*=5.97; *SD*=.71), in comparison to the participant with increased risk of PND [(*M*=5.14; *SD*=1.18), U=2897, n=206, *p*<.001]. On the other hand, there was no statistically significant difference in frequency of social media use across the participants with low PND risk (*M*=2.73; *SD*=.56) and participants with high risk of PND [(*M*=2.77; *SD*.49), U=5415.5, n=206, *p*=702].

As the frequency of social media use variable could also be interpretated as a categorical variable, an alternative chi-square test was conducted to assess any associations between frequency in social media use and the PND risk levels (low versus high) (see Appendix O). The results further confirmed that there was no statistically significant difference in frequency of social media usage between participants with low and high risk of PND, X^2 (2, N=206) = .881, *p*=.644.

Furthermore, A multilinear regression was run to predict the variability in postnatal depression symptoms (*M*=10.04; *SD*=5.79) using scores in emotional attachment to social

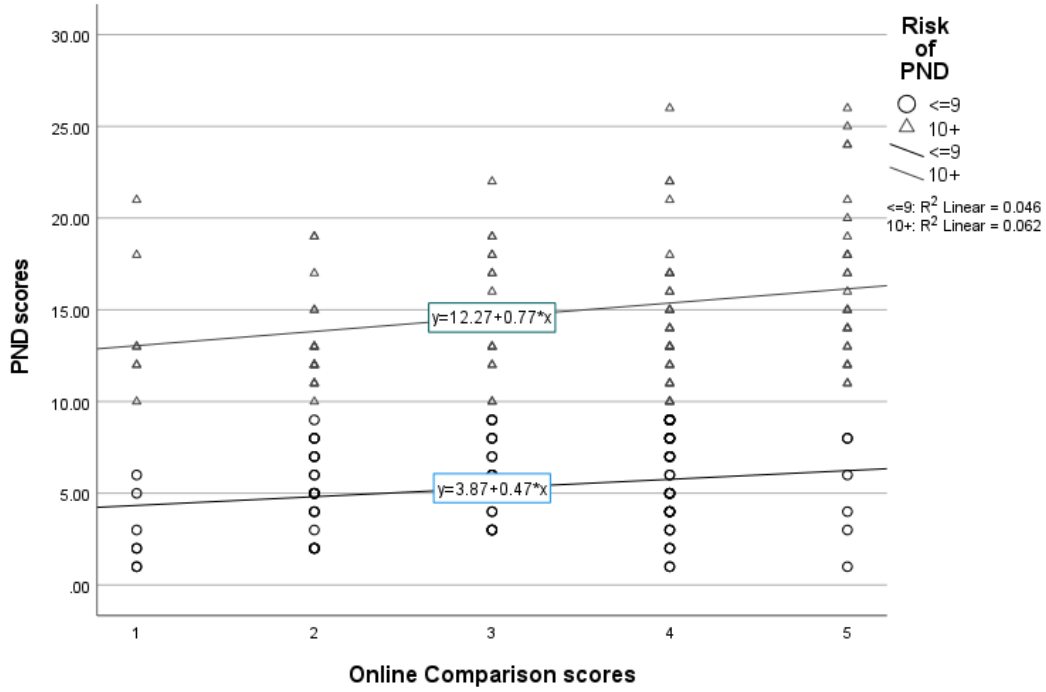
media and integration in daily life (*M*=39.15; *SD*=8.81), perceived social support (*M*=5.56; *SD*=1.05), parental stress (*M*=42.44; *SD*=9.89), perceived online social support (*M*=2.94; *SD*=.99), frequency of social media use (*M*=2.75; *SD*=.53) and online comparisons (*M*=3.34; *SD*=1.17). A number of demographic variables were added to the multiple regression analysis as controlled (confounding) variables, namely current diagnosis of PND, past history of mental health issues, number of children, employment status, marital status, ethnicity, education level and age.

The assumptions related to multicollinearity were met. Together, the predictor variables explained 47% (Adjusted R^2=.470) of the variance in postnatal depression scores, when the confounding variables were controlled for. The confounding variables account for 18.9% (Adjusted R^2=.189) of the variance in the outcome. The overall association between the predictor variables and the dependent variable was significant, *F* (14, 205)= 14.01, *p*<001, after the confounding variables were accounted for.

. Three of the predictor variables, perceived social support (*b*=-.24; *p*<.001), parental stress (*b*=.41; *p*<.001) and online comparisons (*b*=.13; *p*=.027), displayed a statistically significant association with postnatal depression scores (see Figure 3.1). It can be noticed that parental stress made the strongest unique contribution to explaining PND scores, when the variance explained by all other variables in the model was controlled for. Parental stress and online comparisons made a positive contribution to the equation, whilst perceived social support made a negative contribution. In other words, these results indicated that an increase in parental stress and online comparisons would predict an increase in postnatal depression levels, and higher perceived social support was associated with lower scores of postnatal depression. Emotional attachment to social media use and integration in daily life, perceived online support and frequency of social media use did not make a statistically significant unique contribution to the prediction of postnatal depression scores. Three of the confounding variables, age (*b*=-.19, *p*=.006), current diagnosis of PND (*b*=-.15, *p*=.008) and education level (*b*=-.13, *p*=.046), showed a statistically significant contribution to the model. All confounding variables made a negative contribution to the outcome.

Figure 3. 1

Changes in Online Comparison Levels based on Low and High Risk of Postnatal Depression (PND)



Note. This scatter plot presents a positive relationship between postnatal depression (PND) scores, grouped in low and high risk of postnatal depression, and tendency to engage in online comparisons. The figure outlines that participants with higher risk of PND are more likely to engage in online comparisons, compared with participants with lower risk of PND who displayed reduced scores in online comparisons.

A second multilinear regression was run to predict the variability in emotional attachment to social media and integration in daily life (*M*=39.15; *SD*=8.81) using perceived social support (*M*=5.56; *SD*=1.05), parental stress (*M*=42.44; *SD*=9.89), perceived online social support (*M*=2.94; *SD*=.99), frequency of social media use (*M*=2.75; *SD*=.53), online comparisons (*M*=3.34; *SD*=1.17) and postnatal depression scores (*M*=10.04; *SD*=5.79). The same confounding variables were used in this analysis.

The assumptions related to multicollinearity were met. Together, the predictor variables explained 36.5% (Adjusted R^2=.365) of the variance in SMUIS, when the confounding variables were controlled for. The overall association between the predictor variables and the dependent variable was significant, *F* (14, 205)= 9.43, *p*<.001. Three of the predictor variables, perceived online support (*b*=.41; *p*<.001), frequency of social media use (*b*=.31; *p*<.001) and online comparisons (*b*=.17; *p*=.006), displayed a positive and statistically significant association with social media use. It could be noticed that perceived online

support made the strongest unique contribution to explaining SMUIS, when the variance explained by all other variables in the model was controlled for. These results showed that an increase in perceived online support frequency of social media use and online comparisons predicted higher scores of emotional attachment to social media and integration in daily life. Perceived social support, parental stress and postnatal depression scores did not make a statistically significant unique contribution to the prediction of emotional attachment to social media use and integration in daily life (SMUIS). None of the demographic variables made a statistically significant contribution to the model.

The relationships between the variables can be observed in Table 3.3 which shows a Pearson correlation between PND scores, frequency of social media use, SMUIS, perceived social support, online comparisons, parental stress and perceived online support. As confirmed by the multiple regression and T-Tests, it can be noticed that the strength of the relationship between PND scores, frequency of social media use (r=.07), SMUIS (r=.09) and perceived online support (r=.02) is small. On the other hand, there was a medium to large, negative correlation between PND scores and perceived social support (r=-.46) and a positive, strong correlation between PND scores and parental stress (r=.53). Additionally, as noticed in the multiple regression, there was a strong, positive correlation between SMUIS scores and frequency of social media use (r=.42) and perceived online support (r=.53). Although there was no significant association between frequency of social media use and perceived social support, the correlation between the two was small but negative (r=-.04); the same applies to SMUIS scores and perceived social support (r=-.05). Moreover, although there was no statistical significance between the two variables, there was a small, negative association between parental stress and perceived online support (r=-.06).

Table 3.3

Pearson Correlation between PND Scores, Frequency of Social Media Use, SMUIS, Perceived Social Support, Online Comparisons, Parental Stress and Perceived Online Support

	PND scores	Frequency of social media use	SMUIS	Perceived social support	Online comparisons	Parental stress	Perceived online support

PND scores	1.00	.07	.09	-.46**	.25*	.53**	.02
Frequency of social media use	.07	1.00	.42**	-.04	.07	.01	.26
SMUIS	.09	.42**	1.00	-.05	.29*	.07	.53**
Perceived social support	-.46**	-.04	-.05	1.00	-.05	-.34	.03
Online comparisons	.25*	.08	.29*	-.05	1.00	.23	.20
Parental stress	.53**	.01	.07	-.34	.23	1.00	-.06
Perceived online support	.02	.26	.53**	.03	.20	-.06	1.00
Total N	206	206	206	206	206	206	206

*Note. Significance levels are represented by *p<.05 and **p<.001*

3.8. Discussion

The current study aimed to investigate the postnatal experiences of mothers within the first year after childbirth, assessing the potential differences in social media usage (i.e., SMUIS levels, online comparisons, frequency of social media use, perceived online support), parental stress and perceived social support amongst mothers with low and high levels of PND symptoms.

Findings of this quantitative study suggested that mothers who were at a higher risk of PND based on their scores, were significantly more likely to experience parental stress, to compare themselves online and to feel they were lacking in social support, compared to mothers with lower risk of PND. The outcome coincided with previous studies which have reported a strong link between PND and increased anxiety and psychological distress

regarding their role as a parent (Anding et al., 2016). In addition, as social support provided by family, friends or significant others has been described as a crucial factor in a healthy adjustment to motherhood (Leahy-Warren, McCarthy, & Corcoran, 2012), it was unsurprising to find that mothers at a higher risk of PND presented lower satisfaction with the support available to them.

Moreover, the results of the current study indicated that mothers with higher levels of PND were more preoccupied with what other parents were posting online and were more inclined to compare their lives with others, whilst mothers with low risk of PND who were less prone to engaging in negative online comparisons. This outcome was supported by previous literature, which has shown that individuals who participate in online comparisons can display lower levels of self-confidence, body image dissatisfaction (Cramer, Song, & Drent, 2016) and develop symptoms of anxiety and depression (Coyne, McDaniel, & Stockdale, 2017). Furthermore, emotional attachment and integration of social media in daily life was found to be predicted by increased levels of perceived online support, frequency of social media use and online comparisons. As expected, mothers who spent a large amount of time on social media, were more likely to engage in online comparisons, to seek support online, to feel emotionally attached to social media sites and allow it to occupy an important role in their lives (Primack et al., 2017).

On the other hand, there were no significant differences between low and high scores of PND and frequency of social media use, perceived online support and SMUIS. This result contradicted previous literature which suggested that, in the majority of cases, excessive use of social media has been linked to higher likelihood of developing mental health conditions, such as depression (e.g., Andreassen et al., 2016; Block et al., 2014). It could be assumed that the frequency of social media usage did not have as much of an impact on maternal mental health as the online behaviours that mothers engaged in (Coyne, McDaniel, & Stockdale, 2017). Additionally, although it was anticipated that mothers with increased risk of PND would be more likely to seek support online rather than from family or friends (McDaniel & Coyne, 2016), the current findings displayed no association between the two variables. Whilst previous research studies have been inconclusive regarding the influence of PND on the digital behaviours of mothers (e.g., Chae, 2015; Evans, Donelle & Hume-Loveland, 2012), our current findings suggest that the level of depression experienced by mothers did not influence their emotional attachment or integration of social media in daily life, nor the way in which they searched for support online.

Finally, although previous research associated social media use with increased parental stress levels (Bartholomew et al., 2012), the current study showed no statistically significant association between the two variables, suggesting that the attachment and integration of social media in one's life had no impact on the level of stress experienced by mothers. As was previously mentioned, this finding could propose that it was not the overall role that social media plays in one's life that impacts on a healthy mental health functioning, but rather the exposure to specific actions and harmful digital behaviours, such as negative online comparisons (Coyne, McDaniel, & Stockdale, 2017).

3.8.1. Strengths and limitations

The present study presented a number of strengths, such as good sample size and comprehensive examination of postnatal experiences of mothers within a digital context, however there are also a few limitations that apply. Social desirability bias could be one weakness which tends to occur when self-reported measures are being utilised, as participants may not be completely honest in their answers due to fear of judgment (Furnham, 1986). This issue was tackled by providing complete anonymity and confidentiality, which could encourage participants to feel comfortable and provide genuine answers. Furthermore, the sample was characterised mostly by a white British population, therefore lacking in a diverse range of ethnic backgrounds. A suggestion for future research would be to include a more ethnically diverse sample when examining the associations between PND symptoms, social support and digital behaviours. It is essential that cultural differences are taken into consideration, as previous studies proposed that stigma surrounding mental health issues is heightened amongst certain ethnicities, such as the Asian culture (Chandran et al., 2002; Halbreich & Karkun, 2006), therefore creating potential obstacles in their help-seeking behaviours due to reduced likelihood of disclosing struggles related to sensitive issues (Halbreich & Karkun, 2006). It has also been found that mothers from ethnic minorities are more likely to experience postnatal depressive symptoms, compared to mothers from a White background (Onozawa, Kumar, Adams, Dore, & Glover, 2003), therefore it is vital that cultural differences are further explored when investigating postnatal maternal wellbeing and access to traditional or online support.

3.8.2. Implications and conclusion

To conclude, this quantitative study has provided an insight into the digital behaviours of mothers who experienced low or high levels of postnatal depressive symptoms. Findings suggested that mothers with lower and higher risk of developing PND experienced differences in the way they perceived the offline and online support available to them, in engagement with online comparisons and parental stress levels in the first year postpartum. The current study identified important novel information regarding potential dissimilarities between parental wellbeing and online behaviours in a sample of mothers with low and high risk of PND. Therefore, the outcomes are expected to assist healthcare professionals, charities or family organisations in gaining a better understanding of the digital behaviours of mothers with postnatal depressive symptoms and the possible links between social media use and parental stress, thus leading to improved support services. Future research could expand on the current study by investigating whether there are specific social media characteristics that have different effects on maternal mental health, such as the networks that are designed to present more information through pictures (e.g., Instagram) versus platforms where users communicate mainly through text (e.g., Twitter).

The next chapter consists of a qualitative exploration of early motherhood, including expectations, the mother-baby bond, relationship with partner, psychological wellbeing and access to social support, as well as the use of social media for parenting support. The qualitative study conducted with mothers proposed to address some of the findings from the Study One, such as the associations between postnatal mental health, perceived social support and harmful digital behaviours (i.e., online comparisons). It was deemed necessary to further assess the way in which mothers perceive and engage with the support available in the postnatal period, to explore potential preferences and causal links between access to support and maternal mental health. Additionally, it was essential to examine the impact of digital behaviours on maternal mental health, particularly regarding the tendency to compare themselves with other parents online, and to assess whether their mental state or parental role influenced their engagement with social media sites.

Chapter Four: Study Two: A qualitative exploration of motherhood and digital behaviours of mothers in the first-year postpartum

4.1. Adjustment to motherhood- changes, expectations and social support

Motherhood has been characterised as a major life transition, associated with significant psychological, physiological and social changes (e.g., Ross, Sellers, Gilbert Evans, & Romach, 2004; Wisner, Parry, & Piontek, 2002). From a psychological point of view, studies have shown that new mothers go through the process of developing a new self-identity (Hung et al., 2011), which can present with parental expectations (Miller, 2007) and increased emotional vulnerability (O'Hara & McCabe, 2013). Some mothers experience an identity crisis in their transition to the new role as major alternations take place that are not always in harmony with their expectations and the idealised version of motherhood (Dietz,

2013). In their efforts to merge the myth of motherhood with the reality of the new role, mothers encounter cognitive dissonance, including feelings of irritation at the loss of independence caused by motherhood, as well as shame and guilt for yearning for their pre-parenthood lifestyle (Britton, Barkhuus, & Semaan, 2019). In the study by Britton, Barkhuus and Semaan (2019), mothers used online groups to reflect on their new-found identities, challenge gender norms within the parenthood context and provide support and resources for other women who struggled in their transition. Similarly, in research exploring the online infertility community, Whitehead (2016) suggested that women who struggled with infertility used the internet as a space to share their story and experiences, as their need to become mothers was strongly related to the desire to be acknowledged as parents by others, particularly by other women.

4.1.1. Impact of expectations on adjustment to motherhood

There are multiple factors that have been shown to influence the adjustment to motherhood, such as parental expectations (Flykt et al. 2014; Staneva & Wittkowski, 2013), parental self-efficacy (Harwood et al. 2007; Mihelic, Filus, & Morawaska, 2016), social support (Darvill, Skirton, & Farrand, 2010), attachment style (Mazzeschi, Pazzagli, Radi, Raspa, & Buratta, 2015) or mental health (Emmanuel, Creedy, St John, & Brown, 2011). Two aspects that have been the most frequently described as having a significant impact on the successful adjustment to motherhood are expectations (Church et al., 2005) and social support (e.g., Mihelic, Filus, & Morawaska, 2016; Mills et al., 2013). A large body of literature found that the expectations that women possess regarding childbirth and the postnatal period are often inconsistent with the reality of motherhood (e.g., Darvill, Skirton, & Farrand, 2010; Staneva & Wittkowski, 2013; Mihelic, Filus, & Morawaska, 2016). Generally, it appears that mothers' expectations are influenced by the "myth" of motherhood, as indicated by the qualitative study conducted by Choi, Henshaw, Baker and Tree (2005), where they utilised semi-structured interviews to explore views and beliefs of motherhood amongst a sample of 24 mothers. The influential impact of believing in the "myth" of motherhood creates the assumption that mothers are naturally and instinctually skilled in their parental knowledge and abilities (Staneva & Wittkowski, 2013; Miller, 2007). Parental expectations, including concepts such as instinctual maternal knowledge, or the idea of an instantaneous and effortless mother-baby bond, were found to be incompatible with the reality of early motherhood (Miller, 2007). Such unrealistic expectations can also occur in

relation to the postpartum body (Hodgkinson, Smith, & Wittkowski, 2014), highlighting the interconnectedness between psychological and physical postnatal transformation. The issues related to body image could then lead to reduced self-esteem (Robins & Trzesniewski, 2005), which has been found to be more pronounced amongst mothers, compared to fathers (Chen et al., 2016).

Unrealistic parental expectations may sometimes develop due to the media and social media (Pedersen, & Lupton, 2018) portraying motherhood in an unrealistic way, which has led to overly positive expectations (Staneva et al., 2015), as the focus has mostly been on the happiness or sense of purpose related to becoming a mother (Miller, 2011). In contrast, the difficulties associated with this period, such as the uncertainty (Nyström & Öhrling, 2004), worry or stress (Coates, Ayers, & de Visser, 2014), fatigue (Yesilcinar, Yavan, Karasahin, & Yenen, 2017) or loneliness (e.g. Cronin, & McCarthy, 2003; Wardrop & Popadiuk, 2013), and the increased risk of mental health conditions, such as postnatal depression (O'Hara & McCabe, 2013) or anxiety (Schetter & Tanner, 2012) have been disregarded, minimised or stigmatised (Abrams & Curran, 2011). A qualitative exploration of maternal identity amongst low-income mothers with postnatal depressive (PND) symptoms revealed that the women viewed the existence of PND as a challenge to their competency as mothers, thus altering the idealised notion of mothering (Abrams & Curran, 2011). The guilt associated with the experience of PND symptomology has further been linked to decrease likelihood of seeking help or support (Dunford & Granger, 2017). The negative impact of being exposed to an idealistic perception of motherhood is also present within the online context, as it has been shown that some mothers engage in online comparisons with other parents, action which leads to increased likelihood of depression and reduced perceived social support (Coyne, McDaniel, & Stockdale, 2017). However, both studies by Dunford and Granger (2017) and Coyne and colleagues (2017) utilised a quantitative approach in their data collection and analysis. Thus, it is important to delve deeper into the personal experiences, thoughts and emotions that guide mothers in their help-seeking behaviours during the postnatal period, especially whilst considering the influential impact of psychological distress that may occur post-childbirth.

It is important to consider the expectations that women have during their transition to motherhood, as unmet parental beliefs have been linked to maternal guilt and shame (e.g. Dunford & Granger, 2017; Liss et al., 2013; Sutherland, 2010), feelings of inadequacy (Choi et al. 2005), unpreparedness (Choi, Henshaw, Baker, & Tree, 2005), marital problems and

depressive symptoms (Flykt et al., 2014; Harwood et al., 2007). The pressure of possessing natural parental abilities may prevent mothers from openly discussing their challenges and struggles due to fear of being judged (Choi, Henshaw, Baker, & Tree, 2005), resulting in limited access to support. The feeling of shame has been described as an obstacle in help-seeking behaviours, by limiting the likelihood of disclosure and encouraging denial (Hook & Andrews, 2005; Saunders & Bowersox, 2007). In a meta-synthesis of various qualitative studies conducted on maternal transition, Nelson (2003) concluded that perinatal healthcare workers and parenting programs play an essential role in normalising the overwhelming nature of the postnatal period by adjusting expectations and reassuring them that this period is transitory.

4.1.2. Impact of social support on adjustment to motherhood

Another factor that has been characterised as a vital aspect in maternal adjustment is social support, as it has been shown to positively influence maternal mental health (Dahlberg et al., 2016; Darvill, Skirton, & Farrand, 2010; Negron, Martin, Almog, Balbierz, & Howell, 2013), parental self-efficacy (Mihelic, Filus, & Morawaska, 2016), access to coping strategies (Fahey & Shenassa, 2013) and interaction with the baby (e.g. breastfeeding attitudes) (Coates, Ayers, & de Visser, 2014). The most common sources of support are usually partners, healthcare professionals or friends and communities (Yesilcinar, Yavan, Karasahin, & Yenen, 2017). The study by Mihelic, Filus and Morawaska (2016) suggested that higher levels of perceived social support, either from family, friends or health professionals, resulted in a smoother transition into motherhood, particularly due to increased parental self-confidence, attribute which was also linked to realistic expectations. It has been found that the instrumental (also known as practical) support offered by partners is essential in coping with the demands of early parenthood, as it positively improves both physical and emotional wellbeing of mothers (Negron et al., 2013). More importantly, the support of partners has been linked to a decreased likelihood of developing depressive symptoms (Negron et al., 2013; Razurel, Kaiser, Sellenet, & Epiney, 2013).

Another source of support that has been described as helpful in lowering the risk of mental health issues in the postnatal period is peer support (Dennis et al., 2009). Being able to connect with other mothers who may be experiencing similar issues has been characterised as greatly beneficial, especially due to the isolating nature of early motherhood (Yesilcinar, Yavan, Karasahin, & Yenen, 2017). Additionally, it has been reported that new mothers

appreciate the practical and emotional assistance provided by healthcare workers (McLeish, Harvey, Redshaw, & Alderdice, 2021), as it improves their parental self-efficacy and ensures a better adjustment to motherhood (Bailey, 2010). However, numerous studies have mentioned a level of dissatisfaction amongst mothers regarding the support received from healthcare professionals (e.g., Coates, Ayers, & de Visser, 2014; McLeish, Harvey, Redshaw, & Alderdice, 2021; Walker, Rossi, & Sander, 2019), particularly surrounding breastfeeding or psychological support (Walker, Rossi, & Sander, 2019). The perceived lack of suitable professional support may lead to mothers feeling uncomfortable or insecure about seeking help from healthcare professionals (McLeish et al., 2021), and eventually choosing to search for assistance in other places, such as the internet, which has been described as a space where mothers feel safe to disclose sensitive issues (Pedersen & Lupton, 2018). Thus, it is clear that, sometimes, the needs of mothers during the postnatal period cannot be fully met by health professionals or close family members, situation in which many women orientate towards the internet as source of information and advice (Baker et al., 2003).

4.2. Use of social media and online support for mothers

Social media sites, such as networking platforms or forums, have been described as a great source of support, as mothers often defined them “safe places” where disclosure is encouraged (Evans, Donelle, & Hume-Loveland, 2012). Mothers value the emotional support provided by individuals outside of their medical or familial circle, as they perceive it as less judgmental and more understanding, therefore feeling more comfortable disclosing personal topics (McLeish & Redshaw, 2019; McLeish & Redshaw, 2017). These findings are supported by the qualitative study done by Nolan, Hendricks and Towell (2015), which suggested that engaging with social networking sites, offered adolescent mothers a sense of social connectedness, also described as a feeling of belonging, and allowed them to keep in touch and maintain relationships. A great advantage of internet use for mothers is the convenience and accessibility provided (e.g., Evans, Donelle, & Hume-Loveland, 2012; Tong & Walther, 2011), especially regarding time or geographical limitations (Moorhead et al., 2013). The need for night-time support (Hjälmhult & Lomborg, 2012) or the limitations of rural locations are important aspects to consider, as living in remote areas has been linked to higher levels of self-reported depression symptoms (Block et al., 2014).

The anonymity feature has been described as an additional advantage of using social media sites, as it has been associated with increased likelihood of disclosure (Schoenebeck, 2013), due to mothers feeling safer and more comfortable to communicate their difficulties, as well as less afraid of being judged (Pedersen & Lupton, 2018), particularly by healthcare professionals (e.g., Anderson et al., 2006; DeCou & Vidair, 2017). The idea of self-disclosure being higher online is also supported by a previous study which suggested that online therapy via email promoted greater self-disclosure, in comparison to face-to-face therapy, potentially due to increased opportunity for introspection and reflection as part of the delayed response (Nguyen & Campbell, 2011). Anonymity has been shown to be valued when discussing or revealing information regarding sensitive issues, such as depression (Madden et al., 2013). As depressed mothers have been shown to be less likely to seek support due to shame (Dunford & Granger, 2017), it could be assumed that they would be more inclined to open up online using an unidentifiable account.

Concerns have also been raised regarding the impact of the intensity and frequency of social media use on wellbeing and mental health. Evidence is mixed, showing that excessive social media use may be associated with increased likelihood of depressive symptoms (Vogel, Rose, Okdie, Eckles, & Franz, 2015), negative online comparisons (Coyne, McDaniel, & Stockdale, 2017) and lower self-esteem (Nesi & Prinstein, 2015). A recent qualitative study conducted on an at-risk sample of breastfeeding mothers explored the mothers' experiences of postnatal support during the Covid-19 pandemic (Siwik, Larose, Peres, Jackson, Burke, & Mantler, 2022). Their findings revealed that most mothers were reluctant in utilising online platforms to access information, support groups or communication with family or healthcare workers, as they perceived them as overwhelming and impractical. Practical support, which is not as easily provided via the internet, is perceived as more important for mothers who experience specific challenges during their adjustment to the new role (e.g., breastfeeding), which may explain the preference for in-person support, as suggested in the study by Jackson, De Pascalis, Harrold, Fallon, & Silverio (2021). Both studies (Jackson, De Pascalis, Harrold, Fallon, & Silverio, 2021; Siwik, Larose, Peres, Jackson, Burke, & Mantler, 2022) identified that limited access to in-person support was associated with premature breastfeeding cessation, thus highlighting the need for a more approachable and efficient alternative of support that mothers can utilise remotely.

Negative online comparisons have been shown to occur as a result of the unrealistic portrayal of a parenthood (e.g., Lee, 2014; Rui & Stefanone, 2013). Thus, as mothers feel

pressured to conform to a perfectionistic image of motherhood, they may enhance their use of social networking sites in order to gain affirmation and acceptance (Schoppe-Sullivan et al., 2017). Due to this phenomenon, mothers can develop feelings of self-doubt, guilt (Coyne, McDaniel, & Stockdale, 2017), parental distress (Bartholomew et al., 2012) and heightened likelihood of mood disorders (Coyne, McDaniel, & Stockdale, 2017). Similarly, whilst the need for external validation is not intrinsically problematic, it has been found that the need for recognition and appraisal was linked to depression amongst mothers, as these two factors were strongly associated with their feeling of self-worth (Schoppe-Sullivan et al., 2017).

4.3. Rationale and aims of present study

Previous research has characterised the first year postpartum as the period with the highest risk of developing maternal mental health issues (e.g., O'Hara & McCabe, 2013), therefore it is essential to gain a better understanding of the challenges and help-seeking behaviours of mothers during this stage. Additionally, it has been found that social media sites are frequently utilised by mothers as a parenting support tool (e.g., Haslam, Tee, & Baker, 2017), however it is unclear how digital behaviours present in the first year postpartum and whether they have any impact on the adjustment to motherhood and access to support. Due to these reasons, the current study aimed to provide a comprehensive qualitative interview exploration of the first-year post-childbirth, looking at initial maternal thoughts and feelings, potential mental health issues, access to support and use of social media for parenting information and advice. Thus, the research question that this study proposed to answer was related to how mothers experience their adjustment to the postnatal period, in terms of the relationship with the baby and partner, access to support, as well as use social media sites for parenting assistance; it was also assessed whether there were any links between adjustment to motherhood and digital behaviours. The methodological approach for the current study included semi-structured interviews to allow for a deeper understanding of the potential associations between the complexity within the transition to motherhood and the use of social media, with a focus on social support. The qualitative perspective undertaken in the current study also provided a chance to delve into supplementary themes that may naturally arise and add value to the main research topic.

4.4. Methodology

4.4.1. Participants

The participants of this study were thirteen women who identified as mothers, with ages between 25 and 41 years old (M=33.46), each mother with at least one baby aged 12 months or younger (see Table 4.1). The sample size formed of 13 participants was considered adequate due to the particularities of qualitative research, which focuses on detailed and comprehensive information extracted from a reduced number of people, with the aim of achieving data saturation. Previous exploration of the concept of "saturation" proposed that twelve interviews were sufficient in providing valuable information before data saturation occurred (Guest, Bunce, & Johnson, 2006). The participants were recruited through purposive and snow-balling sampling, as the research focused on a population with specific characteristics (Robinson, 2014). The inclusion criteria were formed of mothers over the age of 18, who had at least one baby under one year old, due to research which has shown that the first year postpartum presents the highest risk of developing mental health issues, such as postnatal depression (O'Hara & McCabe, 2013).

Table 4. 1

Demographic Information of the Participants, Including the Pseudonyms Chosen to Maintain Anonymity, Age, Ethnicity, Number and Age of Children

Participants	Age	Ethnicity	Children (age)
1 (Anne)	40	White/White British	8 months, 5 years
2 (Bridget)	33	White/White British	1 year
3 (Christine)	25	White/White British	4 months
4 (Danielle)	33	White/White British	9 months
5 (Emma)	28	White/White British	14 weeks, 2 years
6 (Fiona)	35	White/White British	6 months
7 (Gigi)	33	White/White British	4 months
8 (Hannah)	26	White/White British	11 months

9 (Isobel)	41	Other (New Zealand)	11 months
10 (Jenny)	30	White/White British	7 months, 2 years
11 (Kelly)	39	White/White British	1 year
12 (Laura)	37	White/White British	1 year, 5 years
13 (Mary)	35	White/White British	1 year, 9 years

Carrying out the study

4.4.2. Interview schedule

The interview schedule (see Appendix M) was created based on prior research in the area, as well as the findings from Study One (see Chapter Three). The interview elements that were based on prior literature focused on two main aspects, namely the adjustment to motherhood (e.g., Darvill, Skirton, & Farrand, 2010; Prinds, Hvidt, Mogensen, & Buus, 2014) and use of social media as a parenting support platform (e.g., Haslam, Tee, & Baker, 2017; Pedersen & Lupton, 2018). These two factors were key to the research as the aim of the study was to address a gap in the literature regarding the potential relationship between the experiences encompassing the transition to motherhood, such as immediate post-childbirth thoughts and feelings, expectations and challenges, access to support, the mother-baby bond and the marital relationship, and digital behaviours of mothers in a parenting context. Some of the findings from Study One were also incorporated within the interview schedule, such as the impact on maternal mental health on perceived social support and digital behaviours, more specifically, on the tendency to compare oneself with other parents online. Thus, the interview schedule explored the way in which their access to support might have impacted their adjustment to motherhood, specifically in terms of their wellbeing, and it also assessed whether their use of online platforms had any psychological influences on their wellbeing.

The first part of the interview schedule was formed of items related to the early experiences of motherhood, containing elements regarding the initial feelings and thoughts post-childbirth (“Can you tell me a bit about how you have been feeling since you gave birth?”), enjoyable and difficult moments, ways of coping, relationship with baby and partner (e.g. “Has the relationship with your partner changed in any way since you gave birth?”) and sources of support (e.g. “Did you have anyone to talk to when you were feeling down?”). The

second part of the interview schedule contained items referring to social media engagement and online support, the type of platforms used, frequency and intensity of usage (e.g. “Do you find yourself going online to look for advice or talk to someone?”), motivations, emotional impact of social media (e.g. “Do you feel like the way you use social media has changed over time, since you have had the baby?”) and online support resources (“Is there anything that you feel was missing in terms of parenting support online?”).

4.4.3. Procedure

All participants were contacted via email following their participation in the first quantitative study within this thesis, where they reported their interest in taking part in the current qualitative study. The email sent to participants included a Participant Information Sheet and a Participant Consent Form, which they were advised to read through and sign as a way of providing their informed consent and voluntarily take part in the study. Following their informed consent, a total of thirteen one-to-one semi-structured interviews were scheduled, with one interview taking place face-to-face, ten interviews taking place over the phone and two interviews over Skype. The interviews started off with general questions regarding the participant’s demographic information, such as age, number of children and their age and ended with space for the participant to make comments or ask additional questions. The interviews lasted between approximately 24 minutes and 53 minutes, and they were audio-recorded and transcribed.

4.4.4. Analysis

The analysis of the data started with the verbatim transcription of the interviews, which consisted of transforming the spoken words from the audio recordings into written text, whilst excluding any non-verbal communication, such as laughter or pauses (see Appendix R for example of interview transcript). The analysis method used for the present study was thematic analysis, as it is a widely used analysis approach in qualitative research that allows for detailed descriptions of the data and the formation of categories based on meanings and patterns, which are known as “themes” (Braun & Clarke, 2006). The thematic analysis was conducted using the six steps guide by Braun and Clarke (2006), which included: becoming familiar with the data by reading, transcribing it and taking notes, producing initial codes, collating the codes and forming themes, refining and naming the themes and writing-up the report. The themes of the current study were identified using both

inductive and deductive methods, as theoretical ideas of previous research were taken into consideration, whilst the coding remained flexible and open to the possibility of identifying additional discourses, regardless of the specificities of the research question. Mixed coding was utilised in the analysis of the transcripts, as this method was conducted previously by research exploring motherhood and social support in the postnatal period (McLeish, Harvey, Redshaw, & Alderdice, 2021; McLeish & Redshaw, 2021; Raspovic, Prichard, Yager, & Hart, 2020). These studies identified that utilising a combination of inductive and deductive methods in the coding and interpretation of the interview data, by considering relevant theories and validated scales, as well as the participants' direct experiences, was beneficial in achieving a broader understanding of the topic.

Three main themes were formed, namely "Motherhood as a challenge to identity", "Community at your fingertips" and "The dark side of social media" (see Table 4.2). The coding and analysis of this study were constructed based on a critical realist approach, as the participants' narratives, including their experiences, attitudes and challenges were acknowledged as their reflection of reality, and the interpretation of the data was conducted in an evaluative way (Braun & Clarke, 2006). The inductive codes were based solely on the participants' points of view, and some examples are "resentment", "motherhood doesn't come naturally", and "night-time usage". The deductive codes were based on prior theoretical and practical approaches, discussed in the study by Flykt and colleagues (2014), where they explored the impact of unmet expectations of parenthood, the work of Lee (2014) that investigated online comparisons, as well as the study by Anding and colleagues (2016), where they investigated experiences of postnatal depression. Some examples of deductive codes are "mental health difficulties", "expectations", and "false portrayal of motherhood".

Table 4. 2

Presentation of Main Themes, Sub-Themes, Example of the Codes Used to Form Each Theme and Quotes from the Data

Theme	Sub-theme	Codes	Examples from data
Motherhood as a challenge to identity	Change of lifestyle	Difficulty in balancing job and baby; Isolation; Psychological and physical exhaustion;	"I was sort of shell shocked from lack of sleep and just sort of total loss of independence"
		Loss of independence; Resentment; Importance of openness; Couple dynamic changes;	"I struggled with […] trying to retain a part of myself and my identity whilst having to dedicate to this new human being"
		Mental health difficulties;	"I had postnatal PTSD because I had a very traumatic birth with my first baby erm so after having the second […] , was very anxious and […] my psychologist said they were OCD tendencies"
	Learning experience	Mentally unprepared; Guilt; Shame; Practice improves confidence; Differences between first and second pregnancy; Expectations; Shock;	"In the first few days is kinda just like "what is going on?", but I think yeah as time passes you get more used to what you need to do"
			"I haven't been natural at it erm I struggle a lot but it is- I can see how

Theme	Sub-theme	Codes	Examples from data
		Motherhood doesn't come naturally; Internet usage changed from first child to second	much better it is now after, you know, the first four to eight weeks" "It was that much immediate pressure on us to get it established [breastfeeding] because she was so small […]"
Community at your fingertips	Accessibility and convenience	Night-time usage; Geographical distance not an issue; Easy access; Need for constant information; Different platforms with different focus; Immediate reassurance; Maintaining relationships	"[…] having someone that you can talk to at 3-4 in the morning, who sort of goes through the same thing" "living where I do in quite rural Scotland, accessing mental health support is not easy […] the way that I find any light in the darkness or any kind of hope was through these social media"
	Online support	Feelings of togetherness; Validation; Peer support; Not alone; Advice; Encouragement;	"you can ask questions that perhaps you wouldn't ask other people " "it was just reassurance about what I was doing

Theme	Sub-theme	Codes	Examples from data
		Support groups; Links to face-to-face events; Source of meeting people offline; Safe space; Facebook and Instagram as preferred platforms; Supporting other mothers	and whether it was the right thing" "you can get quite specific advice for problems that you don't even realise other people are thinking about"
The dark side of social media	Online expectations of motherhood	Negative comparisons; Extremes; Fear of judgment; False portrayal of motherhood; Curated content; Pressure; Jealousy; Passive interactions; Harmful for vulnerable mothers; Guilt and self-doubt; Trust issues	"not always a true reflection of people's lives and I do think that you need to take everything on there with a pinch of salt" "you do feel pressured to do things a certain way, […] I would never post any of the negative stuff about how I'm feeling or challenges"
	Scepticism and self-discipline online	Social media as a distraction; Safety concerns;	"Sometimes I get cross with myself that I'm on there so much because I

Theme	Sub-theme	Codes	Examples from data
		Overwhelming information; Mindless usage; Lack of self-control; Lack of trust; Forums equal drama; Anxiety and stress; Contradictory information; Consent issues	feel like it's a waste of time" "I worry about unmoderated groups and especially for people who are having emotional difficulties after birth" "It's not fair on the kids, their whole life is already on social media before they're even one years old"

4.5. Findings

This qualitative study aimed to provide an in-depth exploration of the postnatal experiences of mothers and the support received in their first year after childbirth, whilst considering the role that social media platforms have played in the transition to motherhood. Following the coding and analysis of the transcriptions, three main themes were formed, namely "Motherhood as a challenge to identity", "Community at your fingertips" and "The dark side of social media".

4.5.1. Motherhood as a challenge to identity

The first theme was named "Motherhood as a challenge to identity" and it is formed of two sub-themes, namely "Change of lifestyle" and "Learning experience". The first sub-theme named "Change of lifestyle" included aspects such as initial feelings related to motherhood, psychological, social and physical alterations, and the balance between

employment, hobbies, social life and parenting duties and postnatal mental health. The second sub-theme named “Learning experience” discussed aspects such as the adjustment to parental tasks, parental self-efficacy, expectations and the concept of learned versus instinctual maternal skills.

Change of lifestyle

Most of the mothers who took part in the interviews described the immediate period after childbirth as overwhelming, as they reflected on experiencing feelings that were in opposition to one another, such as anxiety as well as joy. Danielle, aged 33, who was a first-time mother, reported that she felt unsure and distressed about the breastfeeding process in the first few days, but also content and happy about having a baby. The quote below suggested that the unfamiliarity of the feeding process occurred in parallel with the enjoyment of being a parent.

Danielle (33 years old, one child, 9 months): *“[…] suddenly there’s this small thing that is completely dependent on you erm quite- I think by about four- five days in I was quite stressed, I was struggling to feed him […] I suppose also just really, really happy because I'd wanted a baby for quite a long time, I was kind of both amazed and happy but also a bit stressed and confused”*

Other mothers, such as Bridget, who was a 33-year-old first-time mother, talked about the difficulty of adapting to motherhood, particularly during the first weeks after childbirth, and mentioned the major responsibility that comes with caring for a newborn, task which creates a shift in the regular lifestyle of mothers and may lead to a lack of autonomy. Bridget explained how lack of sleep, in particular, led to feelings of numbness and emotional detachment:

Bridget (33 years old, one child, 12 months)*: "For the first maybe three or four weeks […] it seemed quite a blur, I was sort of shell shocked from lack of sleep and just sort of total loss of independence erm because obviously you’re suddenly completely reliable for another person […]at the beginning I think I felt quite stunned to be honest erm stunned and kind of quite... almost a bit numb, I wasn’t particularly very tearful or upset […] I was just a bit sort of robotic maybe”*

Alongside the total disruption of their regular daily routine, changes in identity were mentioned. Hannah, a 26 year old mother of a 11 months baby, reflected on the adjustment to

maternity leave, including the physical and psychological demands of parenting, the feeling of confinement and the transition from a full-time professional to a full-time mother. The quote below further displays that some mothers who have formed a solid perception of themselves as individuals who actively engage in continuous acts of self-improvement and contribution to society through studying or working, may be strongly impacted by the changes brought by maternity leave; this suggests that the responsibility of caring for a baby full-time, as opposed to working or studying, may be conflicting for mothers and their sense of purpose.

Hannah (26 years old, one child, 111 months): *"I found it quite difficult initially obviously with the demands of, you know, breastfeeding day and night, not being able to leave the house basically because it was so difficult to go anywhere with the baby and I've also had a caesarean, so I was not particularly mobile […] adjusting to maternity leave as well. you know, because I've been working full time sort of my whole middle life or studying […]."*

Becoming a mother challenged the identity of other participants as well, such as Jenny, a second time mother, who stated that she struggled with maintaining a sense of authenticity after having her first baby, suggesting that being completely committed to her parenting duties overlooked the other parts of her identity. This extract further presents the challenging act of balancing the familiarity of their identity prior to having a baby with the novelty of the new role that was undertaken, suggesting that it was important for Jenny to hold onto who she was as a person prior to stepping into a new facet of her identity.

Jenny (30 years old, two children, seven months, two years old): *"I think what I struggled with in the first was just erm first time motherhood and trying to retain a part of myself and my identity whilst having to dedicate to this new human being […]".*

The lack of independence was also discussed by Anne, aged 40, who emphasised the life-changing nature of childbirth. She mentioned the importance of openness and flexibility, suggesting that the mother's schedule was solely dependent on the baby's needs, indicating, again, a loss of control over personal wishes and desires. Additionally, Anne felt the need to accentuate the unconditional love and devotion for her children, as if experiencing or recognising difficulties related to motherhood could deny the affection she feels towards her children. This could be seen in the quote below:

Anne (40 years old, two children, eight months, five years old): *"[…] you don't realise until you've got children how like all consuming, I mean yeah you know obviously I would never*

be without them but it is- it's the biggest life change ever, isn't it, and not being in control of what you can do it's like, yeah, you can decide to do x, y, z in the day but you gotta be pretty flexible about it if it changes […]"

The underlying fear of judgment for supposedly lacking a mother-baby bond whilst experiencing parental challenges may be related to stigma related to postnatal mental health issues, which could in turn lead to maternal guilt or shame. Anne further disclosed mental health complications surrounding childbirth, in her case, symptoms of antenatal anxiety and postnatal depression. Perinatal mental health complications were a major disruptor in the lives of some of the mothers within this study, as Anne disclosed losing interest in pleasurable activities and feeling envious and left out from the rest of the family, indicating symptoms of low mood and isolation.

Anne (40 years old, two children, eight months, five years old): *"I didn't want to do stuff, I was just like... you know, I would look after the baby, I would be up in the bedroom on my own, I would feed him, try to you know, do all the things he needed erm and then I would leave my husband to look after my daughter cause I didn't wanna be around them, they were having fun, everything was so easy"*

Similarly, Laura, aged 37, revealed her experiences with post-traumatic stress disorder (PTSD) caused by a traumatic first childbirth and the struggles with anxiety and obsessive-compulsive disorder (OCD) symptoms following the second baby, highlighting the increased risk of mental health issues associated with childbirth. Additionally, Laura reflected on the way the postnatal mental health issues affected her behaviour towards her children, suggesting that the feelings of unhappiness led to a short-tempered and distant attitude.

Laura (37 years old, two children, one years old, five years old): *"[…] it probably makes me shorter tempered then it happens with my older girl because I'm not really present in the moment with her […] I'm probably a bit snappier with my children than I would want to be because I'm kind of preoccupied and I'm in a sad place, I'm not happy"*

Feeling detachment in the immediate period after childbirth was common amongst the mothers within this study. They expressed feelings of detachment or numbness in regard to their babies, focusing on the practical acts of childcare while struggling to engage emotionally. These feelings of detachment were often linked to mental health difficulties. The participants of this study suggested that the bond with the baby developed in time and this concept is explored further in the second sub-theme "Learning experience".

Learning experience

Adjusting to the demands of motherhood was described as a learning process by many of the participants within this study, as they indicated that the ability to adapt to motherhood required persistence, patience and practice. The second sub-theme captured the concept of motherhood as a learning experience, consisting of trial-and-error, searching for information and support, developing maternal self-efficacy, and challenging the notion of maternal instinct.

Fiona, a first-time mother aged 35, talked about suffering from baby blues soon after childbirth and feeling frustrated, hopeless and fatigued due to a lack of understanding of her baby's needs. The uncertainty in relation to her baby's cues made Fiona question her parental abilities when struggling to settle down the baby, and feel alone in her struggles, by saying "what have I done wrong, why me?".

Fiona (35 years old, one child, six months): *"[…] even now when he's crying at 3am in the morning for no reason and I'm exhausted, you think "just why, what have I done wrong?" or "why me?" erm and you know they always say day four after they're born you get the baby blues and it's really hard, I remember getting those […]".*

Likewise, Mary, a 35 year old mother who had a prolonged hospital stay following a caesarean, experienced similar feelings of guilt and self-blame regarding her parenting abilities, particularly with breastfeeding. It could be suggested that the feelings of insecurity and confusion were aggravated by the physical and emotional hardships caused by the difficult childbirth, as indicated below:

Mary (35 years old, two children, one year old, nine years old): *"I was quite emotional on the third day, so my little boy he would- he was quite a frequent feeder so I was feeding every two hours and I think I was just exhausted but I can remember then sitting down with my husband and just sobbing and saying- erm, I was thinking to myself what am I doing wrong, what have I done wrong […]"*

Displaying increased worries and doubts regarding their parental capabilities and feeling isolated in these experiences may suggest that the mothers were holding expectations

about motherhood that were unmet, which could eventually lead to feelings of disappointment and self-blame. Some mothers were comparing themselves with other parents, as Danielle, aged 33, mentioned that she felt a pressure to conform to a particular way of parenting, especially from more experienced mothers. As a result of this, Danielle expressed feeling unsure about her parenting methods. These extracts show that questioning their parenting knowledge and abilities was a common occurrence amongst most participants as they were adjusting and forming their new identities as mothers.

Danielle (33 years old, one child, nine months): *"[…] I have had moments where I'm a bit like aghh I'm doing it wrong, and you do get a tend from people who are older, who have already had their children can be quite judgmental about how you do things, so "why do you do it that way" erm yeah "you need to do it like this" there's an awful lot of mum guilt around it"*

The social norms related to motherhood were also discussed by another mother who felt that there was an external pressure that portrayed the connection between the mother and the infant as instantaneous and deeply emotional. Bridget experienced feelings that were incompatible with these expectations, such as being overwhelmed and astonished when meeting the baby for the first time. These emotions were described as difficult, possibly due to the contradiction between societal expectations and reality. Bridget further reported that the relationship between herself and the baby developed in time.

Bridget (33 years old, one child, one year old): *"I think you're supposed to burst into tears upon seeing your baby and be filled with, you know, unconditional love […] I think I was just a bit shell shocked and stunned by it all and erm then when it was quite difficult, [...] it took some time to really feel like you know, that sort of unconditional love, but yeah I definitely felt like that was not the correct way to feel"*

The concept of being instantly, and almost naturally, connected to the baby, was also discussed by Fiona, as she found the first couple of weeks post-childbirth incredibly difficulty, particularly due to the disrupted sleep pattern, stating that she was not "natural" at it. In other words, Fiona suggested that there is an assumption that portrays mothers as instinctually skilled in their mothering capacities and that she lacked that ability. However, this participant felt that, whilst she was still struggling at the time of the interview, the parenting responsibilities became more manageable gradually, thus indicating that her parental confidence increased as well.

Fiona (35 years old, one child, six months): *"[…] The first three weeks I found horrendous erm I still find it really tough but it's cause I have a baby who doesn't sleep through the night […] I haven't been natural at it erm I struggle a lot but it is- I can see how much better it is now after, you know, the first four to eight weeks"*

Most of the mothers felt that their relationship with their babies improved as the children's emotional and social skills developed, resulting in a stronger bond. This was expressed by Christine, a 25 year old first-time mother, who mentioned that, although she has always felt an emotional connection with her baby, being able to receive responsive cues from her child has accelerated the bonding process.

Christine (25 years old, one child, four months): *" […] she's a lot more talkative and responsive, so I think that's made it a lot easier to feel closer, erm but other than just knowing each other a bit better, I still feel the same way about her, although I think I treat her a bit more like another person now because she is more responsive, rather than just a passive little bundle […]*"

The gradual learning process was also expressed by Danielle, a 33 year old first time mother, who felt that her parental confidence improved as she progressed from disorientation and unfamiliarity to reassurance and determination. Danielle further commented that the confusion and anxiety associated with the immediate postnatal period were feelings that needed to be accepted as part of the process.

Danielle (33 years old, one child, nine months): *"I think you get more confident, obviously in the first few days is kinda just like "what is going on", but I think yeah as time passes you get more used to what you need to do to look after him erm so I got- there were certainly times where it would feel a bit overwhelming […] you just gotta get on with it really"*

Overall, the first theme "Motherhood as a challenge to identity" presented the emotional, physical and social difficulties that the mothers who took part in this study experienced in the early postnatal period. The sub-theme "Change of lifestyle" highlighted the meaningful impact of motherhood on the mothers' personal identities, as they made their way through learning how to adjust and balance their parental duties with their own needs and interests. The second sub-theme "Learning experience" displayed the challenges of performing their newfound responsibilities whilst simultaneously complying to social expectations of parenthood. Most mothers have described the immediate period after childbirth as overwhelming, due to feelings of shock, confusion and insecurity, as well as

happiness and fulfilment. They have also mentioned feeling mentally and emotionally unprepared for the major change brought by having a baby, a sentiment which faded gradually. Some mothers struggled with perinatal mental health issues, such as anxiety, postnatal depression or OCD symptoms, highlighting the major impact of having a baby on maternal wellbeing. The participants have linked their difficult initial feelings to the struggles of breastfeeding and lack of sleep, aspects which, according to the mothers, have influenced the initial emotional and physical connection with their babies. The bonding process appeared to be particularly difficult for some mothers, as they did not feel an immediate affection or closeness towards their infants. These difficult feelings generated guilt and shame amongst the mothers, as they felt pressured by societal norms and expectations that disregarded the challenges of motherhood. The stigma surrounding admitting reduced or absent infant bonding, makes it less likely that mothers will engage in help-seeking behaviours and increases the possibility of poor mental and physical health outcomes. The parental confidence of the mothers, as well as the relationship with their babies developed in time, as they gained additional skills and knowledge. Overall, the first theme presented the strong influence of becoming a mother on the participants' perception of themselves, their sense of purpose and competency, and the way internal and external expectations of parental effectiveness affected their experience and wellbeing.

4.5.2. "Community at your fingertips"

The second theme "Community at your fingertips" presented the digital behaviours of mothers, exploring the use of social media and the internet as a parenting support tool. This theme was formed of two sub-themes, namely "Accessibility and convenience" and "Online support". The title represents a quote extracted from one of the interviews (Anne, 40 years old, two children) and it describes the feeling of togetherness and closeness that can be found online, as well as the accessibility of digital platforms.

Accessibility and convenience

As it was discussed in the first theme, the daily schedule and overall lifestyle of mothers underwent significant changes post-childbirth, notably sleep alterations. Due to this, many mothers mentioned that their search for information or support extended throughout the night-time hours, whilst feeding or trying to sooth the baby. This could be observed in the statements made by 25 years old Christine who mentioned that the accessibility of online

support during the night reduced the likelihood of anxiety and worry that she would have had to cope with in the absence of the internet.

Christine (25 years old, one child, four months): *"it's mostly the middle of the night thing with the baby, a bit of moral support […] I would've probably waited till the morning to find things out and spend all night worrying about it and because it's online, you can go straight away"*

At the same time, some of the mothers have talked about using the internet as a distraction during night-time feeding or as a method of avoiding potential difficult thoughts related to poor emotional health. Bridget, a 33 year old first time mother, mentioned that being awake at night when looking after the baby was an opportune time for reading parenting articles as a way of passing time.

Bridget (33 years old, one child, 12 months): *"you never read so many articles about babies and when you're sort of awake at like- all night long and you read to distract yourself […]"*

Additionally, Laura, a 37 year old mother of two children, disclosed that she had a tendency to use online platforms more frequently at night because of inability to sleep and as a way of protecting herself from potential negative or anxiety-provoking thoughts.

Laura (37 years old, two children, one years old, five years old): *"I would say at night when I can't sleep, that's a big one […] it's a distraction exercise because I don't want to have no input because if I've got no input then my mind would drift and I would worry that I would get into a negative thought pattern and something would start"*

Some mothers were using online platforms to prevent the escalation of worries and anxiety, whilst others were using it to relieve stress or support their psychological wellbeing by reassuring themselves through accessing online informational sources. Anne mentioned that although she was aware of the importance of professional medical advice, the convenience of the internet was making it ideal as a first step in her help-seeking behaviours, especially in regard to minor issues. It appears that some mothers rated their parenting concerns or uncertainties based on self-determined levels of importance, which then influenced whether they would seek support from a healthcare worker or the internet, the latter being the source for non-essential issues.

Anne (40 years old, two children, eight months, five years old): *"I think it's just the first thing you do, isn't it, it's easy, it's accessible erm I wouldn't say rather go there than to a*

doctor cause I know it's better to the doctor's but it's a fact, isn't it so if it's something small then I would go online and have a look first […] that's the idea, isn't it, the community at your fingertips"

Along with the convenience of instant information, mothers have often mentioned the anonymity feature associated with online communication which encouraged honesty, openness, and decreased fear of judgment. Gigi, a 33 year old mother, discussed her choice of using the internet as a space to ask questions that she would not feel comfortable sharing with a healthcare worker due to fear of being scrutinised. The lack of self-confidence that Gigi felt about contacting a health visitor for parenting advice seemed to be linked to doubts regarding the adequacy or meaningfulness of the content of her enquiries.

Gigi (33 years old, one child, four months): *"I'd go on if I've a burning question then the internet can do that much quicker than waiting to ask somebody or even ringing up, I didn't really want to ring, say a health visitor to ask because I don't know, you feel like you're- you feel like you're stupid for asking a stupid question […]"*

Besides the worry regarding negative judgment coming from health professionals, some mothers also struggled with reduced access to medical support, as well as gaps in the healthcare system, such as lack of information and limited equipment necessary for maternal mental health support. Social media support was seen as crucial to most of the women, and this was particularly evident for women who did not have easy access to such services. Laura, aged 37, described the necessity of such resources when she experienced a traumatic birth and postnatal PTSD as someone who lived in a rural area.

Laura (37 years old, two children, one years old, five years old): *"living where I do in quite rural Scotland, accessing mental health support is not easy […] postnatal PTSD was something that, you know, they basically didn't acknowledge existed until very recently and so and the way that I find any light in the darkness or any kind of hope was through these social media and the Birth trauma association […]"*

The language used by Laura to describe social media as "light in the darkness" and "hope" emphasised the powerful impact that online resources and support can have on the wellbeing of mothers, highlighting the value of such digital support in the postnatal period. The access to online night-time support was portrayed as particularly important by Laura, as she felt that the Facebook support group that she was part of provided crucial help,

encouragement, and validation during low moments and when she was experiencing suicidal thoughts.

Laura (37 years old, two children, one years old, five years old): *"[…] when I had these thoughts and feelings there was somebody I could talk to about it who would kinda talk me down from the ledge and you know, make me wait till morning and speak to my husband rather than just disappear in the night"*

The choice to orientate towards social media as an immediate source of support during a highly psychologically vulnerable moment that could have significant consequences, underlined the beneficial components of social media sites and the potential for using them as platforms that could provide notable assistance to mothers who are struggling.

Online support

Peer support was characterised as one of the main benefits of using social media sites amongst most mothers. Mary, aged 35, mentioned that engaging with a parenting forum helped her feel more confident and optimistic that she could overcome the difficult stages of parenthood. A useful aspect of online platforms was the ability to connect with other mothers experiencing similar issues, as it was illustrated below:

Mary (35 years old, two children, one year old, nine years old): *"I got some good advice, people who've been through similar experiences, you know people saying "just stick with it, it's not gonna last forever" and it doesn't last forever so that kinda gets you through […]"*

As the first theme showed that breastfeeding represented one of the most difficult tasks that mothers had to learn, it was not surprising to find that most of them searched the internet for further advice and support related to this feeding method. First-time mother Isobel aged 41, felt that she received valuable help from an online breastfeeding support group and suggested that health professionals should be aware of its existence and share it with mothers in the hospital as a resource for support.

Isobel (41 years old, one child, 11 months): *"[…] I got a lot of value and support from the breastfeeding group[…], it was really, really good, the people were really supportive [...]every mum who wants to do breastfeeding should be told about it in hospital before they leave, so that they know there's somebody there they can talk to if they're having issues"*

Additionally, Fiona aged 35, expressed an appreciation for "celebrity" online accounts, particularly when they post content related to realistic aspects of motherhood that could be seen as less desirable, such as the struggles, confusion or overwhelming feelings. Online content posted by influential individuals was perceived as a way of normalising the hardships associated with motherhood, encouraging other mothers to feel more comfortable to speak up or seek support.

Fiona (35 years old, one child, six months old): *"you've got these famous mums bloggers you follow and they do post the shitty pictures, so they do sometimes make you feel better and […] just reminds you that everybody's going through the same thing so I do like seeing that"*

As mothers develop their parental skills and knowledge, they feel capable of supporting other mothers. Laura aged 37, explains that overcoming the difficulties associated with the early postnatal period allowed her to use online platforms more effectively and her interest in engaging with others online increased as well. She also felt that her mental health improvement helped her undertake the role of supporter.

Laura (37 years old, two children, one year old, five years old): *"because my need for more direct emotional support isn't so present so I'm doing less looking for somebody to support me and I'm doing more supporting other people using it and I would say because I'm a lot better, I'm using it less for kinda mindless distraction […]"*

Another motive for social media use was the opportunity to create connections and meet other mothers who were looking to attend the same parenting class or event. Many mothers mentioned the difficulty of joining or attending a new baby class when they are not familiar with the environment or the other members. As Kelly, a first-time mother aged 39, disclosed below, the ability to speak to someone before attending an event can be particularly useful for individuals who struggle in social situations.

Kelly (39 years old, one child, 12 months): *"[…] people who aren't socially confident it's actually really good to sort of just turn up and know a face because sometimes turning up somewhere where you don't know anyone can be a bit intimidating, so it really did make me get out and do things because you know, you already know people"*

The use of social media fluctuated with self-identified need. Several participants described how the immediate post-birth period was a time of high frequency and intensity use of social media. This was discussed by Mary who stated that her use of social media was

heightened soon after childbirth and declined as she became more certain in her own abilities as a mother. This suggested that the level of parental self-efficacy had an impact on the frequency and intensity of social media use for parenting support and information.

Mary (35 years old, two children, one year old, nine years old): *"I would use it far more when he was tiny, tiny than I do now, erm yes so I'm less reliant on the internet to look for things, although I still do but I'm not- I'm still part of the group but I'm not actively looking at the groups that I was involved in when he was first born"*

A transformation in digital behaviours was also pointed out by Danielle aged 33, who disclosed that the frequency of internet use was greatly heightened at the beginning of the postnatal period, and it slowly decreased in time. Danielle also displayed an increased level of confidence in her parental knowledge, as her online searches were mostly used to confirm issues that she was already suspecting. It was also suggested that the internet would continue to be a regular source of information, with enquiries changing in line with differing developmental stages of the infant.

Danielle (33 years old, one child, nine months old): *I would say in the first few weeks like loads, all the time, now once a week erm to actively look, yeah no more than once a week, […]so it's kinda like "should he have teeth at 9 months" - it's less than that kind of constant "oh my Gosh is this normal, oh my gosh is this, is this […] I'm sure if something else comes up soon I'm like "what do I do now" erm and I definitely need to child-proof my home so I'm gonna be Googling how to do that"*

Overall, the second theme "Community at your fingertips" presented the most commonly expressed advantages of using the internet and social media sites from the perspective of the mothers within this study: the convenience of online platforms, and the immediate access to peer support. Most mothers mentioned the sense of community and mutual understanding that social media sites can offer, providing immediate reassurance and valuable parenting information. The support available online was accessible and convenient, which was perceived as a benefit for mothers whose time was restricted by parenting responsibilities. Most mothers commented on the usefulness and importance of night-time support in the form of encouragement and reassurance, as receiving support during out of hours may be difficult to achieve. The use of social media platforms at night-time was often initiated by wakefulness due to needing to feed or soothe the baby. The motives for social

media use modified over time, as parental self-efficacy increased, the mothers were searching for support less frequency and were more likely to act as a supporter instead.

4.5.3. The dark side of social media

The third and final theme "The dark side of social media" was formed of two sub-themes, namely "Online expectations of motherhood" and "Scepticism and self-discipline online". This first sub-theme presented the idealised portrayal of motherhood, unrealistic expectations and maternal pressures existent on online platforms. The second sub-theme "Scepticism and self-discipline online" presented the aspects of social media that were often questioned by the participants and considered overwhelming and harmful for maternal wellbeing, such as unreliable information, safety and consent issues, mindless interactions or dramatisation of problems. The second sub-theme explored the apprehension towards certain online content and interactions found on social media platforms, as well as the difficulty in maintaining a sense of control over one's actions when being exposed to digital platforms.

Online expectations of motherhood

Most participants mentioned an existent tendency to only present the positive side of parenthood on social media sites. Mary felt that Instagram, more so than Facebook, was likely to display content presenting mainly the favourable side of motherhood, leading to increased pressure that could make other mothers who were struggling, to feel upset or inadequate. Additionally, it was suggested that the overwhelming amount of online positivity could inhibit other mothers from posting content that was presenting the challenges of motherhood.

Mary (35 years old, two children, one year old, nine years old): *"[…] on Facebook, particularly with Instagram, you see the happy moments, the smiley babies, so I think if someone was going through a difficult time […] you can't share those experiences cos you don't feel you can because everybody's posting happy stuff"*

Other mothers, such as Bridget, have talked about two types of mothers online, the kind who are motivated to return to their professional life and focus on their body image and the kind who maintain a more relaxed and spontaneous attitude regarding their parenting role.

However, it appears that mothers who struggle to adapt to motherhood are less visible online, leading to an inaccurate representation of the complexity of the postpartum period. As well as Christine and a few other mothers, Bridget has also described Instagram as the main social networking platform to promote a misinterpretation of motherhood.

Bridget (33 years old, one child, 12 months): *"[…] especially on something like Instagram I think it's definitely the biggest one of this, I think it's that you have the two different sort of types of mother, […] super successful erm immediately very slim after having a baby and they run their own business […] and then you've got the other side […] just kinda scraping by mothers […] I think it's difficult to find real portrayal of mothers on social media."*

The idealised portrayal of motherhood was also acknowledged by Fiona who felt that she was not able to post "shitty" content because the gesture would be interpreted as attention-seeking behaviour, which would be undesirable. Thus, Fiona suggested that mothers may modify their engagement with social media sites due to fear of negative judgment and insecurity of posting content of a certain genre.

Fiona (35 years old, one child, six months old): *"everybody's got a problem at some point, it's just they're choosing to show the lovey dovey side of everything and sometimes I can be quite cynical, I wanna post the, you know, the shitty picture but then at the same time I think, well no, cos you just- it sounds like you're doing it for attention […]"*

Due to the incomplete representation of motherhood displayed online, Emma, a 28 year old mother of two children, considered that the information posted was not always reliable or trustworthy. Emma also accentuated the damaging effect that online comparisons can have on psychological wellbeing. Mothers sought out online information congruent to their own reality in an attempt to avoid experiencing feelings of self-blame or low confidence when their expectations of motherhood fell short.

Emma (28 years old, two children, 14 weeks, two years old)*: "[…] it's not always a true reflection of people's lives and I do think that you need to take everything on there with a pinch of salt erm I reckon, like the first time around that just can really upset you, cos you automatically compare yourself to everyone else"*

Interestingly, Emma stated that seeing online content that is different to their own reality can be distressing for mothers "the first time around", suggesting that mothers become more resilient in time, as they learn to be less affected by curated social media content.

Additional pressures linked to the unrealistic portrayal of motherhood online were often seen to be focused in particular areas of both maternal and child achievement. This was observed by Kelly who talked about age being a factor in the likelihood of being influenced by online pressure, with younger mothers being at a higher risk due to their prolonged exposure to the internet. Kelly disclosed that some of the topics discussed by mothers on social media sites involved issues around their children's performance in terms of milestones, as well as the changes that women's bodies go through during pregnancy and childbirth and the desire of returning to their pre-pregnancy figure.

Kelly (39 years old, one child, 12 months): *"[…] I think there's a lot of pressure for the younger ones, I mean some of my friends who are posting several times a day, or you know, "my baby's done this, my baby's done that", and new outfits and they feel like they have to keep up with social presence in a way, I haven't felt that pressure because I suppose I didn't grow up with it […]"*

Similarly, Jenny aged 30, talked about the abundancy of comparisons revolving around childcare and children's achievements existent on online groups chats and the impact they can have on heightening the feelings of guilt. Interestingly, Jenny mentioned that the guilt and pressure were "exacerbated" by online posts, suggesting that these feelings were present regardless. Due to this, Jenny considered that trusting her own knowledge was a safer alternative, as it would be less detrimental on her mental wellbeing.

Jenny (30 years old, two children, seven months, two years old): *" […] I just found it overwhelming and it was a constant comparison game "what's your child doing, is your child doing this, mine is doing that, I need to take him to baby swimming" and it just exacerbates the guilt and the pressure of what you should and shouldn't be doing as a mother and I just find it much easier to- for my mental health, to stay clear of it and do what works for me really"*

Thus, this sub-theme showed that many mothers struggled when being exposed to overly curated content online, as it decreased their self-esteem and parental confidence and encouraged negative social comparisons that were believed to have a negative influence on maternal mental health. The experience associated with online expectations and pressures was also understood to be influenced by maternal age and overall experience of motherhood.

Scepticism and self-discipline online The second sub-theme encompasses the factors linked to the internet and social media sites that were considered overwhelming and harmful

in the postnatal adjustment of mothers, including unsympathetic or judgmental interactions, unreliable information, privacy and security issues or the excessive use of the internet.

Some mothers believed that emotional problems may be amplified by certain online behaviours or interactions. Laura, a second time 37 years old mother, mentioned that some support groups failed to provide warm and compassionate advice or reassurance, as some comments were invalidating the struggles of mothers. Laura felt that being inconsiderate of the challenging aspects of motherhood could aggravate a mother's vulnerable state.

Laura (37 years old, two children, one year old, five years old): *"you can tell what they're really looking for is somebody to basically hold their hand and tell them it's gonna be okay in a virtual sense, and you get people telling them that they should be glad that they have a healthy baby and that that's all that matters"*

In the same way, Anne aged 40, who was diagnosed with postpartum depression and anxiety, revealed that she created expectations related to the side effects of her medication based on the experiences of other mothers who posted on forums; the failure to meet those expectations led to low mood and disappointment. It may be suggested that the content found on forums was not representative of the wider population, as experiences can differ.

Anne (40 years old, two children, eight months, five years old): *"I had literally every single side effect erm and then I would be going online to these forums and seeing when the side effects would stop for other people so let's say oh you know, settle down after four weeks, six weeks and that would be my goal and when it didn't happen then I felt bad […]"*

The accuracy and reliability of the information found online was frequently questioned by mothers who chose to maintain a cautious attitude towards the digital content. According to some of the mothers within this study, the quality of the information and advice was dependent on the source of the material. This was expressed by Isobel aged 41, who felt that the professional background of the person delivering the information was important, as healthcare professionals would be more credible compared to parents who may not be qualified in health advice.

Isobel (41 years old, one child, 11 months): *"I'm mindful that it's just parents who are talking on these things [forums], it's not like medical professionals or people who have had any training […] so I would always kinda be careful of where I was looking if I was looking for like actual information"*

Additionally, Laura has reported her concern for mothers who struggle with their mental health, as they may be at a higher risk of being negatively influenced by unfavourable online interactions, such as aggressivity or negative judgment.

Laura (37 years old, two children, one year old, five years old): *"I worry about unmoderated groups and especially for people who are having emotional difficulties after birth, I think that it could be a dangerous place because if somebody chooses one person to lash at and they are not in a good place then it could lead to problems"*

Parenting forums were associated with contradictory advice, negative appraisal or dramatisation of issues by the participants who were interviewed in this study. The disadvantages of using forums for parenting support were associated with the large number of users and the anonymity feature, factors which created a sense of confusion, overwhelming information and negativity. Although anonymity has previously been described as beneficial in encouraging disclosure and reducing fear of judgment, it appears that it holds disadvantages as well, suggesting that it is a digital feature with dual properties. Danielle stated that although forums can provide useful advice, most of the information presented on these platforms focused on upsetting or concerning issues, with a perceived tendency of exaggerating certain problems. Once again, it was highlighted that mothers who are psychologically distressed may be at a higher risk of additional stress when engaging with online forums.

Danielle (33 years old, one child, nine months): *"People don't tend to post unless they have a concern, so you're more likely to get negative things rather than positive things […] it's all a bit panic, panic, panic… […] I think if you're a bit anxious or paranoid they're not necessarily a good place to go"*

The anonymity feature was mostly associated with forums, which were considered large scale platforms, rather than smaller online groups which were seen as more personal and with an increased quality of the support provided. Therefore, increased anonymity was linked to low quality advice and support, suggesting that lack of accountability had an impact on the type of support or intentions behind the support provided. Hannah considered that large scale platforms were more likely to include anonymous users, and therefore contain increased negativity, whilst smaller online groups were formed of less anonymous users which increased the quality of the support provided. In this way, Hannah suggested that forums, due to their usual large number of users, decreased in quality of information.

Hannah (26 years old, one child, 11 months old): *"[…] it can be really horrible, and there's- they're so big and anonymous that you know, that kind of behaviour is going to happen… I think smaller, local groups would- you know, that are less anonymous, lead to much better, quality support"*

Another concern associated with online platforms represented the issues around privacy and safety regarding personal information. Due to this, many mothers have chosen not to post any pictures of their children online. Bridget felt uncertain about the security of her pictures online, worrying about them being used without her knowledge or approval.

Bridget (33 years old, one child, 12 months): *"[…] if one I decided to delete Instagram or whatever, do they still get to retain all the pictures and one day I might see it on an advert or something like that […]"*

Likewise, Fiona felt that it was important to be mindful of her child's consent before posting pictures of them online.

Fiona (35 years old, one child, six months): *"in ten years time if I have documented his whole life on Instagram or Facebook, you know, that's not his choice, […] it's not fair on the kids, their whole life is already on social media before they're even, you know, one years old"*

Other worries related to the negative impact of social media on wellbeing outcomes were related to the instant notifications and mindless scrolling. Hannah talked about the dangers of social media platforms for sensitive people like herself, disclosing that she can be easily influenced by strongly emotional content, which can sometimes be difficult to avoid due to the design of online articles which encourage constant engagement. As Hannah described social media platforms as "addictive", she felt that her usage had to be restricted within a regulated schedule to impose discipline.

Hannah (26 years old, one child, 11 months): *"they are designed to lure you in really, with the headlines and all that kind of thing, I try as much as possible on Twitter to mute you know, all these things, as many things as I can that are sort of unpleasant or stressful […] it is designed to be addictive with the notifications coming up"*

In addition, Jenny disclosed that using social media in an inattentive way, with no legitimate motives or outcomes, resulted in low mood and decreased motivation. At the same time, both Jenny and Hannah have mentioned an awareness regarding the harmful effects that

excessive social media use can have on sleeping patterns, choosing to reduce use of social media platforms during evenings.

Jenny (30 years old, two children, seven months, two years old): *"if I find myself just sort of sitting and scrolling with actually no aim of what I'm doing, I stop because then otherwise I just, it tends to be one of those days where I don't have much motivation and I get a bit down which I find brings me down a lot, I like to be active and I try not to use it too close to bed time"*

Another mother who found regulation of social media use challenging was Isobel, who acknowledged a lack of control over her digital behaviours, defining her social media usage as a habit, due to the frequency and limited self-awareness associated with this action. As a result of these internet practices, Isobel experienced irritation and frustration with her own behaviours.

Isobel (41 years old, one child, 11 months old): *"sometimes when I pull out my phone and start scrolling through it out of habit and in my head I'm just like "put it away, you don't need to be doing this, you can be doing other stuff" […] it's just a habit, you just pick it up out of reflex and just start scrolling but you're doing it for no reason and not actually reading anything, so I try and not do that as much cos I do get annoyed at myself"*

Overall, the third theme "The dark side of social media" presented the difficulties that mothers encountered when engaging with online platforms. The primary source of distress associated with social media sites was the unrealistic portrayal of motherhood online, which prioritised the positive side of motherhood and led to negative comparisons. Other harmful aspects of online platforms were characterised by poor quality of information and advice, lack of credibility, privacy concerns and the addictive nature of social media sites. Most participants believed that mothers who are already struggling with their mental health are at a higher risk of being negatively affected by the online content. Finally, the idealistic expectations, along with the false portrayal of motherhood that have been displayed online, were linked to additional pressures and feelings of guilt and shame, which were believed to have a major negative influence of maternal mental health.

The three main themes, namely "Motherhood as a challenge to identity", "Community at your fingertips" and "The dark side of social media" revealed that mothers perceived the adjustment to their parental role as overwhelming and meaningful, with challenges caused by societal pressures and expectations. Maternal assumptions were also present within the online

community, space which often displayed an unrealistic portrayal of motherhood. However, mothers displayed a positive perspective of online platforms as well, mentioning the opportunity for disclosure, accessible parenting advice, and valuable emotional support.

4.6. Discussion

The current qualitative study aimed to provide an in-depth exploration of the thoughts, feelings and experiences of mothers during their first year after childbirth, as well as the use of social media as a parenting support tool. The analysis of the interview transcripts resulted in the formation of three main themes, namely "Motherhood as a challenge to identity", "Community at your fingertips" and "The dark side of social media". The themes presented the personal journey that thirteen mothers went through during the postpartum period, exploring the psychological and social changes associated to the transition to motherhood, parental expectations, maternal self-efficacy, and progressing towards help-seeking behaviours, with a focus on social media sites as a source of parenting advice, information and support.

The first theme "Motherhood as a challenge to identity" was formed of two sub-themes, namely "Change of lifestyle" and "Learning experience". Within the first theme, findings showed that adapting to motherhood required patience, flexibility and openness to learning. Consistent with previous research, the mothers within this study described the transition to motherhood as a majorly transformative life experience (Callister et al., 2010) that had a significant impact on their personal identity (e.g., Choi, Henshaw, Baker, & Tree, 2005; Hung et al., 2011; Hoffnung, 2004) and psychological wellbeing (O'Hara, 2009). Most mothers disclosed issues that involved a loss of independence, adjustment to breastfeeding, the early mother-baby bond, and psychological instability, in the form of PND, PTSD, obsessive compulsive disorder (OCD) symptoms or "baby blues".

One of the main topics discussed within the first theme, which inspired the title of the theme, is the impactful influence of motherhood on the sense of self of the women who took part in the study. Loss of personal identity is one of the factors that characterise the transition to parenthood as a life stressor, particularly as feeling detached from one's identity prior to having a baby have been associated with higher risk of developing symptoms of PND (Habel

et al., 2015); this association underlines the importance of considering the impact of motherhood on personal identity.

Some of the mothers who took part in the study disclosed that having a baby meant that they were unable to engage in their usual hobbies or social activities, thus suggesting a disconnect from their social networks. This change may be detrimental as the study by Seymour-Smith and colleagues (2017) revealed that mothers who reported a decline in involvement with their usual social groups were at a higher risk of presenting symptoms of PND. Whilst it may be expected that the postnatal period often involves engagement with new social networks, such as parenting support groups, the same study identified that forming new relationships in the postnatal period did not have an impact on maternal health; however, maintaining the social connections created prior to having a baby was found to predict improved postpartum mental health. Thus, the stability and continuation of their pre-existent social identity was considered crucial in protecting mothers against emotional and mental distress in the postnatal period.

Some participants also reported feeling emotionally disconnected or "robotic" in their interactions with their babies in the early postnatal period, which may suggest that they were not able to fully recognise or embody the mothering identity due to the overwhelming nature of the event. This occurrence may be explained by research which indicates that maternal mental health is dependent on how strongly mothers identify with their new role, as some women may struggle to integrate parenthood as part of their self-concept, leading to increased risk of depression (Seymour-Smith, Cruwys, Haslam, & Brodribb, 2017). Incorporating maternal identity within a pre-existent identity has been described as a complex process, which may justify the occurrence of perceived identity loss, as some mothers may expand their consciousness to include the identity of their own children, thus redefining the boundaries of their individuality (Laney, Hall, Anderson, & Willingham, 2015).

The difficulty to breastfeed has often been reported as a common issue during the adjustment to motherhood (e.g., Bailey, 2010; Coates, Ayers, & de Visser, 2014) and a common motive frequently associated with this problem was the lack of practical support or clear information from health professionals (Coates, Ayers, & de Visser, 2014). Similar to the findings of the current study, prior research found that a low parental self-efficacy in mothering duties can lead to further feelings of distress, isolation (Wardrop & Popadiuk, 2013) or depressive symptoms (Haga, Lynne, Slinning, & Kraft, 2012). It has been shown that the close physical contact and intimate interactions that occur during breastfeeding can facilitate a better emotional bond between the mother and the baby (Kim et al., 2011). This

could explain the delay in the mother-baby bond experienced by some of the participants of this study, as some of the mothers disclosed difficulties in establishing breastfeeding.

Many mothers within this study mentioned feeling fatigued, numb, mentally detached and "robotic" during their childcare duties, emotions which could be associated with symptoms of PND, as suggested in the study by Barr (2008); this could, again, explain the delayed mother-baby bond (Brockington, Aucamp, & Fraser, 2006) and the breastfeeding struggles (Field, 2010). It is crucial for these connections to be acknowledged and promptly examined by healthcare workers, as they could severely impact the successful transition to motherhood (Emmanuel, Creedy, St John, & Brown, 2011), as well as the healthy development of the infant (Feldman et al., 2009). On the other hand, the mothers of this study mentioned that the bond with their babies improved in time, as the children become more responsive (Figueiredo et al., 2009), which is supported by prior work (Yesilcinar, Yavan, Karasahin, & Yenen, 2017). Therefore, the feelings of emotional detachment and numbness may not necessarily be signs of mental health issues but rather a regular part of motherhood adjustment that some mothers experience. As it may be complicated to distinguish between a dysfunctional adjustment to motherhood and common temporary challenges, it is vital that appropriate support and professional help are in place, including a clear diagnostic criteria and access to the right information.

The immediate mother-baby bond was seen as an expectation by many of the mothers within this study, along with the assumption that mothers have instinctual parental skills and abilities. These expectations were often unmet, which caused the mothers of the current study to feel judged, inadequate and insecure. It has been shown that women feel pressured to feel overly positive about their transition to motherhood (e.g. Prinds, Hvidt, Mogensen, & Buus, 2014; Staneva et al., 2015), often by medical professionals (Miller, 2007). This concept was found in the present study, with one woman stating that motherhood did not come naturally to her, suggesting that some mothers have instinctual abilities. The expectation for mothers to be naturally capable in their abilities creates a false assumption (Bobel, 2002), which may lead to limited help-seeking behaviours, and finally, to mothers feeling unprepared and anxious in their new role (e.g. Bailey, 2010; Staneva & Wittkowski, 2013). However, the results of this study suggested that maternal knowledge and skills were learned abilities, rather than instinctual, and the maternal confidence developed in time, with constant practice, which is in line with previous studies (Nelson, 2003). Maternal confidence has also been shown to be linked to social support, which could result in a smoother transition to motherhood (Mihelic, Filus, & Morawaska, 2016). The importance of social support for a

healthy and effective adjustment to motherhood was highlighted and explored in the second theme named “Community at your fingertips”.

The second theme of this study “Community at your fingertips” revealed that mothers characterised online platforms as convenient and accessible sources of support, particularly during night-time. Studies have found that maternal sleep is considerably reduced in the first month post-childbirth (Chang, Pien, Duntley, & Macones, 2010), which could justify the increased use of social media platforms as an alternative activity. Loss of sleep has been linked to parental stress (Sinai & Tikotzky, 2012) and increased likelihood of depression (Chang et al., 2010), which supports the comments of exhaustion and anxiety that the mothers mentioned in this study. Whilst the knowledge regarding night-time use of social media amongst parents is scarce, it has been shown that mothers appreciate the accessibility of the internet regardless of the geographical distance (Moorhead et al., 2013), which would allow for night-time digital engagement. Some mothers mentioned using social media at night as a distraction while feeding or soothing the baby or as a distraction against difficult thoughts; one participant revealed that night-time usage of social media was used as prevention against intrusive thoughts. This comment is in accord with previous research that identified a relationship between major life stressors and poor sleep, which have further been linked to rumination (Guastella & Moulds, 2007), feelings of loneliness (Hom et al., 2017) and increased risk of depression (Kalmbach, Pillai, & Drake, 2018). A cause of maternal sleep disturbance in the early postnatal period was found to be the need to feed or soothe the infant, which was further associated with maternal depression at 6-weeks postpartum (Sharkey, Iko, Machan, Thompson-Westra, & Pearlstein, 2016). However, most studies identified that breastfeeding, as opposed to formula or bottle feeding, improved the quality of maternal sleep (Hughes, Mohamad, Doyle, & Burke, 2018; Kendall-Tackett, Cong, & Hale, 2011). Therefore, it is possible that, in some cases, using social media at night-time might act as a disruptor of sleeping patterns that would otherwise be functional. Nevertheless, there is very limited research conducted on the potential associations between infant sleep or eating patterns and maternal sleep, thus further studies are needed to understand the links between maternal sleep disruption and night-time childcare responsibilities.

Along with the use of online platforms as a distraction, other motives mentioned within the present study were the need of advice and reassurance during vulnerable moments, ability to connect with mothers in a similar situation, seeking specific information and support, or looking for parenting classes and events. Studies have shown that mothers perceive online communities as a “safe space” for disclosure and a way of coping with

difficulties, particularly in terms of issues that they do not feel comfortable sharing with others, such as postnatal depressive symptoms (Evans, Donelle, & Hume-Loveland, 2012; Pedersen & Lupton, 2018). Online peer support groups have been shown to offer valuable practical and emotional support, often tailored to specific parental needs (Niela-Vilén, Axelin, Salanterä, & Melender, 2014). This is consistent with the current findings, as many mothers reported the use of specific support groups for particular parenting aspects, such as breastfeeding or the experience of a traumatic childbirth. The ability to connect with other parents who have experienced similar challenges could offer the opportunity to share experience-based support (Gundersen, 2011), decrease loneliness (Teppers et al., 2014) and reduce stigma, especially related to mental health issues (Eisenberg, Downs, Golberstein, & Zivin, 2009), such as PND.

The findings of this study indicated that mothers changed their digital behaviours throughout the postnatal period. The frequency and intensity of social media usage was greatly elevated in the early postnatal period, however this decreased as mothers became more confident in their knowledge and abilities. This is consistent with prior studies that suggested that parents with higher levels of self-efficacy are less likely to use the internet as a support resource (Haslam, Tee, & Baker, 2017). Besides the decrease in anxiety, uncertainty and guilt that engaging with online support groups can provide, it has also been found that mothers enjoy organising face-to-face meetings with other parents that they have met online (Lupton, 2016). These observations are in accord with the current findings which showed that online communication via messaging platforms can facilitate the attendance of parenting classes or events, as mothers found it helpful and less intimidating when expecting to be familiar with other mothers within a new space.

Whilst the results of the current study indicate that the majority of mothers have identified numerous useful and valuable factors within the use of social media networks, they have also acknowledged more harmful features associated with internet usage, and this was incorporated into the third theme named “The dark side of social media”. The main factor related to social media use that was perceived as unhelpful and damaging was linked to an unrealistic portrayal of motherhood online, concept which has been mentioned in past research (Shensa, Sidani, Lin, Bowman, & Primack, 2016). It has been shown that presenting an idealised version of motherhood that disregards the difficulties associated with this life transition, can often create false expectations amongst mothers (Darvill, Skirton, & Farrand, 2010), which may then lead to disappointment, guilt, shame and increased risk of depression when the reality does not match the assumptions (Staneva & Wittkowski, 2013). This could

be observed in the current findings, as mothers stated that they engaged in online comparisons with other parents, whilst still acknowledging that much of the online content was curated and edited to display an incomplete portrayal of motherhood. This could be linked to a previous study by Chae (2017) which has revealed an association between selfie-editing and the desire to present the image of one's ideal-self amongst young adult females, occurrence resulted from online comparisons.

A further issue mentioned by mothers regarding social media platforms for parents was the uncertainty regarding the quality of the information. Consistent with previous research (Eysenbach et al., 2002; Moorhead et al., 2013), most mothers have mentioned that they were cautious in deciding to execute the advice found online, as they were aware of the possible inaccuracy and unreliability associated with online content which may not be regulated. However, the confidence regarding the quality of online content was dependent on a number of factors, such as the nature of the information and the type of platform, as mothers were more likely to utilise health platforms for medical advice rather than other social platforms. The mothers in our study have categorised Facebook as the most useful social media site in terms of peer support and forums as the least helpful platforms. This was an unexpected finding as most previous studies have presented parenting forums as popular and valuable amongst mothers who were looking for a space to discuss emotions, opinions and hardships of motherhood (Pedersen, 2016; Pedersen & Lupton, 2018). The main characteristic which differentiated the two platforms in terms of their quality was the design of each website. Facebook is a social media network which allows the creation of small and private groups where mothers may feel an increased feeling of safety and trust, along with the existence of more personalised and clear information.

On the other hand, forums have been described as overwhelming and confusing, mainly due to the large number of users, the considerable amount of information and the contradictory advice. This result supports the work of Porter and Ispa (2013) who observed that discussion forums can consist of a variety of beliefs and approaches regarding childcare, aspect which could increase mothers' uncertainty and insecurities in terms of their parental capacities. This could explain the mothers' preference within the present study, who favoured smaller support groups over forums of a larger size. Yet, these results appear contradictory to previous research which has associated larger and more visible online platforms, such as Facebook, with elevated perceived social support (Manago, Taylor & Greenfield, 2012) and heightened credibility (Jin, Phua, & Lee, 2015). These contradictions may be due to the

distinctions in samples, as both Manago et al (2012) and Jin et al (2015) included participants that were undergraduate students who were not mothers, therefore their intentions and interpretations of social media sites may be different from those of parents. Additionally, these studies focused their empirical investigation on one online platform (i.e., Facebook), thus it is impossible to acknowledge whether the participants would have maintained their responses in terms of social support and credibility if they were presented with multiple platforms as a comparison.

An additional concern associated with social media use among mothers was the prolonged amount of time spent on social media, which was associated with lack of control and worries related to the addictive nature of online platforms. A few mothers within this study described the use of social media platforms as a distraction, behavior which was often done in excess and resulted in feelings of loss of control, frustration and self-dissatisfaction. This finding supports previous research, as it has been shown that users who engage in internet use in an excessive manner are often aware of this being a harmful behaviour (Osatuyi & Turel, 2018). One method of reducing the damaging influence of excessive social media use has been shown to be abstinence (Turel, Cavagnaro, & Meshi, 2018), aspect which could be introduced in postpartum assessments and check-ups for any mothers who might be negatively affected by their digital behaviours. Furthermore, several studies suggest that gender differences may play a role in the likelihood of excessive use of social media (Park & Lee, 2014), with women being more prone to developing addictive tendencies towards activities based on social interactions, such as use of social networking sites (Andreassen et al., 2016; Kuss et al., 2014; Van Deursen et al., 2015). Thus, it is essential for the online engagement of mothers to be taken into consideration, as it has been proposed that there may be a bidirectional relationship between harmful digital behaviours and symptoms of depression, as they could both influence an increase in each other (Seabrook et al., 2016).

4.6.1. Study implications, strengths and limitations

The current study presents a few important clinical implications. For instance, the findings of this research study could inform healthcare professionals about the early experiences of mothers during the postnatal period and of the way in which they use social media as a support tool. On the base of the current results, healthcare workers could support or assist mothers in their adjustment to motherhood by having an active presence online, perhaps in the form of an online support group which would include trained volunteers and

allow them to engage with mothers and offer evidence-based support. As accessibility and convenience have been characterised as highly useful aspects of digital support, the existence of online professional support may come as a favourable alternative to mothers who worry about the reliability of digital information (Moorhead et al., 2013). This is, to our knowledge, the first study to explore the potential connections between maternal adjustment to the first-year postpartum and use of social media as a parenting support tool. The novelty of the topic represents a significant strength of the current study. A limitation of the current study consists of the reduced ethnic diversity in the sample, as most mothers were White/White British, thus displaying the transition to motherhood and impact of social media from a limited cultural perspective. A recommendation for future research would be to explore the different factors that could influence the use of social media during the adjustment to motherhood, such as the socioeconomic status, age or cultural background, aiming to present the narrative of a more diverse group of individuals.

4.6.2. Conclusion

In conclusion, the present study illustrated that women in the first-year post-childbirth found the transition to motherhood emotionally and physically overwhelming, the mother-baby bond developed in time and pressures linked to maternal expectations were present. The maternal expectations were shown to influence the internet engagement amongst mothers, leading to negative online comparisons and a reduction in active online participation due to fear of judgment. Regardless, digital platforms were found useful in providing parenting information and advice, as well as psychological and practical support, for instance in the form of specific groups for breastfeeding mothers, traumatic births or mental health issues.

Following a mixed-methods approach to investigate the impact of maternal mental health on digital behaviours and social support, and explore the early postnatal period within the context of motherhood, it was deemed necessary to examine these issues from a paternal perspective. It is important to consider both mothers and fathers when exploring the postnatal period and the impact of having a baby on social support and digital behaviours, therefore the next chapter consists of a quantitative investigation of paternal PND symptoms, perceived social support and social media use.

Chapter Five: Study Three: Postnatal Depressive Symptoms and Social Media Use amongst Fathers within the First Year Postpartum

5.1. Paternal postnatal depression

Mental health conditions associated with the perinatal period have notoriously been linked to mothers (Wee et al, 2011), however, recent research has indicated that fathers can be negatively impacted as well, thus suggesting the existence of paternal postnatal depression (PPND) (Philpott & Corcoran, 2014). The estimated rates of diagnosed depression in fathers during the postnatal period has varied between studies, the average percentage falling between 5-10% of fathers suffering from PPND (e.g., Cameron et al., 2016; Goodman, 2004; Schumacher et al., 2008; Paulson & Bazemore, 2010).

The symptomology of PPND is similar to maternal PND, including low mood, irritability (Ramchandani et al., 2005), fatigue, dysfunctional eating and sleeping patterns, and feelings of helplessness due to perceived inability of providing support for the partner (Letourneau et al., 2011). In addition to that, previous literature reported gender differences in the manifestation of depression, with men being more prone to externalising and escaping behaviours, such as aggression, alcohol and substance abuse (Madsen, 2011), gambling, overwork (Veskrna, 2010) and self-harm (Eaton et al, 2012). These manifestations have been described as a way to cover up the internal distress (Addis, 2008), possibly due to the reluctance in expressing emotions (Oliffe & Phillips, 2008). The internalised behaviour known as the reluctancy in disclosure of internal struggles is a common feature of depression in men, often used as a "maladaptive" coping mechanism (Addis, 2008; Oliffe & Phillips, 2008).

PPND has been shown to affect not only the healthy functioning of fathers but also of their infants (e.g., Fletcher et al, 2011; Ramchandani et al, 2011), as well as their relationship with their partners (Cornish et al., 2008). As the fathers' presence is increasingly becoming more common in childcare and parenting duties associated with the postpartum period, their involvement plays a considerable role in the cognitive, emotional and social development of infants (Ramchandani et al., 2008, 2013). Depressive symptoms can alter fathers' parenting

behaviour and lead to reduced responsiveness, warmth or positive attitudes towards their child, and increased disengagement and aggression (Wilson & Durbin, 2010). It has been shown that depressed fathers display minimal interest in interacting or playing with their child (Sethna et al., 2015), thus PPND being associated with a decreased father-infant attachment (Ip et al., 2018). The behaviour resulted from experiencing the symptomology of PPND has been found to have an adverse impact on infant development (Gentile & Fusco, 2017; Ip et al., 2018), as children of depressed were more likely to suffer from behavioural problems (Musser, Ahmed, Foli, & Coddington, 2013), impairments in their language development (Paulson et al., 2009) and increased likelihood of mood disorders (Gentile & Fusco, 2017).

PPND has further been linked to low relationship satisfaction (Demontigny et al., 2013) and the occurrence of couple comorbidity (Paulson & Bazemore, 2010). Studies have found a correlation between the depressive symptomology of mothers and fathers, with the possibility of increased depressive symptoms in one partner leading to higher risk of depression in the other (Wee et al., 2011). A major body of literature has reported that paternal postnatal depression is a higher indicator of couple morbidity than maternal depression (e.g. Anding et al., 2016; Paulson & Bazemore, 2010). Thus, as PPND negatively affects the entire family system, comprised of the wellbeing of each individual member, as well as the relationships between them, this emphasises the importance of paternal mental health screening and treatment (Darwin et al., 2017).

5.2. Social support and help-seeking behaviours among fathers

Social support represents a crucial component of the early postnatal period, acting as a protective factor meant to maintain or improve the emotional wellbeing and confidence of parents and reduce the likelihood of PPND (Freitas et al., 2016). Lack of social support has been linked to increased risk of developing postnatal depression amongst mothers (Leahy-Warren et al., 2012) and fathers (e.g. Da Costa et al., 2015; Wee, Skouteris, Pier, Richardson, & Milgrom, 2011; Zande & Sebre, 2014). Emotional support has been considered one of the most valuable types of support that would benefit fathers, as it decreases psychological distress and provides encouragement (Bielawka-Batorowics & Kossakowska-Petrycka, 2006). Studies have shown that men are interested in receiving support and advice regarding their parental experiences by communicating with others (Letourneau et al., 2012). It has been suggested that the support provided by the partner may be particularly beneficial for

fathers, as it can decrease feelings of isolation and exclusion from the parental-baby relationship (Kim & Swain, 2007). Expectant fathers have been shown to display anxiety and worries regarding their partners' physical health and pain, as well as the delivery process, parental self-efficacy or finances (Forsyth et al., 2011). Some fathers view their partners and babies as the main recipients in need of support (Darwin et al., 2017), therefore placing themselves in a position of providing assistance, rather than receiving it. This belief is often present at a societal level as well, as the traditionalist perspective portrays fathers as the "secondary" carer, the caregiving figure that is not directly involved in childcare, thus assuming that they are not as affected by the parental experience (Salzmann-Erikson & Eriksson, 2013). However, multiple studies have clearly demonstrated that some fathers struggle in their adjustment to fatherhood (Carlson et al., 2014; Genesoni & Tallandini, 2009) and can present perinatal mental health issues (e.g. Cameron, Sedov, & Tomfohr-Madsen, 2016; Top, Cetisli, Guclu, & Zengin, 2016), therefore their needs must be carefully considered.

The barriers to obtaining paternal support are multi-dimensional and occur across systems, such as healthcare provision or work policies, healthcare professionals and the men themselves. Paternal PND is often disregarded in favour of maternal PND, and the lack of acknowledgement has led to limited healthcare assessments, screenings, diagnosis and treatment for the mental health of men (Whitelock, 2016). There have been no screening devices designed specifically for the mental health of fathers, however the Edinburgh Postnatal Depression Scale (EPDS), originally developed to assess maternal PND, has been verified as a valid tool for a population of fathers (Massoudi, 2013).

The absence of specific screening tools for PPND, limited staff training in paternal wellbeing and the reduced educational programs or classes aimed at fathers may act as potential obstacles in fathers' accessibility to professional mental health support during the postnatal period (Hammarlund, Andersson, Tenenbaum, & Sundler, 2015; Philpott, 2016). A qualitative explorative study revealed that paediatric nurses had difficulties in identifying PND in fathers, due to a number of reasons, such as limited training and experience in assessing fathers' mental health, irregular contact with the fathers and biased gender attitudes (Hammarlund, Andersson, Tenenbaum, & Sundler, 2015). Alongside the gaps in healthcare provision, the results of the study by Hammarlund and colleagues (2015) have highlighted other important issues previously associated with reduced paternal support, for instance

challenges in approaching or communicating with men about their mental health (Brody & Hall, 2010) and gender stereotypes in parenting practices (Ammari & Schoenebeck, 2015).

There are multiple perspectives that should be taken into consideration when discussing fathers' involvement with healthcare services and their access to support. Firstly, men have been described as less likely to seek professional support or to disclose psychological difficulties (Brody & Hall, 2010), as well as to underreport symptoms (Musser et al, 2013), preferring to talk about experiencing stress rather than mental health issues (Darwin et al., 2017). This type of behaviour has been linked to gender stereotypes and treatment stigma (Addis & Mahalik, 2003). However, recent sociological literature suggests that stereotypes and fear of judgment are decreasing (Seidler et al., 2016), thus increasing the likelihood of men attending psychotherapy as a mental health treatment (Cameron, Hunter, Sedov, & Tomfohr-Madsen, 2017). Interestingly, higher levels of education in men predict reduced self-stigma (Hammer et al., 2013). Therefore, it is important to consider the impact of individual differences on self-stigma, as it could be suggested that men with lower levels of education possess increased self-stigma and, therefore, may be less likely to disclose difficulties or seek support.

Gender stereotypes do not resume only to self-judgment, but they also extend to biased attitudes amongst healthcare providers, as Hammarlund and colleagues (2015) suggested. According to their findings, the preconceptions and assumptions held by nurses regarding parental gender roles affected their evaluation of paternal wellbeing and ability to detect depressive symptoms (Hammarlund, Andersson, Tenenbaum, & Sundler, 2015). These preconceptions have not been detrimental only to the provision of professional support and treatment, but also to fathers' personal experience within the healthcare system (Fägerskiöld, 2006). Previous research found that fathers tend to feel excluded and overlooked from antenatal assessments (Åsenhed, Kilstam, Alehagen, & Baggens, 2014), parental education (Johnsen et al., 2017; Fenwick et al., 2012) and postnatal medical appointments (Edhborg et al., 2016). For example, fathers have mentioned feeling overlooked in their involvement with breastfeeding support, disclosing feelings of helplessness and embarrassment due to lack of information (Brown, & Davies, 2014; Mitchell-Box & Braun, 2012). Disregarding fathers' needs and their input in childcare practices may further emphasise the stereotypical view of fathers as secondary caretakers and lower the quality of care services.

5.3. Digital behaviours of fathers and online support

Alongside the support received from family, friends and healthcare professionals, parents have increasingly started using the internet and social networking sites as parenting support tools (Plantin & Daneback, 2009). It has been proposed that new parents choose their support resources depending on their specific parental needs, thus they might orientate towards healthcare professionals for medical advice and search internet forums for encouragement or emotional guidance (Salzmann-Erikson & Eriksson, 2013). However, some fathers have been found to use online platforms for parental support as a result of feeling neglected and overlooked by medical specialists (Fletcher & St George, 2011), therefore suggesting that motivations for usage of online platforms differ amongst fathers depending on their accessibility to other types of support.

Fathers have a range of motivations for their use of online platforms, such as to gain more information and advice, learn parenting techniques, document their experiences and receive moral and emotional support from other fathers (Ammari & Schoenebeck, 2015). Fathers have been shown to use forums to communicate with other men about their concerns and uncertainties regarding childcare, to share similar experiences, make enquiries and improve their parenting knowledge (Eriksson, & Salzmann-Erikson, 2013). Other fathers undertake the role of "experts" within the forum by advising other men, displaying their competence and providing childcare-based guidance by sharing scientific articles, links to websites and book excerpts (Eriksson, & Salzmann-Erikson, 2013; Vayreda & Antaki, 2009). Additionally, fathers have been found to use blogs to document and reflect on their parental experiences, present information and opinions and discuss expectations of fatherhood (Åsenhed, Kilstam, Alehagen, & Baggens, 2014). The blogs written by fathers reveal an internal conflict that some men struggle with surrounding the concept of masculinity and the discrepancies between strength and authority or sensitivity and compassion (Åsenhed, Kilstam, Alehagen, & Baggens, 2014). An identity crisis may be described as fathers make their way through the complex stages of fatherhood, from the pregnancy stage to the postpartum period (Åsenhed, Kilstam, Alehagen, & Baggens, 2014).

In terms of the language used by fathers online, they often utilise humour, empathy and self-disclosure as a way of producing information or offering encouragement (Fletcher, & StGeorge, 2011). Self-disclosure was associated with increased trust, which contributed to

more effective support and enhanced interaction among fathers. Whilst telling stories is a preferable way of communicating among fathers, humour is a main component of it, as it maintains an informal and comfortable atmosphere and possibly reduces the tension created by the difficulties of the postnatal period (Radin, 2006). Whilst some studies report that fathers enjoy communicating with other men online about their parental concerns or experiences (Fletcher & StGeorge, 2011), other research found that fathers struggling with their mental health have a harder time speaking up (Da Costa et al., 2017). Although it appears that psychological distress may influence digital behaviours, research exploring online engagement of fathers with depressive symptoms is lacking.

It has been shown that the use of social media sites can decrease the likelihood of depression and normalise the experience of parenthood (Hall & Irvine, 2009). Social media sites have been associated with alleviated symptoms of depression, as users have the opportunity to engage with other depressed individuals, thus reducing stigma related to mental health issues (Merolli, Gray, & Martin-Sanchez, 2014). The content posted online comprises of discussions surrounding psychological distress, including depressive symptoms (Egan & Moreno, 2011; Moreno et al., 2012), self-harm or suicidal thoughts (De Choudhury, Gamon, Counts, & Horvitz, 2013). Whilst these findings were mostly based on self-reported diagnosis, it could be assumed that individuals with depression tend to feel comfortable in disclosing their symptoms online and seeking digital help from peers (Cavazos-Rehg et al., 2016). However, there is a lack of quantitative studies conducted on the fathers' use of social media sites in the postpartum period, most research focusing on digital behaviours of fathers-to-be (Oscarsson, Medin, Holmström, & Lendahls, 2018), fathers with older children (Ammari & Schoenebeck, 2015) or indirect data by analysing internet forum posts (Fletcher & St George, 2011; Salzmann-Erikson, & Eriksson, 2013). Previous research suggests that fathers who tend to attend care visits prior to childbirth are more likely to use the internet as a tool to gain support and information (Oscarsson, Medin, Holmström, & Lendahls, 2018). Thus, it could be assumed that fathers who are more involved in the parenthood experience tend to display more activity online and to have a higher exposure to digital content about parenting and fatherhood. On a similar note, it has been found that fathers who show increased parental interest during pregnancy are also more involved in the postnatal period (Redshaw & Henderson, 2013). These findings indicate a potential association between paternal involvement in the perinatal period and internet usage amongst fathers, whilst also

suggesting that internet usage in the antenatal period may be connected to postpartum paternal involvement.

Alongside the beneficial aspects of social media usage, such as connection with others (Eriksson & Salzmann-Erikson, 2013; White, Giglia, Scott, & Burns, 2018), finding information (Darwin et al., 2017) or accessible and convenient support (Fletcher & St George, 2011), a few factors have been shown to negatively affect parental mental health and the adjustment to parenthood. Online information has often been described as unreliable and confusing (Oscarsson, Medin, Holmström, & Lendahls, 2018; Moorhead et al., 2013) due to the extensive amount of content available that can be difficult to verify in terms of credibility. Moreover, although anonymity on online platforms has been linked to positive aspects, such as self-disclosure and reduced fear of judgment (Ammari & Schoenebeck, 2015), it has also been connected to bullying and negative content online (Kowalski, Giumetti, Schroeder & Lattanner, 2014). Another disadvantage of social media use is the tendency to post content that portrays inaccurate versions of self or life experiences (Michikyan, Dennis, & Subrahmanyam, 2015; Rui & Stefanone, 2013). The action of posting curated online content can lead to negative online comparisons (Coyne, McDaniel, & Stockdale, 2017).

The exposure to a false portrayal of parenthood (Shensa, Sidani, Lin, Bowman, & Primack, 2016) has been linked to increased parental guilt (Pedersen & Lupton, 2018), parental stress (Bartholomew et al., 2012), isolation (Shensa, Sidani, Lin, Bowman, & Primack, 2016) and depression (Coyne, McDaniel & Stockdale, 2017). Individuals with depression have been found to be more likely to engage in online comparisons than healthy individuals (Bäzner, Breomer, Hammelstein, & Meyer, 2006). The connection between negative online comparisons and mental wellbeing has mostly been investigated amongst a population of mothers (Coyne, McDaniel, & Stockdale, 2017), leaving the fathers' position regarding social media comparisons unclear. Still, previous research suggested that women are generally more likely to deal with detrimental psychological outcomes as a result of online social comparisons, compared to men (Chua & Chang, 2016). Finally, a further potential downside of exposure to digital networks could be the limited availability of platforms and support groups designed specifically for fathers, as most online parenting spaces have been created around motherhood and are mainly used by mothers (e.g., Johansson & Hammarén, 2014; Larsson, 2009). The lack of representation may lead to inhibition and increased vulnerability among fathers (Fletcher & StGeorge, 2011), thus

putting the entire family system under a greater risk of mental health difficulties and potential long-term complications.

5.4. Study Rationale and Aims

The literature surrounding the digital behaviours of fathers is scarce, and there is little to no research conducted on the associations between perceived support, paternal PND symptoms and the use of social media. Additionally, previous studies have not examined the availability and usage of online support resources for father with perinatal mental health issues. Due to this, the current study aimed to investigate potential differences in social media use amongst fathers with low and high levels of PPND using a quantitative methodology. Within the current research, social media sites encompassed any online platforms that involved social interactions (O'Keeffe & Clarke-Pearson, 2011). The parenthood stage analysed in this study consisted of the first 12 months of the postnatal period, as it has been linked to the highest likelihood of developing mental health issues among parents (O'Hara & McCabe, 2013). The current study aimed to investigate the potential impact and differences between low and high PPND symptoms on traditional and online perceived social support, and to examine the digital behaviours of fathers in the postnatal period, including emotional attachment and integration of social media in daily life, frequency of social media use and online comparisons.

5.5. Research questions and hypothesis

The current study addressed a number of research questions. Firstly, it was examined whether there were any differences in social media use (i.e. SMUIS, online comparisons, frequency of social media use, online support) and perceived traditional social support between fathers with low and high levels of PPND symptoms. Secondly, it was assessed whether social media use (i.e. SMUIS, online support, frequency of social media use, online comparisons) and perceived traditional support can predict risk of PPND. Third, this study investigated whether SMUIS levels can be predicted by PND risk, perceived social support, online comparisons, online support and frequency of social media use. Finally, this study explored what type of online platforms fathers use for parenting-related information or support and what the main reasons are behind their use of social media, whilst considering potential differences between fathers with low and high risk of PPND.

Based on previous research, it was hypothesised that fathers with higher levels of PPND would show decreased traditional support (Da Costa et al., 2015; Freitas et al., 2016), increased digital support, attachment to social media sites (e.g. Merolli, Gray, & Martin-Sanchez, 2014) and higher likelihood of online comparisons (Bäzner, Breomer, Hammelstein, & Meyer, 2006; Coyne, McDaniel & Stockdale, 2017). On the other hand, fathers with lower levels of PPND symptoms were expected to present increased perceived traditional support, lower engagement with social media and reduced likelihood of online comparisons.

5.6. Methodology

5.6.1. Design

A variety of analyses were conducted to investigate differences, as well as associations between variables, including independent samples T-Tests and multiple regressions. In order to assess differences between variables, a between participants design was used, as part of independent samples T-Tests, where the level of PPND risk displayed by fathers (low versus high) was considered the independent variable and variables describing digital behaviours (SMUIS, online comparisons, frequency of social media use, online support), as well as perceived social support, were considered dependent variables.. According to the EPDS (Cox et al., 1987), fathers scoring a score of ten or under entered the low risk of PPND category and the ones scoring 11 or above, entered the high risk of PPND category. A previous study conducted on a British population of new fathers justified the cut-off point of 11 of above as the most suitable when analysing fathers, more specifically when the aim is to focus solely on depressive symptoms, without calculating the signs of generalised anxiety disorder (Edmondson et al., 2010). Additional multiple regression analyses were conducted in order to investigate the predictability of the PND symptoms and SMUIS scores, on the rest of the variables.

5.6.2. Participants

The participants who took part in the study were a self-selected sample of fathers (*N*=106) who had at least one child under one year old and were aged between 22 and 49 (*M*=34.33, *SD*=5.33). The sample size was considered suitable for this study based on previous similar research (e.g., Cameron, Hunter, Sedov, & Tomfohr-Madsen, 2017; Demontigny, Girard, Lacharité, Dubeau, & Devault, 2013), as well as a G* Power analysis. A G*Power analysis was conducted after the data was collected, to calculate and confirm the appropriate sample size required when running independent-samples T-tests. The G*Power analysis revealed that, to detect at least a medium effect size, a suitable total sample size would require around 128 participants (with 80% confidence power). The participants were recruited through purposive and snowballing sampling, as the data were collected through an online survey which was advertised on various online platforms (e.g., social media sites, parenting forums). The inclusion criteria for participants recruitment was that all individuals should be over the age of 18, identify as fathers, and use social media platforms for parenting support, information or advice.

As the current research study focused on the usage of social media platforms, an item including a Yes or No question was introduced, asking the participants about whether they were using social media networks for parental support. The majority of fathers answered affirmatively (54.7%), and the rest answered negatively (45.3%). Only the participants who stated that they used social media platforms for parenting support were able to continue taking part in the rest of the study *(N*=55). It is possible that the introduction of social media use for parenting support as part of the inclusion criteria, following a Yes/No item confirming their eligibility, led to the reduction in sample size for this study. This suggests that the inclusion criteria were not sufficiently clear during the recruitment process, resulting in participants accepting to take part in the study although they had not used social media as a parenting support platform. This practical issue was acknowledged and identified as a potential explanation for the small sample size in Study Three. A suggestion for future studies would be to consider the necessity of adding a Yes/No item assessing participants' eligibility at the beginning of the survey, as this could lead to potential issues in sample size, and it could be irrelevant if the inclusion and exclusion criteria are sufficiently clear.

The demographic information of the entire sample was categorised based on participants' responses on the Yes/No question regarding their use of social media for parenting information or support. The demographic characteristics for each group (Social Media Users versus Non-Social Media Users) can be seen in Table 5.1.

Table 5. 1

Sociodemographic Characteristics of Fathers, Separated Based on Use of Social Media for Parenting Support, Information or Advice

Variables	Social media users		Non-Social Media Users		Full sample	
	N	*%*	*N*	*%*	*N*	*%*
Ethnicity						
White	50	86.2	42	87.5	92	86.8
Black	-	-	-	-	-	-
Asian	5	8.6	2	4.2	7	6.6
Mixed	2	3.4	3	6.3	5	4.7
Other	1	1.7	1	2.1	2	1.9
Marital Status						
Married	51	87.9	40	83.3	91	85.8
Divorced/Separated	1	1.7	1	2.1	2	1.9
Widower	-	-	1	2.1	1	.9
Single	2	3.4	4	8.3	6	5.7
Other	4	6.9	2	4.2	6	5.7
Education						
Primary school or	-	-	1	2.1	1	.9
less	2	3.4	1	2.1	3	2.8
Some high school	5	8.6	10	20.8	15	14.2
Completed high	5	8.6	4	8.3	9	8.5
school	28	48.3	20	41.7	48	45.3
Technical college	18	31	12	25	30	28.3
University degree						
Postgraduate degree						
Employment						
Working full-time	50	86.2	41	85.4	91	85.8
Working part-time	3	5.2	4	8.3	7	6.6

Variables	Social media users		Non-Social Media Users		Full sample	
	N	*%*	*N*	*%*	*N*	*%*
Not working	1	1.7	2	4.2	3	2.8
Other	4	6.9	1	2.1	5	4.7
Number of children						
One	30	51.7	24	50	54	50.9
Two-Three	28	48.3	19	39.6	47	44.3
More than three	-	-	5	10.4	5	4.7
Age of youngest child						
Under three months	19	32.8	13	27.1	32	30.2
Three-six months	11	19	8	16.7	19	17.9
Six-twelve months	28	48.3	27	56.3	55	51.9
Gender of youngest child						
Male	34	58.6	25	52.1	59	55.7
Female	24	41.4	23	47.9	47	44.3
PPND diagnosis	5	8.6	4	8.3	9	8.5
Partner PND diagnosis	8	13.8	7	14.6	15	14.2
Previous mental health issues[i]	25	43.1	20	41.7	45	42.5

Note. N= 106 (*n*=58 for Social Media Users group, *n*=48 for Non-Social Media Users group).
[1] Reflects the number and percentage of participants who answered "yes" to the specific question.

5.6.3. Materials

The materials of this study included a Participants Information Sheet and Consent Form that allowed participants to offer their informed consent before taking part in the study. Self-reported questionnaires were also used and they assessed postnatal depressive symptoms (EPDS; Cox et al., 1987), emotional attachment to social media and integration of social media in daily life (SMUIS; Jenkins-Guarnieri, Wright, & Johnson, 2013) perceived social

support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988), as well as frequency of social media use (McDougall et al., 2016), online social comparisons (Coyne, McDaniel, & Stockdale, 2017) and perceived online social support (Zimet, Dahlem, Zimet, & Farley, 1988). Frequency of social media use was measured using one item that included three categories, namely "Weekly", "Once a day" and "Several times a day". Likelihood of online comparisons was measured using a single item rated on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Perceived online support was assessed using a four items scale based on the MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988), rated on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree", including items, such as "I gain a lot of support from friends and others online". The items referring to frequency of social media use, online comparisons and digital support were included in this study due to their association with parenting behaviours online, as well as postnatal depressive symptoms (e.g., Coyne, McDaniel, & Stockdale, 2017). Additionally, participants had to complete a questionnaire about general demographic and familial information (e.g., number of children, age and gender of children, status of maternal and paternal PND diagnosis) and were presented with debriefing information at the end of the study.

The **Edinburgh Postnatal Depression Scale** (EPDS; Cox et al., 1987) was used to measure the level of PND symptoms. The EPDS is one of the most often used self-reported screening tools for postpartum depression and although it cannot provide a diagnosis, it has been described as a reliable and convenient screening device (Cox et al., 1987; Yonkers et al., 2001). Even though the EPDS has commonly been used amongst mothers, it has been shown that it is a sensible and useful screening device for fathers as well (Edmondson et al., 2010). It has been suggested that in order to present effective and valid outcomes, an appropriate cut-off score to differentiate between the low and high scores of PPND symptoms for fathers would be a number greater than 10 (Edmondson et al., 2010).The questionnaire included 10 items (e.g. "I have been so unhappy that I have been crying"), rated on a four-point Likert scale, ranging from "not at all"(0) to "most of the time"(3), with the highest score indicating increased risk of postnatal depression (Cox et al., 1987). It has been shown that the EPDS screening tool has good construct validity and internal consistency when utilized in internet research. Due to these factors, the EPDS represented the most appropriate tool to be used for measuring depressive symptoms in fathers within this study. The internal consistency of the EPDS for the current sample was high $\alpha = .90$.

As social media usage was one of the main focuses of the current study, this was measured using the **Social Media Use Integration Scale** (SMUIS; Jenkins-Guarnieri, Wright, & Johnson, 2013). The SMUIS examined the integration of social media use in daily behaviours and routines, as well as the emotional involvement attributed to it and it was formed of two subscales, namely Social Integration and Emotional Connection and Integration into Social Routines. The self-reported questionnaire constituted of 10 items (e.g., ”Social media plays an important role in my social relationships”), scored on a six-point Likert scale, ranging from “strongly disagree” (1) to “strongly agree” (6). The scale demonstrated adequate internal consistency and validity and strong test-retest reliability (Jenkins-Guarnieri, Wright, & Johnson, 2013). Based on the current sample, Cronbach’s α was found to be .88.

An additional measuring tool used in this quantitative research was the **Multidimensional Scale of Perceived Social Support** (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). The scale was developed to measure the perceived sense of support received from three sources, namely family, friends and significant other and it consisted of 12 items (e.g. “I get the emotional help and support I need from my family”). The items were rated on a seven-point Likert scale, ranging from “very strongly disagree” (1) to “very strongly agree” (7); they were divided in three subscales represented by the sources of support mentioned previously (Hannan, Alce, & Astros, 2016). This scale was introduced in the current study due to social support being defined as a major protective factor during the postpartum period, especially for parents with depression (Haslam et al., 2013). Additionally, social support has been increasingly associated with social media in previous research (Lupton, 2016). The internal consistency of the overall scale for the current sample was α= .91.

In order to explore the digital behaviours of fathers in more detail, two more items were included, namely a multiple response question assessing the most used online platform for parenting support, information or advice from a list of commonly known online networks (e.g. “Facebook”, “Twitter”, “Parenting forums”) and a multiple response question assessing the motives for their use of social platforms in regards to parenting (e.g. “Get general parenting advice”, “Opportunity to vent/share difficulties”). The format of these items was based on the variables used in a previous study that examined use of social media as a support tool for parents (Haslam, Tee & Baker, 2017).

5.6.4. Procedure

The study was conducted using an online survey tool named Qualtrics. The research project was advertised along with the link to the questionnaire on different online platforms, such as social media (e.g., Facebook, Twitter) or parenting forums (e.g., Dads Unlimited) or shared through word-of-mouth. Fathers were able to open the link, read the participant information sheet and consent form and voluntarily decide if they wanted to offer their informed consent and take part in the study. The online survey tool provided the option to exit the link and re-open it and continue at a later time if they were not able to complete it all at once; they had one week available to return to the study and finalise the questionnaires. In order to ensure that the participants were suitable for the current study, a "Yes or No" question was included following the demographics section, enquiring about the use of social media for parental support. The participants who stated that they used social media for parental support, information or advice were able to finalise the rest of the survey, and the participants who responded negatively were directed towards the end of the survey. The duration of the study was expected to be between 15-20 minutes. After completing the scales, some debriefing information was displayed which informed the participants about the topic, hypothesis and aims of the study, along with contact details of support services. A link to a separate Qualtrics page was available to allow fathers who were interested in taking part in the qualitative part of the research to provide their contact details. The personal information of the fathers who were interested in the second part of the research could not be traced back to their answers from the current study.

5.7. Results

The findings of the current study showed that the level of PPND risk (low versus high) had an impact on some digital behaviours and perceived social support. As it can be noticed in Table 5.2, the participants were separated into two groups, based on whether they reported a low (<=10) or high risk (11+) level of PPND. The level of PPND symptoms was

classed as the independent variable and the dependent variables were the scores for emotional attachment and integration of social media sites in daily life (SMUIS), perceived social support, perceived online social support, frequency of social media use and online comparisons.

Table 5. 2

Means, Standard Deviations and Significant Values based on Independent Sample T-Tests for the Scores of Self-Reported Scales and Single Items for the Groups of Low Risk of PPND (<=10) and High Risk of PPND (11+)

		N	*M*	*SD*	*p (sig)*
Utilisation and Integration of Social Media Sites	<=10	34	35.71	10.25	.778
	11+	21	36.48	9.05	
Perceived Social Support	<=10	35	5.81	.84	<.001
	11+	21	4.08	1.08	
Perceived Online Social Support	<=10	34	2.51	.80	.004
	11+	21	3.20	.90	
Frequency of Social Media Use	<=10	34	2.59	.66	.446
	11+	21	2.71	.46	
Online Comparisons	<=10	34	2.44	1.19	.032
	11+	21	3.19	1.28	

Note: n= number of participants from each group, M= mean, SD= standard deviation, p= significance value based on independent samples T-test

The data were normally distributed. The skewness and kurtosis levels were within acceptable levels and the assumptions of homogeneity were met, as equal variances could be assumed (see Appendix P for full SPSS output). As a result of this, an independent samples T-test was run.

An independent samples t-test was conducted to compare the behaviours involving the emotional attachment and integration of social media sites in daily life (SMUIS), perceived social support, perceived online support, frequency of social media usage and online comparisons for two groups formed of participants with lower risk of PPND (*n*=34) and participants with higher risk of PPND (*n*=21).There were significant differences in the level of PPND risk and perceived social support, perceived online support and online comparisons. Participants from the low risk of PPND group presented higher levels of perceived social support [*M*=5.81, *SD*=.84,] than those in the high risk PPND group [*M*=4.08, *SD*=1.08, *t*(54)=6.73, *p*<.001], with a large effect size *r*=.68. Moreover, the low risk PPND group presented lower levels of perceived online support [*M*=2.51, *SD*=.80], compared to the high risk PPND group which showed elevated scores of perceived online support [*M*=3.20, *SD*=.90, *t*(53)=2.99, *p*=.004] and it presented a medium effect size *r*=.38.

Additionally, the scores for engagement in online comparisons were lower for the low risk PPND group (*M*=2.44, *SD*=1.19) and higher for the high risk PPND group [*M*=3.19, *SD*=1.29, *t*(53)=2.20, *p*=.032], with a medium effect size *r*=.29.. However, there were no significant differences in level of PND risk for SMUIS [*M*=35.71, *SD*=10.25 versus *M*=36.48, *SD*=9.05; *t*(53)=.28, *p*=.778] and frequency of social media usage [*M*=2.59, *SD*=.66 versus *M*=2.71, *SD*=.46; *t*(53)=.77, *p*=.446].

As the frequency of social media use variable could also be interpretated as a categorical variable, an alternative chi-square test was conducted to assess any associations between frequency in social media use and the PPND risk levels (low versus high) (see Appendix P for full SPSS output). The results further confirmed that there was no statistically significant difference in frequency of social media usage between participants with low and high risk of PPND, X^2 (2, N=55)= 2.009, *p*=.366.

Additionally, a multilinear regression was run to predict the variability in postnatal depression symptoms (*M*=10.70; *SD*=6.01) using SMUIS (*M*=36; *SD*=9.73), perceived social support (*M*=5.16; *SD*=1.25), perceived social support online (*M*=2.77; *SD*=.90), frequency of social media use (*M*=2.64; *SD*=.59) and online comparisons (*M*=2.73; *SD*=1.27). A set of demographic variables were added to the multiple regression analysis as potential confounding variables, namely age, ethnicity, marital status, education level, employment status, number of children, PPND diagnosis status, PND diagnosis status of partner and previous history of mental health issues.

The assumptions related to multicollinearity were met. Together, the predictor variables explained 61.1% (Adjusted R^2=.611) of the variance in postnatal depression scores, when the confounding variables were controlled for. The confounding variables account for 19.1% (Adjusted R^2=.191) of the variance in the outcome. The overall association between the predictor variables and the dependent variable was significant, $F(14, 54)= 7.05$, $p<.001$. Only perceived social support (b=-.704, $p<.001$) out of all predictor variables, displayed a statistically significant association with postnatal depression scores. Perceived social support also made the strongest unique contribution to explaining PND scores, when the variance explained by all other variables in the model was controlled for. Perceived social support made a negative contribution to the equation, thus, this result indicated that an increase in perceived social support would predict a decrease in postnatal depression levels. SMUIS, perceived online social support, frequency of social media use and online comparisons did not make a statistically significant contribution to the prediction of postnatal depression scores. None of the controlled (confounding) variables made a statistically significant contribution to the model.

A second multilinear regression was run to predict the variability in scores for the integration of social media use in daily routines of users and attachment to social networking platforms (M=36; SD=9.73) using postnatal depression scores (M=10.70; SD=6.01), perceived social support (M=5.16; SD=1.25), perceived online social support (M=2.77; SD=.90), frequency of social media use (M=2.64; SD=.59) and online comparisons (M=2.73; SD=1.27). The same controlled (confounding) variables were used for this analysis.

The assumptions related to multicollinearity were met. Together, the predictor variables explained 29.7% (Adjusted R^2=.297) of the variance in SMUIS. The overall association between the predictor variables and the scores for SMUIS was significant, F (9, 54)= 2.63, p=.008, when the controlled (confounding) variables were accounted for. Three of the predictor variables, namely perceived online support (b= .33; p=.020), frequency of social media use (b=.35; p=.012) and online comparisons (b=.41; p=.004), displayed a positive and statistically significant association with SMUIS. It can be noticed that frequency of social media use made the strongest unique contribution to explaining social media use, when the variance explained by all other variables in the model was controlled for. These results showed that an increase in perceived online social support, frequency of social media use and online comparisons predicted higher scores of SMUIS. Perceived social support and postnatal depression scores did not make a statistically significant unique contribution to the

prediction of integration of social media use in daily routines of users and attachment to social networking platforms. None of the demographic variiables made a statistically significant contribution to the model.

The findings indicated that, for this sample, the level of postnatal depression experienced by fathers (low versus high) was not influenced by the role that social media networks played in their daily routines (SMUIS) or the digital behaviours that they display online (e.g., usage frequency or online comparisons), but rather by the perceived social support received from family and friends and significant others. Moreover, results showed that levels of utilisation and integration of social media sites in daily life (SMUIS) were mostly predicted by other digital behaviours, such as perceived online support, frequency of usage or online comparisons, whilst levels of PND and perceived support from family and friends did not pose a significant influence.

The relationships between the variables can be observed in Table 5.3 which shows a Pearson correlation between SMUIS scores, PPND scores, perceived social support, perceived online support, frequency of social media use and online comparisons. As presented by the T-tests and multiple regressions, it can also be noticed that there was a medium to large, positive correlation between SMUIS scores, perceived online support (r=.38) and frequency of social media use (r=36). Similarly, as confirmed by previous analyses, there was a large, negative correlation between PPND scores and perceived social support (r=-.78). Although there were no statistically significant associations between these variables, frequency of social media use was positively correlated with PPND scores (r-.10), and negatively correlated with perceived social support (r=-.07), although the strength of the relationships was small. There also appears to be a negative, small correlation between online comparisons and perceived social support (r=-.17), albeit the association was not statistically significant.

Table 5.3

Pearson Correlation between SMUIS Scores, PPND Scores, Perceived Social Support, Perceived Online Support, Frequency of Social Media Use and Online Comparisons

	SMUIS	PPND score	Perceived social support	Perceived online support	Frequency of social media use	Online comparisons
SMUIS	1.00	-.02	-.003	.38*	.36*	.29*
PPND score	-.02	1.00	-.78**	.27	.10	.26
Perceived social support	-.003	-.78**	1.00	-.19	-.07	-.17
Perceived online support	.38*	.27	-.19	1.00	.15	.10
Frequency of social media use	.36*	.10	-.07	.15	1.00	-.09
Online comparisons	.29*	.26	-.17	.10	-.09	1.00
Total N	55	56	56	55	55	55

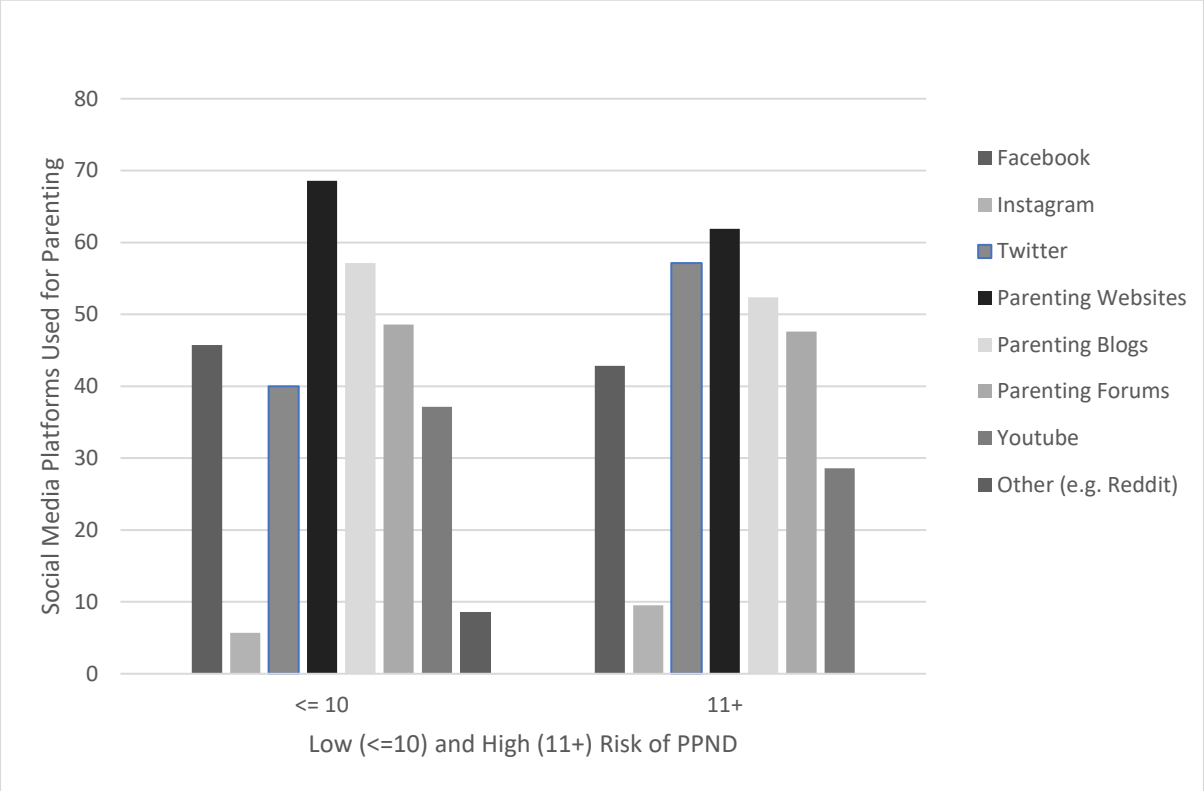
*Note. Significance levels are represented by *p<.05 and **p<.001*

Moreover, frequencies for two multiple-response set variables (i.e. social media platforms; reasons for using social media in a parenting context) were produced and compared based on the level of PPND risk (low versus high). As it can be noticed in Figure 5.1, it was suggested that the most utilised online platforms within a parenting context amongst the fathers of this sample were parenting websites, parenting blogs and parenting forums. The less utilised social platform appeared to be Instagram for both groups. A few differences were present, as it was proposed that fathers who were at a higher risk of PPND would be more likely to use Twitter as a platform for parenting support (57.1%), compared to fathers who were at a lower risk of PPND (40%). Percentages were based on the total score for each group, the low PPND risk group had more participants (N=35) than the high PPND

risk group (N=21), hence why the percentages did not add up to a hundred percent. Additionally, it was suggested that the fathers from the low risk PPND group might be more interested in using platforms additional to the ones mentioned in the multiple response item, such as Reddit (8.6%), in comparison to the high risk PPND group, where the participants have only selected the platforms mentioned in the item.

Figure 5. 1

A Presentation of Multiple Choice Responses on the Type of Online Platforms Used for Parental Support, Split Into Two Groups Based on Risk of Paternal PND (Low <=10; High 11+)

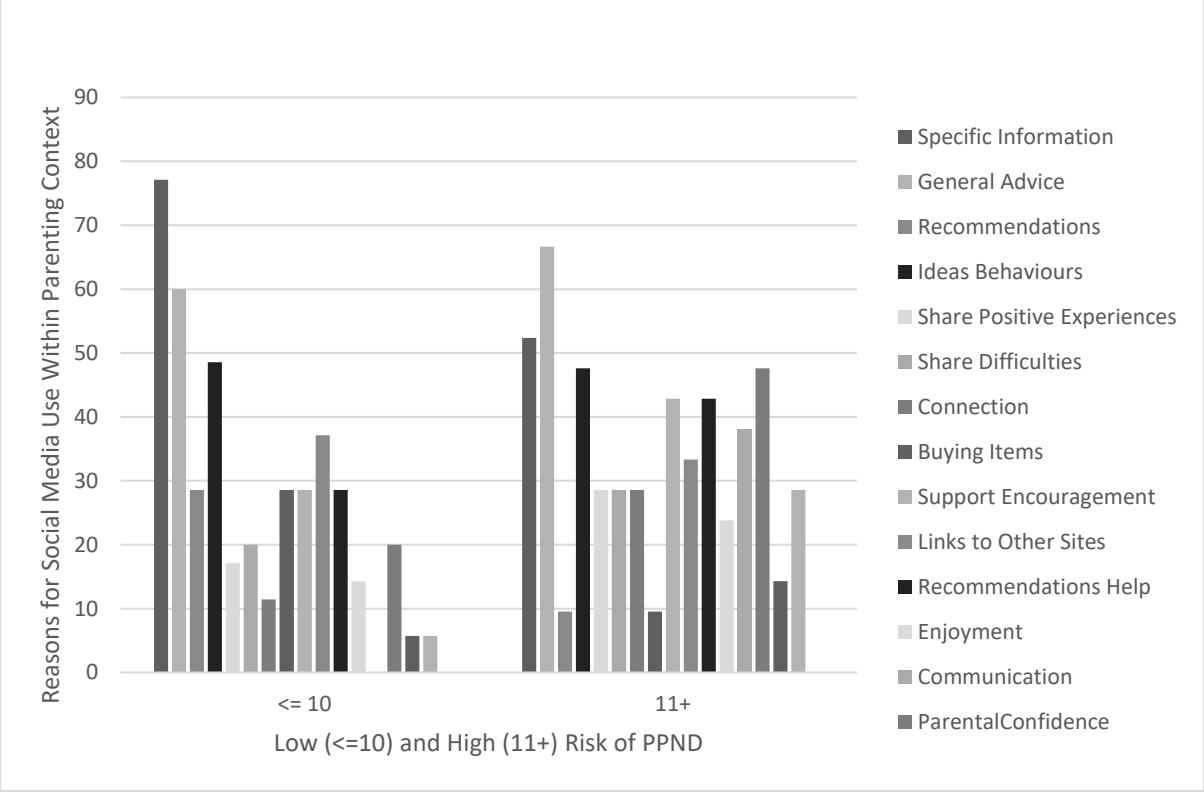


In terms of the reasons for using social media platforms amongst fathers with low and high-risk levels of PPND, the information found in Figure 5.2 suggested a number of discrepancies across the two groups. Firstly, it appeared that the most selected reason for using social media in the low-risk PPND group was the search for specific parenting information (77.1%), whilst the fathers in the high-risk PPND group seemed interested mostly in receiving general parenting advice (66.7%). Furthermore, it was suggested that the

respondents in the high-risk PPND group appeared more likely to use social media networks as a way to increase their parental confidence (47.7%) and as a distraction from daily responsibilities (28.6%), in comparison to the low-risk PPND group where it seemed that less fathers have selected these factors as motives for social media usage. In addition, it was proposed that, within the current sample, only the fathers in the high-risk PPND group were interested in communicating with other adults as a reason for their social media usage (38.1%), as none of the low PPND risk participants chose this option

Figure 5. 2

A Presentation of Multiple-Choice Responses on the Reasons for Using Online Platforms within a Parenting Context, Split Into Two Groups Based on Risk of Paternal PND (Low- <=10; High- 11+)



5.8. Discussion

The current study aimed to address the gap in the literature regarding the use of social media (i.e., SMUIS levels, online comparisons, frequency of social media use, perceived online support) amongst fathers in the first year of the postnatal period, whilst focusing on the impact of postnatal depressive symptoms and perceived social support.

Results showed that there were significant differences in perceived traditional and online support and online comparisons between fathers with low and high risk of PPND symptoms. Consistent with the literature, this study found that participants in the category of lower risk of PPND felt more supported by family, friends or significant others, compared to the participants with higher risk of PPND who showed lower perceived social support (e.g., Boyce et al., 2007; Condon et al., 2004). The results also showed that the levels of perceived social support made a negative contribution in predicting PPND scores, with lower scores in perceived social support predicting higher PPND symptoms. This finding is in accordance with previous studies which have described the romantic relationship as a substantial part of the support system available to fathers (Freitas et al., 2016), connection considered to be particularly influential for men's adjustment to the postnatal stage, especially in the context of professional support or interventions (Wittenborn et al., 2012). The importance of a harmonious relationship between fathers and their partners in relation to mental health is supported by past literature, which determined strong associations between symptoms of paternal PND and maternal PND (Wee et al., 2011). More importantly, this result reinforced the relevance of social support in the postnatal period, as it has been found to play an essential role in protecting the psychological wellbeing of parents and promoting coping mechanisms (Freitas et al., 2016; Xie, He, Koszycki, Walker, & Wen, 2009).

In terms of digital behaviours, the results showed significant differences in digital support and online comparisons between fathers with low and high risk of PPND symptoms. More specifically, the fathers with low risk of PPND presented lower levels of digital support and reduced likelihood of engaging in online comparisons, compared with fathers with high risk of PPND who reported feeling more supported by the online community and more inclined to compare themselves with others online. The lower scores in perceived online support amongst the fathers with low levels of PPND may be explained by their high levels of perceived traditional support, which could suggest that the use of online platforms for further information or advice became unnecessary. An additional reason for the low levels of perceived online support amongst the fathers with low PPND symptoms could be the lack of

credibility or validity associated with digital information (Oscarsson, Medin, Holmström, & Lendahls, 2018).

On the other hand, fathers with higher levels of PPND symptoms reported increased engagement with online support compared with fathers with low levels of PPND. This could be related to the anonymity and elevated comfort provided by online platforms (Kauer, Mangan, & Sanci, 2014), which may encourage disclosure amongst depressed parents who struggle with feelings of guilt and shame (Robertson et al., 2004), A further explanation for the higher levels of online support showed by the fathers with high risk of PPND compared with the low PPND risk group could be the struggles with loneliness, factor associated with the early postnatal period and the risk of depression in parents (Habel, Feeley, Hayton, Bell, & Zelkowitz, 2015). Online support groups and parenting forums have been described as a suitable space to interact with others, build relationships (Kaufmann & Buckner, 2014) and prevent isolation (Rice et al., 2014), attributes greatly beneficial for vulnerable parents. Additionally, in accordance with previous studies, the current findings suggest that fathers who were at a higher risk of PND were also deficient of traditional social support (Da Costa et al., 2015), which may explain their inclination towards online support as an alternative source of help.

Another important finding was the difference in online comparisons amongst fathers with low and higher risk of PPND. The results of this study suggested that fathers with increased levels of PPND symptoms were more likely to engage in online comparisons, than fathers with low levels of PPND. This result is supported by previous findings of Bäzner, Breomer, Hammelstein, and Meyer (2006) who discovered that depressed individuals have a heightened tendency to participate in harmful behaviours online, such as negative comparisons or excessive internet usage. Parents have previously reported that a downside of social media use is the false portrayal of parenthood that comes across in online posts (Rui & Stefanone, 2013). The exposure to curated online posts that present only the positive side of parenthood may influence parents to doubt or question their caring knowledge and abilities, as they engage in negative comparisons (Lee, 2014); this behaviour has been associated with increased risk of developing depression (Coyne, McDaniel & Stockdale, 2017). Thus, partaking in negative online comparisons may affect healthy, as well as depressed parents. Nevertheless, this finding is in contradiction with previous research which has shown that men are generally less likely to be negatively affected by online comparisons, compared to women (Chua & Chang, 2016). Although differences in digital behaviours and traditional

support were found between the two groups (low versus high levels of PPND), the scores in PPND symptoms were not influenced by the attachment to social media and integration in daily routines (SMUIS), online support, frequency in social media use or online comparisons.

Moreover, it was found that scores in online support, frequency of social media usage and online comparisons made a positive contribution in predicting attachment to social media and integration in daily routines (SMUIS). In other words, the findings suggested that participants who had a higher emotional attachment to social media were inclined to use social networking sites more frequently, to display increased perceived online support and to compare themselves online. This may be linked to attitudes towards technology, as it has been shown that individuals with a positive view towards digital platforms may engage with the internet more frequently (Horrigan, 2007). Further, this result is similar to previous research which proposed that high frequency of social media use was correlated to high likelihood of online comparisons (Chou & Edge, 2012). The current study also indicated that the SMUIS levels and the frequency of social media usage were not influenced by the PPND symptoms. This result is contradictory to previous studies which suggested that prolonged use of social media increases the exposure to harmful online content and the likelihood of damaging online behaviours, thus elevating the risk of mental health conditions, such as postnatal depression (Andreassen et al., 2016).

The descriptive findings of this study suggested potential differences in the types of platforms preferred amongst fathers with low and high levels of PPND symptoms. Although Facebook has generally been described as one of the most popular social networking sites among parents (Lupton & Pedersen, 2016), the current results indicated that the fathers of this sample preferred platforms such as Twitter, parenting websites, blogs and forums for parenting support. Parenting websites and discussion forums provide advice and information, as well as the opportunity to converse with other parents (e.g., Chen et al. 2014; Johnson, 2015), which may explain these potential findings. The social media site named Twitter appeared to be favoured by the fathers with higher risk of PPND; this may be associated with the type of platform and its characteristics, as Twitter focuses on textual posts, rather than pictures which are more commonly found on Facebook or Instagram.

The descriptive findings further suggested potential differences in the motives related to use of social media amongst fathers with low and high levels of PPND symptoms. It appears that the low-risk PPND group were more likely to use online platforms to search for specific parenting information, whilst the high-risk PPND group seemed more interested in

looking for general parenting advice. It may be that fathers with higher symptoms of PPND seemed more involved in seeking parental advice due to increased need for a more subjective approach that would offer experience-based support (Eriksson, & Salzmann-Erikson, 2013). On the other hand, it was suggested that the participants with lower symptoms of PPND, who were experiencing less psychological distress, were mostly looking to expand their parental knowledge through information. This is in accordance with previous research which proposed that well-adjusted parents may orientate towards general parenting website, or they may choose not to actively engage with the online community, but rather to read or observe, which has been described as "lurking" (Choi et al., 2017).

Secondly, it was proposed that the participants with a higher risk of PPND would be more likely to use social media as a way to improve their parental confidence and distract themselves from responsibilities, compared to the low-risk PPND group, where it seemed that there were less participants who opted for these motives. As postnatal depressive symptoms may negatively affect one's self-esteem (Koh et al., 2014) and sense of self-efficacy regarding their parental knowledge and abilities, it may be expected that vulnerable parents would use social media with the intention of elevating their confidence by searching for encouragement and reassurance. The use of social media as a distraction amongst the participants with higher risk of PPND may be explained by previous literature which stated that parents with depression who feel overwhelmed about their parental role and daily responsibilities may use social media as an escapism or coping mechanism (Pedersen & Lupton, 2018). Whilst the use of social media as a distraction during difficult moments may benefit parents who are struggling (Pedersen & Lupton, 2018), it has been found that a prolonged, mindless usage of online platforms may also induce symptoms of depression or anxiety (Primack et al., 2017).

Finally, the current findings proposed that out of the two groups, only the fathers from the high-risk PPND group have indicated to use social media platforms to communicate with other adults throughout the day. Though surprising, past research has displayed similar findings, that parents who struggle with PND symptoms can feel particularly lonely and isolated during the postnatal period (Habel, Feeley, Hayton, Bell, & Zelkowitz, 2015), perhaps due to the stigmatised nature of depressive symptoms (Goodman, 2009). Although these descriptive figures implied that there might be differences in social media usage among fathers with low and high levels of PPND symptoms, it is important to acknowledge that in order to present concrete claims with a statistical significance, further data collection and analysis are necessary. Online communication via social media platforms has been

considered particularly accessible and convenient (Smith et al., 2012), thus providing vulnerable parents an easy way to interact and socialise with others, regardless of geographical distance or time of the day, as night-time support is extremely valuable to parents and mostly accessible on the internet (Hjalmhult & Lomborg, 2012). In addition to that, online platforms increase the chances of meeting other parents who are struggling with similar mental health issues, as there are specific support groups that are based on numerous health conditions or lifestyle situations (e.g., "PND support group", "Single mums support group").

5.8.1. Strengths and limitations

The current study is an important piece of research, as it has contributed to the sparse existing literature regarding experiences of fathers in the postnatal period. To our knowledge, this is the first study to examine the relationship between postnatal depressive symptoms and digital behaviours amongst fathers within the first year postpartum. This research study included a few limitations, such as the small sample of participants and the reduced ethnic diversity. These downsides have occurred due to the timeframe constraints associated with the PhD programme, as well as the particularities of the sample. It has been shown that men are less likely to participate or be involved in research (Markanday, Brennan, Gould, & Pasco, 2013) or parenting programs, compared to women (Panter-Brick et al., 2014), thus delaying the recruitment process and resulting in a reduced sample. Some barriers that have been described as motives for the limited participation rates of men, or fathers, in clinical studies or parenting courses, are lack of time (Markanday, Brennan, Gould, & Pasco, 2013) or work commitments (Tully et al., 2017). These factors could be relevant to the current sample, as the fathers recruited were in the period of adjustment to the care of a new baby (up to one year old), as well as dealing with paternity leave or returning to work, situations that may cause additional stress or limited free time. Despite these limitations, there were intensive attempts at recruiting a diverse sample of fathers, by accessing various recruitment sources and locations.

Acknowledgment of ethnicity and cultural differences is particularly important within research focused on perinatal mental health, as previous literature has highlighted increased maternal morbidity rates after childbirth amongst ethnic minorities in contrast with the majority (e.g. Howell, 2020; Lindquist, Knight, & Kurinczuk, 2013); however, little to no research has been conducted on cultural differences in postnatal experiences amongst fathers.

In addition to this, a past study that examined the ethnic discrepancies in depression rates among multiple European countries, reported that ethnic minorities and immigrants tend to be at a higher risk of depressive symptoms (Missinne & Bracke, 2012). Due to this, it is essential for further considerations to be taken in aspects such as racial bias, systematic racism (Attanasio & Hardeman, 2019) or health inequalities when examining mental health experiences within an ethnically diverse population. Alongside the need of a more diverse sample, another recommendation for future research would be to include participants who have had an official diagnosis of PPND, in order to achieve a more precise outlook on the effects of this condition and to examine the potential bidirectional relationship between PPND and online engagement.

5.8.2. Implications and Conclusion

This research study has clinical implications, as the information extracted from these findings could be utilised as part of training, workshops or perinatal assessments for health professionals and organisations that intend to support fathers in the postnatal period, specifically with mental health issues such as PPND. Thus, health practitioners and perinatal workers would be able to ensure equal assistance and resources for both mothers and fathers, and to take into consideration the distinctive experiences regarding the transition to parenthood and mental health challenges that men and women go through after childbirth. Additionally, the current findings may be utilised in informing healthcare providers about the online behaviours of fathers and the impact of social media on the paternal mental health during adjustment to fatherhood. In terms of digital behaviours, these findings may be applied to the development or improvement of existent platforms, such as websites or forums that could include evidence-based information and advice regarding PPND, as well as access to chat functions or online interactions with healthcare professionals. In this way, all parents could receive the support most suitable for their needs and preferences. This addition may increase the likelihood of fathers speaking up during difficult moments, as mental health stigma around PPND would be reduced, and the potential psychological distress caused by lack of support would be prevented.

To conclude, this quantitative study established an introductory view into the potential impact of paternal postnatal depressive symptoms on digital behaviours, whilst reinforcing the importance of a support network on paternal mental health during the postnatal period. A notable aspect of this research was the focus on the challenges and influences of the early

postnatal period amongst fathers, a population group which has been previously overlooked in research. All in all, this study identified important empirical and clinical implications that are expected to lay the groundwork for future research into the field of paternal mental health in association with digital behaviours, as well as improve healthcare services and promote inclusive treatment.

This study conducted on a population of fathers found that there are associations between paternal mental health, perceived social support and digital behaviours. It is important to further explore the motivations and causes behind these associations, for instance, it is essential to discover the reasons that may motivate fathers with higher risk of postnatal mental health issues to be more likely to engage with online support, rather than tradition support. The association between risk of paternal mental illness and online comparisons was also considered a novel finding, however the analysis employed in the current study was not equipped to delve into the underlying motives linked to this associations. Therefore, the next chapter presents a qualitative exploration of the early postnatal period amongst a sample of fathers, assessing personal experiences related to the transition to fatherhood, father-baby bond, access to support and digital behaviours related to parenthood.

Chapter Six: Study Four: A qualitative exploration of fatherhood and digital behaviours of fathers in the first year postpartum

6.1. Transition into fatherhood

Fatherhood has been described as an emotionally charged experience (Shorey, Dennis, Bridge, Chong, Holroyd, & He, 2017), associated with multiple changes on a psychological, biological, social and behavioural level. Previous research findings are mixed, with some reporting positive outcomes, whilst others suggesting that the transition to fatherhood could have harmful effects on men's health.

On one hand, undertaking the paternal role has been shown to increase the sense of purpose and meaning (Goodman, 2005), reduce work-related stress (Haar & Bardoel, 2008), elevate responsibility (Garfield et al., 2010) or decrease the risk of cardiovascular illnesses (Eisenberg et al., 2011), factors which can lead to heightened life satisfaction (Nelson et al., 2013). On the other hand, some studies have linked the transition to fatherhood to increased likelihood of obesity or cardiovascular disease (Umberson et al., 2011), as well as sleep disruptions (Hagen, Mirer, Palta, & Peppard, 2013), marital issues (Twenge et al., 2003), financial instability (Fenwick et al., 2012) or higher vulnerability to mood disorders, such as depression or anxiety (Paulson & Bazemore, 2010).

Some possible explanations for the mixed findings regarding the impact of fatherhood on physical health might be linked to dissimilarities in sample characteristics, such as age differences. The study that identified fatherhood as a risk factor for weight gain and cardiovascular disease used participants with ages between 24 and 96 years old (Umberson et al., 2011), whilst the study that suggested fatherhood lowers the risk of cardiovascular conditions used a sample of men between the ages of 50 and 71 years old (Eisenberg et al., 2011). Moreover, both studies initiated the data collection over 20 years ago, therefore the findings may not be applicable to the current times, highlighting a need for updated research on the impact of parenthood on physical health amongst men. Additionally, the UK government policy around parental leave has changed, with the shared parental leave (SPL) being introduced in 2015, element which has modified fathers' involvement within the family

dynamic, and therefore their transition and adjustment to fatherhood (Norman, 2017). A recent longitudinal qualitative study that explored the experiences of 25 fathers who undertook shared parental leave, identified that this participating in this initiative motivated fathers to challenge traditional gendered expectations, prioritise childcare, and promote and encourage an overall autonomous and equal family environment (Banister & Kerrane, 2022).

Prior research has shown that some fathers tend to be highly interested in engaging with childrearing duties and infant bonding (Genesoni & Tallandini, 2009) and they are considered an important source of support for mothers (Persson & Dykes, 2002). A close father-infant relationship has been found to positively influence the cognitive, emotional and behavioural development of infants (Lindsey, 2014) and to have a buffering effect against the potential consequences of maternal postnatal depression (Gere et al., 2013). Contrarily, a dysfunctional father-baby bond, sometimes caused by paternal postnatal depression (PPND), was shown to have adverse effects on the child's wellbeing (Ramchandani et al., 2008).

Fathers often report feeling frustrated or confused about their role (Shorey et al., 2017; Steen et al., 2012), due to aspects such as lack of knowledge (Steen et al., 2012; Widarsson et al., 2015), reduced access to support (Premberg, Carlsson, Hellström, & Berg, 2011; Shorey et al., 2017) or work commitments (Allport et al., 2018). Some fathers have also displayed feelings of detachment from reality and a sense of surrealism when thinking of their transition to fatherhood and meeting their baby (e.g., Genesoni & Tallandini, 2009; Shorey et al., 2017), suggesting a difficulty in comprehending the novelty of childbirth. Lamb and colleagues (1987) suggested that there are four main factors that could influence the level of father engagement, namely motivation, self-efficacy, social support and health policies (e.g., parental leave).

Parental motivation has been found to be connected to parental efficacy, which refers to the levels of self-confidence that a parent has about their skills and abilities necessary to successfully perform parental duties (Bloomfield et al., 2005); however, this relationship has not received much attention in past research conducted with fathers. Parental self-efficacy has also been associated with paternal postnatal depression (PPND), as it has been found that depressed fathers are less confident in their parental knowledge and abilities (e.g., Demontigny et al., 2013; Zhang et al., 2016), thus further impacting on the levels of father involvement (Sweeney & MacBeth, 2016). Moreover, it appears that there is an association between the levels of parental self-efficacy and social support, as fathers who have lacked a

support system that could provide advice and parental help, have also displayed increased vulnerability in their transition to fatherhood (e.g., Steen, Downe, Bamford, & Edozien, 2012). Thus, it has been suggested that an increased acknowledgment of the postnatal experiences of fathers, as well as the challenges associated with the adjustment to fatherhood, could potentially benefit their personal development as parents (Steen et al., 2012).

Fathers' involvement and their psychological wellbeing have also been linked to paternity leave, which refers to a specific period of time allocated by the workplace, which allows and encourages fathers to spend time with their child in the early postnatal period (O'Brien, 2013). Although studies regarding the impact of paternity leave on mental health are scarce, recent research reported reduced levels of parental stress in fathers who undertake parental leave, as this allowed for a more harmonious balance between family and work responsibilities (Saxbe, Rossin-Slater, & Goldenberg, 2018). Past studies have indicated that some fathers experience an internal conflict between being able to provide financial security and showing up as a present and equally involved parent (e.g., Chin, Hall, & Daiches, 2011; Kowlessar et al., 2015). Often fathers felt that they had to sacrifice meaningful parental duties, such as spending time with their baby (Kowlessar et al., 2015) or attending medical visitations or parenting events (Chin, Daiches, & Hall, 2011), as a result of work pressures. The prolonged paternal absence was proposed to create feelings of alienation and psychological detachment from the family unit (Chin, Daiches, & Hall, 2011). However, whilst some countries, such as Sweden, provide extensive paternity leave (Wall & Escobedo, 2013), obstacles still occur in the form of stigma at the workplace (e.g., Salzmann-Erikson, 2017; Rehel, 2014) or isolation from parental spaces aimed at mothers (Chronholm, 2007).

6.2. Paternal social support

Alongside the support offered by society in the form of paternal leave (O'Brien, 2013), other types of support that have been shown to positively influence the transition to fatherhood are provided by family, friends, health professionals or the internet. As it was previously mentioned, social support is important for a smooth transition into fatherhood (Steen, Downe, Bamford, & Edozien, 2012). Whilst antenatal sessions can provide good information and practical advice, fathers have frequently stated that they felt neglected or overlooked during these classes, as most information discussed was aimed at the expectant

mothers (e.g. Åsenhed, Kilstam, Alehagen, & Baggens, 2014; Oscarsson, Medin, Holmström, & Lendahls, 2018). As a result of the limited support coming from parenting classes, fathers reported doubts and anxiety related to childbirth and fatherhood (Fenwick et al., 2012). Fathers have described feeling alienated from infant feeding, especially breastfeeding (Mitchell-Box & Braun, 2012), despite a desire to be involved (Sherriff & Hall, 2011), which resulted in feelings of insecurity and helplessness (Brown & Davies, 2014). Paternal involvement and support positively influence the transition to motherhood increasing maternal breastfeeding confidence (Hauck et al., 2007), reduces maternal stress and decreases the levels of smoking and alcohol intake (Alio et al., 2013). It is therefore important that fathers are more included in parenting education programs in order to develop increased parental confidence and be more secure and efficient in their involvement (Sherriff et al. 2014).

Fathers have been found to often feel excluded by healthcare professionals and perceive the information provided as not suitable for their specific needs (Shorey et al., 2017). Some aspects that fathers felt that they needed additional support with were practical childcare responsibilities or assisting with the emotional wellbeing of their partners in the early postnatal period (Shorey et al., 2017). The reduced focus on the experience and wellbeing of fathers within the medical context is concerning, as cases of PPND can often go underdiagnosed (Musser et al., 2013). Thus, the mental health of fathers may be negatively affected, as their psychological distress is minimised and stigmatised. Fathers tend to prefer technology-based support for their health-related queries, in the form of online educational programs or mobile apps (Ong et al., 2014; Shorey et al., 2017), whilst mothers were more likely to appreciate face-to-face visits from midwives (Ong et al., 2014). However, many studies used a qualitative approach to explore fathers' use of digital support from a maternal perspective (e.g., Ong et al., 2014; Shorey et al., 2015), thus their findings did not directly reflect fathers' experiences. Due to this, the current study aimed to strengthen the existent qualitative data related to paternal digital behaviours by directly interviewing fathers who were in the first year postpartum.

6.3. Digital behaviours amongst fathers

Prior research proposed that the limited professional support for fathers may result in some fathers or fathers-to-be to orientate towards alternative sources of information, such as

the internet (Fletcher & St George, 2011). Fathers use online platforms for a variety of reasons, such as connecting with other fathers (Fletcher & St George, 2011), sharing parenting experiences, views or expectations (Åsenhed, Kilstam, Alehagen, & Baggens, 2014) or searching for pregnancy or childcare-related information (Oscarsson, Medin, Holmström, & Lendahls, 2018). Parenting support groups, blogs or forums are often utilised by fathers, as they allow open communication and engagement with other fathers in a similar situation, thus providing support based on experiences (Fletcher & St George, 2011). A study by Asenhed, Kilstam, Alehagen and Baggens (2014) examined the online communication among a sample of expectant fathers and their findings revealed that the participants used blogs as a space for disclosure and documentation of their partner's pregnancy.

A common theme to emerge from the online discourses of fathers is the impact that fatherhood has on identity (McCullagh, 2008), exploration which touches on gender roles and masculinity ideals (e.g., Ammari & Schoenebeck, 2015; Scheibling, 2020c). It has been identified that many parenting forums emphasise traditional gender norms (Ammari & Schoenebeck, 2015), which continue to identify fathers as "secondary" caretakers whose primary responsibility is to provide financial security. Still, other studies presented a shift in the online dialogues related to the meaning of fatherhood (Pedersen & Smithson, 2013), mainly displayed via blog posts. An analysis of blog posts revealed that fathers challenge conservative ideas of parenting, discuss the tension created by the work-family life divide, and more importantly, promote the normalisation of equal parental involvement (Scheibling, 2020b). Fathers use discussion forums to strengthen and reflect upon the legitimacy of their role as co-parents, whilst seeking informational and emotional support (Eriksson et al., 2014). Simultaneously, previous research suggests that fathers are more likely to use online platforms with the intention to learn how to perform in their parental duties, compared to mothers (Ammari & Schoenebeck, 2015). More specifically, many fathers used the internet as a tool to acquire information and knowledge meant to improve their parental abilities, whereas mothers utilised it mostly for validation and encouragement and less for improving their knowledge or skills (Gibson & Hanson, 2013).

The context of online support has been found to involve gender differences, as it has been proposed that most digital resources and parenting groups are operated by mothers and focused on motherhood, therefore fathers may be left feeling excluded or inadequate when trying to engage with this type of content (Ammari & Schoenebeck, 2015). Moreover, it has been shown that mothers are more likely to engage with social media platforms when seeking or providing parenting advice and information, compared to fathers. Mothers were also

shown to be more inclined to consider networking sites a helpful parental support tool, as opposed to fathers (Duggan & Lehnhart, 2015). As it has been indicated that some fathers tend to use the internet for parental support as a result of limited support from health professionals (Fletcher & StGeorge, 2011), it is essential that they are not confronted with similar issues of feeling left out when using the internet, and are able to access a space designed for their specific needs.

6.4. Rationale and aims of present study

Prior research suggests that the postnatal period is linked to major disruptive effects to adjustment to fatherhood (Carlson et al., 2014) and it is associated with increased risk of mood disorders among fathers (Cameron et al., 2016). Additionally, although previous studies have examined the general use of social media sites amongst fathers (Ammari & Schoenebeck, 2015), limited attention has been given to the digital behaviours of fathers within the first year after childbirth. The current study aimed to gain a better understanding of use of social media platforms amongst fathers with at least one baby under one year old. The research question that this study proposed to address is related to exploring the paternal experience of the postnatal period, in terms of fathers' adjustment to the new role, their relationship with the baby and partner, access to support and their use of online platforms for parenting support.

Previous research studies have used qualitative approaches to explore the adjustment to fatherhood (e.g., Darwin et al., 2017; Shorey et al., 2017), as well as digital behaviours of men in the perinatal period (Fletcher & St George, 2011; White, Giglia, Scott, & Burns, 2018). However, there is a lack of research that used semi-structured interviews as a methodological perspective to evaluate and understand the potential associations between the paternal adjustment within the first year postpartum and social media usage. The chosen methodological approach was semi-structured interviews, as this allowed for an in-depth evaluation of paternal experiences in the first year-postpartum and a better understanding of the motivations and attitudes related to social media use for parental support. It has been shown that the spotlight tends to be on the early postnatal experiences of mothers, and the online resources are often mainly designed and aimed at mothers (Larsson, 2009), therefore this study aimed to address the lack of literature regarding digital behaviours amongst fathers in the postnatal period.

6.5. Methodology

6.5.1. Participants

The participants of this study were ten men who identified as fathers, aged between 28 and 41 years old (M=32.5), with at least one baby aged 12 months or younger (see Table 6.1). The sample size was considered appropriate for this qualitative study, as the aim was to produce an in-depth exploration of personal experiences and search for patterns, whilst aiming for data saturation. The participants were recruited through purposive and snow-balling sampling, as the research focused on a population with specific characteristics (Robinson, 2014). Research indicates that the early postnatal period can have an influential impact on the transition to fatherhood (e.g., Carlson et al., 2014; Chin, Hall & Daiches, 2011). Additionally, men have been found to be twice as likely to develop depressive symptoms in the first year of their adjustment to parenthood, compared to other periods in their life (Cameron et al., 2016). Due to these reasons, the present study has explored the experiences, thoughts and feelings of fathers who were in their first-year post-childbirth at the time of the data collection.

Table 6. 1

Demographic Information of the Participants, Including the Pseudonyms Chosen to Maintain Anonymity, Age, Ethnicity, Number and Age of Children

Participants	Age	Ethnicity	Children (age)
1 (Alex)	29	White/White British	10 months
2 (Brad)	41	White/White British	6 months
3 (Christian)	31	White/White British	1 year
4 (Danny)	32	White/White British	4 months
5 (Elijah)	35	White/White British	1 year
6 (Florin)	28	White/White British	5 months
7 (George)	28	White/White British	5 months
8 (Hudson)	33	White/White British	7 months

Participants	Age	Ethnicity	Children (age)
9 (Ian)	34	White/White British	4 months
10 (Jeremy)	34	White/White British	1 year, 4 years

Carrying out the study

6.5.2. Interview schedule

The interview schedule (see Appendix N) was created based on prior research in the area (e.g. Ammari & Schoenebeck, 2015; Åsenhed, Kilstam, Alehagen, & Baggens, 2014; Shorey et al., 2017), focusing on the transition to fatherhood and use of social media as a parenting support platform, as well as the findings from Study Three (see Chapter Five). The findings from Study Three indicated that paternal mental health had a clear impact on perceived social support and digital behaviours (i.e., online comparisons). Therefore, Study Four incorporated these results within the interview schedule, in order to further explore the relationship between adjustment to fatherhood and wellbeing, access to support and engagement with social media. The first part of the interview schedule was formed of items related to the parental adjustment, containing elements regarding the initial feelings and thoughts post-childbirth, expectations or worries, lifestyle changes or parental self-confidence (e.g., "Did you have any expectations of how parenthood was going to be like?"; "What do you enjoy about being a father and what do you find most difficult?"). The second part of the interview schedule was formed of items referring to the father's relationship with their partner, the father-baby bond, paternal involvement, gender roles and types of support (e.g., "Has the relationship between you and your partner changed since having the baby?"; "How would you describe the way you interact with your baby?"). The final part of the interview schedule contained items regarding online engagement, for instance the use of digital platforms for parental support, differences between online support and other types of support (e.g., from healthcare professionals), online behaviours and positive and negative thoughts regarding social media use (e.g., "How do you interact with online platforms when searching for parenting information or advice?", "Has the way in which you use social media changed from the early days of fatherhood to now?").

Although previous studies have examined the associations between the adjustment to fatherhood and elements such as parental self-efficacy (Zhang et al., 2016), gender role

expectations (Ammari & Schoenebeck, 2015) or use of social media for parental support (Fletcher & St George, 2011), there is limited information regarding the potential relationship between the early postnatal period and digital behaviours among fathers.

6.5.3. Procedure

The participants of this study were contacted and recruited via email, with some of them having taken part in a previous questionnaire study where they registered their interest for the present study and the rest found out about the study through social media posts or word-of-mouth. The first email sent to participants contained a Participant Information Sheet, containing more information about the study, their role as a participant and ethical considerations, and a Consent Form that was used to give informed consent for accepting to voluntarily take part in the study. After this, a date, time and interviewing method was decided, according to the participant's preference and availability. A total of ten semi-structured interviews were conducted, with nine interviews taking place over the phone and one interview over Skype. The interview began with general questions regarding the participant's demographic information, such as age, the child's age and living arrangements and ended with space for the participant to make comments or ask additional inquiries. Interviews lasted between 24 minutes and 60 minutes, and they were audio-recorded and transcribed.

6.5.4. Analysis

Data analysis started with the verbatim transcription of the interviews, which consisted of transforming the spoken words from the audio recordings into written text, whilst excluding any non-verbal communication, such as laughter or pauses (see Appendix S for example of interview transcript). The analysis method used for the present study was thematic analysis, as it is a widely used analysis approach in qualitative research that allows for detailed descriptions of the data and the formation of categories based on meanings and patterns, which are known as "themes" (Braun & Clarke, 2006). The thematic analysis was conducted using the six steps guide by Braun and Clarke (2006), which included: becoming familiar with the data by reading, transcribing it and taking notes, producing initial codes, collating the codes and forming themes, refining and naming the themes and writing-up the report. The themes of the current study were identified using a combination of the inductive and deductive methods (see Table 6.2.), as theoretical ideas of previous research were taken

into consideration, whilst the coding remained flexible and open to the possibility of identifying additional discourses, regardless of the specificities of the research question (Braun & Clarke, 2006). The coding and interpretation of the interview transcripts included combination of inductive and deductive approaches, as prior literature exploring fatherhood and social support described mixed coding as effective in gaining a wider perspective in the understanding of fatherhood, help-seeking behaviours and available support in the postnatal period (Fletcher, Knight, Macdonald, & StGeorge, 2019; Hrybanova, Ekström, & Thorstensson, 2019; Huusko, Sjöberg, Ekström, Hertfelt Wahn, & Thorstensson, 2018). Most of the coding utilised an inductive approach, whereby the interpretation of the interview transcripts was based solely on the personal point of view of the participants; some examples of inductive codes are "initial detachment and exhaustion due to unresponsive baby", "concerns for fathers' wellbeing" and "concerns about child's safety and privacy". Some of the coding utilised a deductive approach, where the analysis of the data was produced based on prior relevant literature and theoretical models, such as the study by Philpott and Corcoran (2014), where they explored the importance of paternity leave of paternal engagement and mental health, the work of Brown and Davies (2014), where they found that fathers often feel overlooked by healthcare professionals, as well as the study by Fletcher and StGeorge (2011), where they explored how fathers use online platforms to seek support. Examples of deductive codes are "work commitments", "limited professional support for dads" and "gender stereotypes online".

Table 6. 2

Presentation of Main Themes, Example of the Codes Used to Form Each Theme and Quotes from the Data

Theme	Codes	Examples from data
A bit of a rollercoaster	Parenthood as overwhelming; Enjoyable; hard work; stressful; Grateful; fun; difficult New information	"my initial experiences were I suppose anxiety and a bit overwhelmed erm slight numbness and it took a while to sink in"
	First reaction to baby as emotionally intense; worries; Feeling relieved; Changes; Relationship with baby improved gradually; Initial exhaustion and detachment due to unresponsive baby, work commitments	"being back at work has been quite difficult at times, especially when the baby's going through changes"
		"it's been fun, it's very hard work erm but yeah it's been fun"
What about men?	Gender expectations; division of maternity/paternity leave; Societal gender roles; Mother as primary caregiver;	"there's an expectation that men are the breadwinner and I think that can be a challenge and divisive"
	Limited professional support for dads; No need for support; No practical or specific support resources for dads;	"I don't think this is anywhere near as hard for men as it is for women, but I think there's more resources for women"
	Impact of limited support on dads in need; Concern for fathers' wellbeing	"I don't remember ever being asked whether I was struggling"
Men don't talk to each other about that kinda stuff	Passive engagement; Using Twitter or Facebook; Caution about online health advice; prefer medical website for health advice;	""Twitter's the one where I found kind of the most useful information stuff where I feel like I can actually help to get involved in something"

Theme	Codes	Examples from data
	Limited communication with other fathers online; Social media use more frequent in early postnatal period and decreased in time; Convenience and accessibility of internet platforms; Gender stereotypes online; Impact of stereotypes on online help-seeking behaviours;	"if I had a problem now I'd be more likely to post on Mumset than Dadsnet" "probably fathers do come across whiny […] so feeling angry, feeling depressed, feeling depersonalised, […] those tend to be quite taboo topics to share and even worse on social media"
Who's a friend, who's a stranger, who's malicious	Overwhelming amount of information; Confusing; Unreliable; Unrealistic portrayal of parenthood; Only posting happy moments; Online comparisons; Concerned about child safety and privacy; limited posts about child/pictures; consent issues; Pressured to post parenting content; Less online resources for dads compared to mothers	"there's just so much advice out there that's pretty rubbish and you just end up worrying yourself" "the editing effect I think it's really negative because it really sanitises the experience of childcare" "I'm very sort of nervous about putting any information about my child on there (social media platforms), I'm very aware of his privacy"

6.6. Results

Four main themes were generated following a blend of inductive and deductive thematic analysis of the data, namely "A bit of a rollercoaster", "What about men?", "Men don't talk about that kinda stuff" and "Who's a friend, who's a stranger, who's malicious". The titles of each theme represent quotes extracted from the data set, phrases which were considered an appropriate representation of the topic within the theme.

6.6.1. "A bit of a rollercoaster"

The first theme "A bit of a rollercoaster" discusses the early stages of fatherhood, comprising of the adjustment to fatherhood, the first reaction to the baby and the father-baby bond, as well as paternal involvement, including participation in childcare duties and difficulties associated with this.

Most fathers portrayed parenting as enjoyable but challenging, with Hudson, a 33 year old first-time father, describing the early stages of fatherhood as a "rollercoaster", emphasising the unpredictable process of parenthood adjustment. Part of this quote was chosen as the title of the first theme, as the analysis presented that most participants described the early postnatal period as a combination of positive, as well as difficult emotions.

Hudson (33 y.o.; one child, seven months old): "*it's been a bit of a rollercoaster, obviously it's having to learn lots of new things but I think generally good, I think the first three months are kind of like being in a war (laughs) and very difficult but then it starts- you know, each day seems to get a little better, you know, once you get over that first period*"

Hudson also used humour to metaphorically describe the first few postnatal months to "being in a war", highlighting the major effort necessary to undertake the demands of fatherhood, associating the early postnatal period to the need to acquire new knowledge and skills. Simultaneously, Hudson reported that the level of difficulty in parental responsibilities decreased gradually.

Similarly, Christian, a 31 year old first-time father, emphasised the demanding nature of parenthood by expressing feelings of curiosity, admiration and slight concern for single parents or families with multiple children, suggesting that being a parent requires additional support.

Christian (31 y.o.; one child, one year old): "*it's been pretty difficult, I have no idea how people manage with two, I have no idea how people manage on their own*"

Reflecting on the difficulty of the early postnatal period has encouraged some fathers, such as Alex, a 29 year old father of a ten months old baby, to recognise their privilege, in terms of their smooth transition to parenthood, in comparison to other parents who encounter more obstacles in their adjustment to the new role.

Alex (29 y.o.; one child, ten months old): *"[…] my experiences have been positive so far and for that I'm very grateful because I know not everyone gets that experience*"

In terms of the first meeting between fathers and their infants, this encounter generated a strong emotional response amongst the participants of this study, with reactions varying from tears of happiness to fear and anxiety. Brad, a 41-year-old father, described his initial encounter with the baby as distressing and overwhelming, with a sense of numbness, however it was equally as enjoyable. Brad also declared that these feelings were linked to the intensity of the childbirth experience.

Brad (41 y.o.; one child, six months old): "*my initial experiences were I suppose anxiety and a bit overwhelmed erm slight numbness and it took a while to sink in but it was always, it was always quite fun, the birth being a first birth and quite extreme also led to that experience*"

Likewise, 35-year-old Elijah divulged that the arrival of his baby provoked fears and worries related to the practical responsibilities linked to childrearing, such as financial demands or parental aptitudes.

Elijah (35 y.o.; one child, one year old): "*a little I think scared, very scared yeah with the sort of money, the lifestyle change, just feeling competent to look after a child*"

The surreal sentiment of meeting their baby for the first time was mentioned by 28 year old first-time father George as well, who compared the first father-infant interaction to an out-of-body experience, accentuating the profound impression of childbirth.

George (28 y.o.; one child, five months old): "*it feels like a bit of a blur […] like I wasn't really there […] I dunno it just seems like a different kind of experience like I'd not really gone through it in a way* […]"

The great significance of the first encounter between the father and the baby was also explained by Hudson, who defined the initial visual and physical contact with his child as unforgettable and deeply sentimental.

Hudson (34 y.o.; one child, seven months old): "*I cried yeah, it was absolutely fantastic, […] the baby kinda looked at me, turned up a little bit and looked at me and it was really special, I won't forget that moment for the rest of my life*"

The evolving nature of the father-baby relationship was often mentioned by the fathers within this study, as some disclosed that the interactions with their babies would begin as one sided and develop into reciprocal connections. This can be found in the quote presented below, as Alex felt that it was difficult to create an initial rapport with his child due to obstacles in understanding and interaction. Despite this issue, participant Alex stated that the emotional connection between him and his baby was created instantly, and he described the parent-infant relationship as fairy-tale-like.

Alex (29y.o.; one child, ten months old): "*I mean it's a bit sort of Disney movie but I've felt like… immediately I've felt that (instant connection) and I've never felt erm disconnected to her […] obviously when she's a lot smaller it's a bit hard to establish but now that we can interact yeah it feels…yeah it feels really good*"

In the same way, Elijah reported that the relationship between him and his child progressed over time, stating that the responsibilities associated with the early postpartum period prevented the opportunity to reflect on the satisfaction of being a father. In other words, it was suggested that the relationship between the father and his baby was different in the early period post-childbirth and the connection became reciprocal with the help of routine and a better communication with the child.

Elijah (35 y.o.; one child, one year old): "*as you get to interact with him more as they're older and then as things settle down, you feel like you can have a relationship with your baby because in the first few weeks you just don't really have time to think, you don't really stop to think "am I enjoying this?"* "

A worry expressed by most of the dads was that the bond between them and their children would be affected by the absence caused by work commitments or feeding arrangements (i.e., breastfeeding). Most fathers have mentioned that the period of paternal leave was extremely useful yet limited. Alex described the time spent with his partner and baby as being in a separate "world", indicating that an intimate and safe atmosphere was created within the family, a sentiment which could be disrupted by work commitments.

Alex (29 y.o.; one child, ten months old): "*I remember waking up after two weeks and thinking I wouldn't wanna go away from this world just yet... paternal leave, so I think, yeah, a month was very valuable […]*"

First-time father George reported that having to return to work after a short period of paternity leave created worries of detachment and the fear of missing out on his child's development.

George (28 y.o.; one child, five months old): "*[…] being back at work has been quite difficult at times, especially when the baby's going through changes, like there's times when I come back on a day and she'll look different, she'll feel different erm so that's really difficult […] I feel like I'm missing quite a bit of her life*"

The same participant expanded on their anxiety regarding the negative impact of insufficient paternity leave, disclosing that the absence formed an emotional barrier and insecurities related to parental self-efficacy in tasks such as settling the baby to sleep.

George (28 y.o.; one child, five months old): "*I've been feeling a bit distant, […] and logically I know it's not because of me but at times it gets really stressful, wondering why she's not sleeping, I dunno whether she knows that I'm not around when she's doing like important things*"

Similarly, Ian, a 34-year-old father of a four months old baby, felt that the inconsistent interactions and the limited time spent with the baby prevented the father-infant relationship from developing steadily and effortlessly. With the phrase "you're back at square one", Ian suggested a feeling of failure or defeat, as the progress made with the baby during the weekend was quickly lost during weekdays, having to be re-established each weekend.

Ian (34 y.o.; one child, four months old): "*I feel at the end of the weekend I've made a really good connection and then I have to go back to work and it all sort of starts again and then the weekend starts and you're back at square one*"

Hudson disclosed that he felt that his partner's parenting skills were more evolved compared to his abilities, as she had a better awareness of their child's non-verbal cues. Additionally, he expected that the period of paternity leave would strengthen the father-baby bond, as well as improve his parenting knowledge. Interestingly, Hudson defined his partner's parenting skills as "innate", suggesting that he understood a mother's abilities to be instinctive, whilst a father's abilities are learned.

Hudson (33 y.o.; one child, seven months old): *"[…] my expectation is from this period of me being off is our bond would kinda be stronger erm, my wife would say things like "oh that type of cry is for this" and I'm kinda oblivious to that […] by the time we get to Christmas time I'll kinda have that innate kinda knowledge*"

Christian expressed that due to his baby being breastfed, the more strenuous tasks were allocated to his wife. Feelings of helplessness and guilt were implied as Christian mentioned that he could not "solve" the aspect related to feeding, and his wife undertook this responsibility whilst still being actively employed.

Christian (31 y.o.; one child, one year old): "*my wife's just doing all the hard work, it seems that all of the difficult stuff has to fall to her cos I haven't got boobs […] but because he's still breastfeeding, I can't solve it, so my wife gets up and still gets back to work*"

The feeling of helplessness at being able to fulfil the feeding needs of the infant changed as the baby started to wean, and with this change, the father was able to commit to additional childcare tasks, as 34-year-old second-time father Jeremy highlighted:
Jeremy (34 y.o.; two children, one year old, four years old): "*he's no longer being breastfed so he's being weaned, so I'm doing a lot more of his bedtimes, whereas before it was always his mother who would settle him to bed […]*"

The first theme "A bit of a rollercoaster" encompassed the complexity of thoughts and feelings that the participants of this study experienced during the early postnatal period, as well as the major emotional impact of the initial encounter between the fathers and their babies. The fathers illustrated the difficulties that occurred whilst trying to bond and develop a relationship with their baby, some barriers being represented by work commitments or the inability to partake in the feeding process. These obstacles were associated with feelings of detachment, helplessness and guilt.

6.6.2. "What about men?"

The second theme named "What about men?" presents the experiences and opinions of fathers regarding the support received from health professionals in the postnatal period, the societal views on parental gender roles and their impact on support accessibility, as well as the concerns related to the influence of limited paternal support resources on the wellbeing of fathers who were struggling.

Most participants mentioned that the support received from health professionals in the immediate period post-childbirth was focused on mothers and the advice given to fathers was to help and assist their partners. This idea was discussed by Alex, who mentioned that the childcare duties of fathers tend to be limited in the early postnatal period due to breastfeeding or work obligations, therefore the advice offered by healthcare professionals was not targeting any specific paternal needs.

Alex (29 y.o.; one child, ten months old): *"A lot of it was actually about dad being supportive of mum which is all you can do at that stage, you don't have to get up and feed at night and she was with baby all day when I went back to work […] I wouldn't say there was specific advice for me as a father"*

The concept of gender imbalance in parenting support was also explored by Christian who felt that the sources of support and information were largely concentrated on mothers' needs, suggesting that fathers were forgotten. Christian further declared that there is an assumption that fathers do not experience similar issues as mothers,

Christian (31 y.o.; one year old): "*the health visitor and midwives were very focused on the baby and the mother erm but not on the father, […] there's an awful lot of taking care of mum, offering opportunities to talk, offering opportunities to divulge domestic violence or abuse things like that, but that's not the same for fathers, it's assumed that doesn't happen to fathers*"

Problems regarding the treatment provided by medical professionals were further reported by George who felt that his opinion as a father was disregarded, thus believing that his presence was insignificant during postnatal checks. He also disclosed feeling neglected and overlooked as there was no interest in his own wellbeing.

George (28 y.o.; one child, five months old): "*when they'd (midwives) come for home visits it was like- when we were consenting to give baby set of needles done, like three jabs, and they'd get my girlfriend to sign it and I'd ask "like what do I do, where do I sign?" it was never, all their answer was at the time "oh it's okay, the mum signs" […] like I could have easily not been there, at these home visits I don't think it would've made any difference to them […] no questions towards me, no screening about how I am, nothing really*"

Hudson reinforced the feeling of being excluded from postnatal health appointments, suggesting that it was a common occurrence for fathers to take second place during health-

related circumstances, due to the mother and the baby being primarily affected by the childbirth process.

Hudson (33 y.o.; one child, seven months old): "*in terms of help from professionals I think as the man, I'm just a bit of a spare part (laughs) you know I think from the whole midwifery, health visiting side of things I think that's very much how it is, I think you're the kinda-you're the spare, the person in the corner of the room, that's fine, like it's not about you particularly, certainly in those early days, you know it's about the mum's health and the baby*"

Both George and Hudson felt that their identity as fathers was undermined, as Hudson felt like a "spare part" during postnatal visits, and although he said this laughingly, he indicated that his involvement was seen as meaningless. Despite the feeling of rejection, Hudson also showed a level of acceptance and understanding of the motives behind the differences in parental support.

Alex concurred, suggesting that any paternal issues would have gone unnoticed, as the healthcare workers did not initiate any mental health-related conversations with him.

Alex (29 y.o.; one child, ten months old): *"I've seen bits and pieces about fathers postnatal depression […] and this is not me complaining and saying "what about men?", this is me stating that I don't remember ever being asked whether I was struggling or there was advice that I needed, I mean that might've been because I was doing okay, should I not been doing okay I don't think health professionals (inaudible) would find out without me needing help first […]but I wouldn't say there's any effort for dads"*

Interestingly, Alex was cautious about coming across as saying that men have needs too, potentially due to fear of being portrayed as needy or usurping mothers' needs. The quote "what about men?" was used as the title of this theme, as it is indicative of two main motifs contained within the second theme, namely the lack of specific support for fathers and the reluctance of seeking help due to worries of diminishing the importance of mothers' needs.

Elijah and Christian also discussed the lack of support for men, and while they did not feel this affected them, they believed this could have a detrimental effect on men who were struggling with their adjustment.

Elijah (35 y.o.; one child, one year old): *"[…] the only support we've had has been as a couple or my partner she's gone to things like breastfeeding support and drop-in sessions […] what's been on offer to me has been quite limited which hasn't affected me as much but it might affect somebody else who's got a specific issue"*

Chirstian (31 y.o.; one child, one year old): *"I don't think I've had a need to but I would like it to be there for fathers that do or if I did in the future"*

The concept of the father being a "secondary" caretaker and undertaking the role of supportive partner, instead of being an equal participant to the childcare duties, was also associated with societal expectations, as Elijah felt that there were gender role expectations, based on traditional views. Elijah believed that there was external judgment when he was spending time alone with the baby, as it could be interpreted as a "woman's job", thus suggesting that fathers and mothers have distinct parental responsibilities.

Elijah (35 y.o.; one child, one year old): *"men I think are expected to take a back seat and not be involved in things like feeding […] and help and changing […] even if I take my baby out on my own without mum, I think some people might look at that and say "that's a woman's job""*

Some fathers considered that traditional views of parental roles can be problematic Jeremy suggested that conservative parenting concepts that continue to exist in the present day, created a situation in which fathers but not mothers, are complimented or praised for the ordinary acts of being nurturing or being attentive to their babies' needs

Jeremy (34 y.o.; two children, one year old, four years old): *"[…] I do think that to challenge those ideas at the right time (inaudible) because if we don't, we're just gonna be stuck in this idea feeling that men need that encouragement or congratulations for doing something that mums just do on a daily basis"*

The notion of parental gender roles that puts mothers in the position of primary caretakers could also be found in the comment made by George who revealed that many parenting activities and classes were mostly attended by mothers or female caretakers and they were even included in song lyrics, in comparison to fathers who do not receive as much acknowledgment. The limited paternal attendance to play groups was linked to time inconveniences, as the classes were taking place whilst fathers were at work, thus reducing the accessibility for fathers' participation.

George (28 y.o.; one child, five months old): *"[…] even little things like the play groups that the baby goes to now with my girlfriend, like there's only mums and nans that are taking their babies […] all the songs they sing and stuff are all about mummies or nannies […] dads are never mentioned which is understandable because dads are never there, they're at work […] things like that I wish were more dads focused or that were more accessible for dads"*

Nonetheless, some fathers, such as Brad, viewed the traditionalist approach to parenting, although in opposition to the feminist perspective, as an efficient method of organising parental responsibilities.

Brad (41 y.o.; one child, six months old): *"the way they assign gender roles and domestic tasks can be problematic from a feminist perspective, I think we've now come to the understanding that they're also just optimised for efficiency in terms of how does your household work when you're under pressure of sleep deprivation"*

Overall, the second theme "What about men?" revealed that the fathers within this study felt overlooked by healthcare professionals in the early postnatal period. Although they considered it natural practice for mothers to receive the majority of support and assistance, they expressed concern for fathers who may be struggling and who would be affected by the lack of specific paternal support and the reduced awareness of paternal mental health. It was suggested that the traditional societal views regarding parental roles was one of the factors associated with the limited professional support, as fathers were not expected to want to be as involved in childcare duties. Similarly, it was believed that societal expectations were linked to the lack of inclusivity in parenting activities (i.e., play group), and to potential external judgments related to the distribution of parental responsibilities.

6.6.3. "Men don't talk to each other about that kinda stuff"

The third theme named "Men don't talk to each other about that kinda stuff" discusses the digital behaviours of the fathers of this study, including the way in which they engaged with online platforms (e.g., active versus passive users), the type of parenting support they found online and the impact of gender stereotypes on online engagement and help-seeking behaviours.

Many of the fathers of this study mentioned the use of forums for parenting information or advice, as Alex reported that he utilised forums and blog posts to read about more common aspects of parenting, such as developmental milestones. Mentioning that he is

"less strict" on himself with these general issues, suggests that Alex was more rigorous with the resources that he used for more specific or serious aspects of parenting.

Alex (29 y.o.; one child, ten months old): *"the stuff that's more generic, let's say something like "should my baby be crawling by six months?" […] I'm less strict on myself on that kinda thing, like I will scroll through some forums or you know, read some random person's blog post […]"*

Similarly, 32-year-old Danny revealed that the use of forums was helpful after going through a miscarriage, as they were more accessible than other types of support (e.g., GP), and they offered advice based on the experiences of others.

Danny (32 y.o.; one child, four months old): *"we both went on Mumsnet cos we had no one you know, we couldn't go to hospital, we couldn't do both GPs to talk to, you know out the weekend when there was literally no services and I think in our heads we both knew what happened […] Mumsnet was useful in terms of I guess almost talking through the steps with impartial people who, I mean they were really helpful […] they helped explain what the problem was and actually almost come to expect that the next week wasn't gonna be very nice […]"*

Popular social media sites such as Facebook, Instagram or Twitter were also used by fathers. George reported that he engaged with these platforms to search for advice or local father groups. He also described Twitter as his most utilised network due to its diverse content.

George (28 y.o.; one child, five months old): *"I use Facebook, Twitter, Instagram, in terms of looking- so to look for advice, […] even last night during the night feed I was looking for dads groups locally and things like that […] But we use twitter the most for it but I think probably just because that's where I found most things […]"*

The same participant also characterised Twitter as a suitable platform to deliver a message to an audience, in this case, expressing personal views about the role of fathers and raising awareness about the importance of paternal involvement in the family dynamic.

George (28 y.o.; one child, five months old): *"Twitter's the one where I found kind of the most useful information stuff where I feel like I can actually help to get involved in something, I think that's the key for me, like I wanna get better, I wanna make their experiences better"*

Additionally, other fathers used social media sites to inform their family and friends about the progress of their childbirth process or postnatal experiences. Florin, a 28-year-old first time father, stated that he preferred to share personal information on a private profile rather than a public group.

Florin (28 y.o.; one child, five months old): *"I posted quite a lot about what we've been through, I didn't put a lot in public groups and things like that because I haven't- I'm quite private in some respects, […] so I posted a lot on my personal Facebook page, sort of let everyone know what we were going through"*

The importance of privacy was also reported by George, as he felt that Instagram was a more secure online platform as he was aware of the other users that had access to his profile and content.

George (28 y.o.; one child, five months old): *"I'm a private person anyway so I don't put too much on about the baby […] I feel Instagram is a bit more controlled for me, like I know exactly who's on there"*

Other fathers, such as Ian, preferred to have a passive online presence, choosing to observe and read other people's content, instead of actively posting or interacting with others. Ian disclosed that the reason for his passive engagement was to avoid any potential arguments or controversial discussions that, he believed, were a frequent occurrence among online conversations.

Ian (34 y.o.; one child, four months old): *"I'd probably describe myself […] as a bit of a lurker, I like to read and see what people are saying about stuff rather than get involved cos I think actually in the end people just tend to get into arguments about stuff or express some views that are either politically or medically unsound"*

A few participants mentioned that there were differences between themselves and their partners regarding the use of online platforms for parenting support. For instance, Jeremy indicated that he preferred to read the parenting articles that were shared by his wife, rather than search for information independently:

Jeremy (34 y.o.; two children, one year old, four years old): *"I very rarely seek out parenting articles or anything online because I think I wouldn't actually go and find them but if I was reading something else and find an article then I'd probably read it […] she's (wife) sending me articles that she thinks I might find interesting"*

Similarly, Ian declared that his partner was more likely to use social media platforms for parenting support compared to him, and he preferred to use medical websites instead.

Ian (34 y.o.; one child, four months old): *"I don't tend to go on social media for advice and support as much as my wife would, so my wife certainly uses it for breastfeeding support et cetera, I don't in terms of social media but I will on medical websites"*

The use of health-based online platforms was commonly reported amongst the fathers of this study. Brad mentioned that the preferred to use the NHS website for parenting information and the main reason was the heightened trustworthiness associated with it. Contrarily, Brad considered that while parenting forums were a useful source of knowledge, they did not offer the same level of credibility.

Brad (41 y.o.; one child, six months old): *"primarily I'd say just NHS, you know I trust information that comes from NHS direct, I use their website, I've used Mumsnet with some scepticism but Mumsnet is a really good source of information"*

The use of medical websites was sometimes linked to participants' career types throughout the data set. Christian mentioned that, due to his career background in the medical field, he was cautious in accepting health advice from individuals online as they did not present enough reliability.

Christian (31 y.o.; one child, one year old): "*I wouldn't take any health information from strangers on social media, I would go to credible sources myself but that is a function of my background being a pharmacist*"

The validity of online health information was also questioned by Alex who reported that his medical background increased his awareness regarding the potential harmful effects of online content, thus choosing medical websites over resources that have not been verified by professionals.

Alex (29 y.o.; one child, 10 months old): " *[…] some health concern or some worry, I would be wary about using online resources because, well I'm a medical statistician, so I look at evidence-based medicine […] so I'm a bit wary of Googling some symptoms, so we tend to stick to well evidenced resources and things like that NHS direct or any kind of reputable website for that kind of medical help*"

Although some of the fathers of this study found online platforms useful, others have reported dissatisfaction as they felt that most online content was targeted towards mothers, which impacted fathers' online engagement and help-seeking behaviours. Hudson perceived online support to be primarily focused on mothers, whilst adding that parenting events, as well as other online content, were also aimed at mothers and the experience of motherhood.

Hudson (33 y.o.; one child, seven months old): "*certainly less visible than the online support for women, you know I think it's so many- even looking for different I suppose events or whatever, like so many of them are kinda more targeted towards mums*"

It was believed that one explanation for the lack of fatherhood-based engagement or online platforms was the societal views regarding parental gender roles, as George revealed that fathers were often put in the position of the provider. This participant felt that the expectation that fathers were not as involved in parental duties due to work obligations created the assumption that their psychological wellbeing was not as affected, resulting in reduced help opportunities.

George (28 y.o.; one child, five months old): *"I guess we are supposed to focus on going to work and provide for your family […] dads don't have all those experiences along the way so in terms of content of what you need to kind of understand there's probably not as much as mums are looking for […] just society in general that just don't really consider that dads might struggle or that they need the same type of opportunities as mothers"*

Danny felt that there was a general unwillingness amongst fathers to communicate their personal experiences or struggles online and due to this, he preferred platforms that were originally designed for mothers, as the higher engagement rates led to better support. Danny associated the reduced online activity amongst fathers with gender differences, proposing that men have a tendency to exclude conversations surrounding emotions, using a phrase chosen as the title of this theme "men don't talk to each other about that kinda stuff".

Danny (32 y.o.; one child, four months old): "*if I had a problem now I'd be more likely to post on Mumset than Dadsnet […] I think it's because of the difference in how men speak and how men communicate their emotions […] men just generally don't talk to each other about that kinda stuff […] if there were enough dads that were willing to talk about that kinda stuff then it would be a really useful resource*"

It was further suggested that the reduced male activity in online groups designed for fathers was linked to the stigma surrounding men's mental health, as mentioned by Jeremy below:

Jeremy (34 y.o.; two children, one year old, four years old): "*it's tied in with how society- what society expects of men in general, so I sympathise with anyone who wants to write something directed at dads because you'll get a small subset of dads who will read and ask and be interested about it and another group of dads who are maybe embarrassed talking about things […]*"

The concept of traditional parental roles and mental health stigma amongst men was also discussed by Brad who expressed that the assumption that fathers do not struggle as much during the postnatal period, along with the fear of being perceived as "whiny", led to difficulties in speaking up about personal issues, reducing the likelihood of online disclosure amongst fathers.

Brad (41 y.o.; one child, six months old): *"[…] and probably fathers do come across whiny (laughing) […] so feeling angry, feeling depressed, feeling depersonalised, feeling- you know, having relationship troubles in the aftermath of- all of those tend to be quite taboo topics to share and even worse on social media"*

By stating that the struggles connected to the postnatal period were difficult to share and "even worse on social media", Brad suggested that social media sites were a particularly unfavourable space to disclose psychological distress or parental challenges.

To conclude, the third theme "Men don't talk to each other about that kinda stuff" displayed the potential connection between digital behaviours, traditional parental views, gender differences, and online paternal support. The fathers of this study considered that social media platforms and discussion forums were useful in communicating with other parents, reading experience-based content, or searching for local groups. Additionally, medical websites were portrayed as the most suitable online platforms for health-related advice or information. However, some fathers also felt that there was an imbalance in the parental support available for online, as most content and parenting pages were targeting mothers. Due to this, fathers felt uncomfortable disclosing their emotional struggles and actively engaging with online platforms, due to an absence of male activity. The reluctance to openly speak about challenges related to the postnatal period was also linked to stigma surrounding men's mental health.

6.6.4. "Who's a friend, who's a stranger, who's malicious"

The fourth and final theme named "Who's a friend, who's a stranger, who's malicious" includes the evaluation of thoughts, feelings and attitudes regarding the digital aspects described as downsides of social media platforms, as well as the detrimental impact of internet exposure on paternal wellbeing and mental health.

One of the main reasons related to the limited use of social media platforms for parenting content among the fathers of this study was the lack of trust in the information provided. Alex suggested that the source of the information played an important role in the level of credibility, stating that familiarity increases trustworthiness. He also reflected on the difficulty to differentiate between beneficial and harmful online content.

Alex (29 y.o.; one child, 10 months old): "*I know who my friends and family are and work colleagues and although I might not like their advice, at least I know exactly who they are […] they're probably well-intentioned people on there that are trying to give advice, it would be hard for me to distinguish who's a friend, who's a stranger, who's malicious*"

The quote "who's a friend, who's a stranger, who's malicious" by Alex was chosen as the title of the fourth theme as it encompasses the confusion and scepticism that fathers experience online due to the various negative factors linked to social media use, aspects presented in the following paragraphs.

A way of managing the lack of credibility associated with some social media content was to verify the validity of the information by reading peer reviewed articles, as mentioned by Brad in the quote below. The reduced trust was also linked to the excessive amount of information found on online platforms.

Brad (41 y.o.; one child, six months old): *"the problem is not a lack of answers, the problem is too many answers and I often find myself, you know, reading an article, journal article to figure out whether I should believe something or not"*

Hudson believed that the abundance of parenting content found online, and the low quality of the advice available, created confusion or anxiety.

Hudson (33 y.o.; one child, seven months old): *"it's quite dangerous as well, there's just so much advice out there that's pretty rubbish and you just end up worrying yourself"*

The online parenting sites and forums were described as ambiguous by Alex, as the act of searching for advice was characterised as tedious and stress-inducing, with no satisfactory outcomes.

Alex (29 y.o.; one child, 10 months old): *"all that looking online did was either take me down some weird dark path- not dark path, but take me down some long routes and forums that have no conclusive answers or make me stressed"*

Adding to the comments made in the previous theme "Men don't talk to each other about that kinda stuff", one issue seen as a negative aspect of social media was related to privacy concerns. Brad expressed feelings of nervousness when talking about uploading baby pictures online, mentioning that he preferred to refrain from doing this, as he was mindful of his child's privacy.

Brad (41 y.o.; one child, six months old): "*I'm very sort of nervous about putting any information about my child on there (social media platforms), I don't want any photos of him on there, I'm very aware of his privacy*"

Some fathers, including Danny, decided to post pictures of their infant online, however he mentioned feeling remorseful due to the lack of consent from his child and the feeling of permanence associated with online posts that may be difficult to completely remove once uploaded.

Danny (32 y.o.; one child, four months old): "*I mean sometimes I do feel a bit guilty sharing a picture because […] those pictures then go on there forever, don't they and she might not want them on there when she's older erm so I think it's hard, […] You're making decisions about your baby and like their level of exposure*"

Another downside of social media use identified by the fathers of this study was the false portrayal of parenthood, which led to additional pressures and negative online comparisons. George believed that the parental experiences displayed on Instagram were unrealistic as they were not presenting a complete picture of parenthood, often excluding the difficult aspects.

George (28 y.o.; one child, five months old): "*it's not completely real erm you only get the good parts, no one ever puts pictures of their babies crying on Instagram*"

Elijah disclosed that he was influenced by other parents' online posts, as he engaged in comparisons which led to insecurities regarding his own efforts and abilities as a parent. The same father felt that it was essential to be mentally resilient in order to prevent potential psychological ramifications as a cause of online comparisons.

Elijah (35 y.o.; one child, one year old): "*sometimes I might see someone who's been somewhere for like a nice activity, or a nice day out or a nice holiday, you might think "oh we could do that with our baby" […] I think people present an idealised version of their life on there and I'm not sure I could stand to live up to it […] sometimes yeah it can make you feel a little bad cos you think "am I putting enough effort, should I be doing more of this?" […] it can make you feel like perhaps you're a little bit inadequate, it does take to be quite strong minded to overcome that*"

Whilst some fathers compared the online content with their personal parental activities, others felt pressured to perform various parenthood-related events, such as birth announcements. Essentially, the discussion suggests that online content influences the way fathers behave, or feel that they must behave, as Brad explained below.

Brad (41 y.o.; one child, six months old): "*birth announcements I think I felt some pressure to do one of those […] it just makes me feel uncomfortable […] I mean it's not like in the end a very special achievement… reproducing, so I didn't see a need to share it*"

The external pressure to "perform" parenthood in a certain way was also mentioned by Florin, who disclosed that his hospital stay was prolonged due to his baby being born prematurely. As a result of this situation, Florin mentioned that he chose not to post many baby pictures online and found himself making comparisons with the content posted by other parents who were not limited in their activities. The act of posting baby pictures post-childbirth was perceived as an expectation by Florin, as the lack thereof was received with curiosity by the online audience.

Florin (28 y.o.; one child, five months old): "*I think at first it was difficult to look at parents sort of out and about with their babies knowing that we were in hospital […] because one thing that I was quite conscious of is that some of our friends were asking how we were doing and we didn't post that many pictures initially just cos you know, a little premature baby with a lot of (inaudible) and incubators is a bit overwhelming*"

Some fathers, such as Brad, considered that the online exposure to a curated and idealised version of parenthood could have detrimental effects on the mental health of parents, especially amongst individuals who are already struggling.

Brad (41 y.o.; one child, six months old): "*I know friends of mine who found having children to be a tremendous challenge to their mental health, so I guess I'm really over aware that sharing on those platforms can have an impact on others*"

Brad further explained his point, stating that the symptoms of a friend with postnatal depression were accentuated by the exposure to unrealistic online content, as it enhanced the feelings of loneliness and inadequacy.

Brad (41 y.o.; one child, six months old): "*[…] the editing effect I think it's really negative because it really sanitises the experience of childcare which you have […] I couldn't feel those things but I could see that for him seeing others' lives that presented in this rather cheerful, sanitised way was itself a very erm stigmatising, isolating experience*"

In a similar way, Florin felt uncomfortable engaging with an online support group for parents with premature babies as he was not experiencing the same level of hardship as the other families in the group, suggesting that he was not feeling authentically part of the group. With this statement, Florin implied that the parents who were in a more distressed state, could have been negatively influenced by his content that presented a more positive side of the situation.

Florin (28 y.o.; one child, five months old): "*it was quite difficult reading a lot of posts on there where families had very, very sick babies […], we felt a little bit out of place in the sense that we were still having a premature baby but we didn't have the level of severity or complications that some families had that were posting on this group*"

To conclude, the fourth theme "Who's a friend, who's a stranger, who's malicious" revealed the thoughts and experience of fathers who felt that social media sites can be an overwhelming and confusing when searching for parenting support or information. It was also believed that prolonged exposure to online content that displayed an idealised version of parenthood could encourage negative social comparisons and lead to poor mental health.

This section presented the four main themes formed as a result of thematic analysis, namely "A bit of a rollercoaster", "What about men?", "Men don't talk to each other about that kinda stuff" and "Who's a friend, who's a stranger, who's malicious". The first theme

introduced the experiences of fathers in their adjustment to fatherhood, including initial reaction to the baby, the creation of father-baby bond, paternal involvement in childcare duties and the difficulties encountered along the way. The second theme continued with discussing some of the obstacles that intervened in the process of bonding with the baby or learning how to parent, touching on the influence of insufficient paternal leave on emotional bond with the baby, limited professional support for fathers and the idea of traditional parental roles. The third theme explored the digital behaviours of fathers when searching for parenting support, in terms of types of platforms used and motivations behind usage, the different factors that can influence online engagement, such as career type or gender differences and societal pressures, as well as the accessibility of online support for fathers. Finally, the fourth theme illustrated the limitations of social media use and the potential detrimental effect of internet exposure on paternal mental health.

6.7. Discussion

The current qualitative study aimed to produce an in-depth exploration of the postnatal experiences of fathers within one year after childbirth and the way in which they used social media as a parenting support tool. As a result of thematic analysis, four main themes were formed, namely “A bit of a rollercoaster”, “What about men?”, “Men don’t talk to each other about that kinda stuff” and “Who’s a friend, who’s a stranger, who’s malicious”.

Within the first theme “A bit of a rollercoaster”, findings showed that most participants experienced the early stages of fatherhood as an emotionally complex period, involving joyous moments, as well as stress and anxiety and it was compared to a “rollercoaster” experience. The same metaphor was mentioned in a previous study, which showed that expectant fathers used blogs to describe their transition into fatherhood, portraying the pregnancy stage as a “rollercoaster” of emotions and expectations (Åsenhed, Kilstam, Alehagen, & Baggens, 2014; Shorey et al., 2017). Similar descriptions of fluctuating

feelings were also reported in the study conducted by Shorey and colleagues (2017), where first-time fathers experienced happiness, as well as lack of confidence and confusion during the early days of parenthood. Despite the various worries and fears provoked by the general idea of fatherhood, the participants of the current study displayed strong positive reactions to the first encounter with their babies, expressing tearfulness and happiness. This finding is consistent with past research which found that most fathers see childbirth as particularly emotional and meaningful (Genesoni & Tallandini, 2009). The initial meeting with the baby was also associated with feelings of unreality, a phenomenon which has been frequently linked to the transition to fatherhood (e.g. Genesoni & Tallandini, 2009; Shorey et al., 2017).

The fathers of the present study felt that the process of bonding with their babies was disrupted by having to return to work soon after childbirth, creating feelings of detachment and low parental confidence (Chin, Daiches, & Hall, 2011). Most fathers found the opportunity to take paternity leave useful, although not sufficient in allowing them and their babies to form a smooth and natural connection, result congruent with prior research (Feldman, Sussman, & Zigler, 2004). Studies found that paternity leave allows for a stronger paternal engagement, improved marital relationships (Feldman, Sussman, & Zigler, 2004) and decreased levels of parental stress, as it offers the opportunity to create a harmonious balance between life and work responsibilities (Saxbe, Rossin-Slater, & Goldenberg, 2018). On the contrary, the lack of paternity leave can lead to increased risk of paternal postnatal depression and reduced childcare involvement (Philpott & Corcoran, 2014). Thus, the current findings, alongside the existent literature on the subject of paternity leave and adjustment to fatherhood (e.g., Feldman, Sussman, & Zigler, 2004; Saxbe, Rossin-Slater, & Goldenberg, 2018), further accentuates the importance of suitable access to a period of absence from work in the postnatal period. Based on the outcomes of this research, it is recommended that fathers' wellbeing and their transition to the parental role would greatly benefit from extended and more flexible paternity leave, as well as prolonged shared parental leave. It is considered that allowing fathers a similar time-length in parental leave as it is currently accessible to mothers (i.e., 52 weeks), may lower the risk of mental health conditions, such as PPND (Philpott & Corcoran, 2014), and promote an improved father-baby bond (Feldman, Sussman, & Zigler, 2004).

Additionally, fathers felt that due to their baby being breastfed, they were not able to take part in certain activities, such as settling the child to sleep. Feelings of guilt were indicated amongst the fathers of this study, as it seemed that the parental duties were not

distributed equally between the parents. The current findings are supported by previous research which has suggested that some fathers are interested in being involved in the process of breastfeeding (Sherriff & Hall, 2011), however they often feel left out or insecure about the lack of educational support (Brown & Davies, 2014). Interestingly, some of the fathers questioned the nature of their parental efficacy, with one participant describing his partner's knowledge as "innate", implying a concept that has been mentioned in the literature, namely that mothers have intuitive parental abilities, whilst fathers need to learn how to parent (Brady, Stevens, Coles, Zadoroznyj, & Martin, 2017). Traditional societal views of parenthood often placed fathers in a supportive role, portraying them as "secondary" caretakers (Salzmann-Erikson & Eriksson, 2013), thus it is not surprising that different expectations, both personal and societal, have been created between mothers and fathers regarding their parental capabilities.

As paternal confidence was shown to result in increased childcare involvement (Pestvenidze & Bohrer, 2007) and the levels of confidence were linked to social support, it would be indicated that support is essential for fathers to be able to successfully integrate in their parental duties (Steen, Downe, Bamford, & Edozien, 2012). According to the findings of the current study, paternal involvement, specifically from a feeding perspective, may be improved as a result of increased support and assistance available for fathers. A recommendation that could promote paternal engagement in feeding practices would be for healthcare institutions to design and provide tailored informational materials, such as leaflets or brochures, that clarified the impact of different feeding methods and the ways in which fathers could become involved in the feeding process Additionally, another suggestion would be to prioritise the paternal role in the feeding process, by creating specific workshops or classes aimed at preparing fathers with the necessary practical and theoretical knowledge required in supporting their partner before, during, or after engaging or deciding on the feeding techniques.

The second theme named "What about men?", discussed the thoughts and emotions of fathers in relation to the parental support received from health professionals and the impact of societal expectations and traditional gender roles on accessibility to paternal helping resources. In line with previous studies, the majority of fathers have felt neglected and overlooked during perinatal check-ups, which led to further confusion and insecurities regarding their parental efficacy (Fenwick et al., 2012). It has been shown that there is a general lack of training and knowledge among healthcare professionals surrounding paternal

mental health in the perinatal period, as the focus has been mostly on mothers (Whitelock, 2016).

Literature on gender differences regarding mental health issues indicated that men tend to display their psychological distress in a different way compared to women (Johnson, Oliffe, Kelly, Galdas, & Ogrodniczuk, 2012) and they are less inclined to seek support for their mental health (Robertson, Bagnall, & Walker, 2015). Some fathers within the present study appeared uncomfortable talking about their dissatisfaction related to the limited support aimed at fathers, as they were doing so laughingly, whilst also being worried about coming across as needy, with one participant mentioning "this is not me complaining and saying "what about men?"". This finding is consistent with previous research which identified that some fathers dislike being the centre of attention when it comes to their wellbeing in the early postpartum period, as they consider that the partner and infant require more support (Darwin et al., 2017). One interesting quote was extracted from a father who commented on the impact of traditional parental roles that positions fathers in the "provider" role, as they are then seen as extraordinary when they step out of that role and display higher levels of physical and emotional involvement and in the care of the baby.

The feeling of inadequacy when discussing the lack of paternal support from healthcare professionals could also be linked to gender role expectations and the stigma related to men's mental health that may prevent fathers from speaking up and seeking support (Brody & Hall, 2010). The fathers of this study expressed feelings of worry and concern for other men who may be struggling in their transition to fatherhood and who could be negatively affected by the limited access to professional support, as well as the reduced awareness of paternal mental health. As it has been shown that fathers are twice as likely to experience depression in the early postnatal period (Paulson & Bazemore, 2010), it is crucial that more acknowledgement is given to the challenges that fathers go through in the postnatal period.

The third theme "Men don't talk to each other about that kinda stuff" explored the digital behaviours of fathers within a parenting context, the difficulties related to gender differences and role expectations that fathers encountered online, their online help-seeking behaviours and thoughts regarding the support accessible for dads online. Regarding the reasons for the use of social media networks, the fathers of this study revealed that they found online platforms useful for connecting with other parents in similar situations, searching for parenting information or local groups and for creating posts about their experiences or challenges. The ability to engage with parents who may struggle with similar issues has been

frequently reported as an important online feature for fathers (e.g. Eriksson & Salzmann-Erikson, 2013; Fletcher & St George, 2011). The study by Eriksson and Salzmann-Erikson (2013) proposed that fathers used discussion forums to share similar concerns and challenges related to fatherhood, in this way creating a two-way system of parenting support, where they could both receive and provide information and advice.

It has been suggested that another motive that encourages fathers to seek parenting information and advice online was the lack of formal support from healthcare professionals (Fletcher & StGeorge, 2011). This may explain the digital choices of some of the fathers within this study, as most of them mentioned feeling overlooked during medical appointments. The exclusion of fathers within the medical environment has been linked to traditional gender role expectations that characterises fathers as "secondary" caretakers (Salzmann-Erikson & Eriksson, 2013). In response to this, blogs have been considered an opportunity to engage with others who share the same frustration, confusion or excitement associated with the early fatherhood period, which was found to have a positive impact on parental self-efficacy (Åsenhed, Kilstam, Alehagen, & Baggens, 2014).

Consistent with previous research, the findings within the third theme revealed that fathers engage with social media sites, such as Facebook, Instagram or Twitter, to make announcements about childbirth, to inform and update family and friends about parental journey or progress through textual posts or images (e.g., Ammari et al., 2015; Bartholomew et al., 2012) or to communicate and maintain relationships (Eriksson & Salzmann-Erikson, 2013). Other fathers within this study reported reduced interest in usage of social media, as they compared their digital behaviours with their female partners who were more likely to engage with those types of online platforms. This finding is supported by prior research, as it has been found that mothers tend to use social media for parenting support more frequently than fathers and to also view it as a helpful resource (Duggan & Lehnhart, 2015). In addition to this, the fathers of this study mentioned a lack of specific paternal information and support online, which may explain the reduced engagement with certain digital platforms.

Numerous studies have reached a similar conclusion, reporting a significant gender imbalance in the parenting community online, suggesting that most online resources and platforms were targeting mothers, with the common users also being mothers (Larsson, 2009). The participants of this study reported that due to other fathers refusing to actively engage with online groups and platforms, they also felt reluctant to have an active online participation. The lack of interest for online communication or engagement with parenting groups or forums was also linked to men's reluctancy to disclose emotional distress (Gaylin,

2000). This may explain the limited online activity from other fathers that influenced the fathers in this sample to behave accordingly. Gender stereotypes which associate disclosure of emotions with weakness may affect men in their help-seeking behaviours, as they would feel uncomfortable opening up about potential mental health difficulties (Brody & Hall, 2010), therefore leading to limited access to support.

An interesting finding of the present study was the impact of the career type on the digital behaviour of fathers. Some fathers indicated that their medical work background influenced them in focusing on evidence-based material when searching for advice online, especially regarding health concerns. Unfortunately, not enough research has been conducted on the impact of career type on digital behaviours. Therefore, a recommendation for future studies is to examine the potential correlation between the two factors, as it appears that the professional background may have an important influence on the online behaviours of fathers.

The fourth theme "Who's a friend, who's a stranger, who's malicious", portrayed the opinions of fathers regarding the disadvantages of using social media as a support tool and the detrimental impact on wellbeing, especially for fathers who are struggling in their adjustment to parenthood. A main issue associated with social media sites amongst the participants of this study was the unreliability regarding the quality of information found online, particularly when searching for health-related queries. The downsides of online platforms have often included the reduced credibility of the digital material, as well as the excess of information which increased the level of confusion amongst users. Several studies have shown that websites that offer valid and credible information are an important resource for parents and parents-to-be would appreciate if healthcare professionals offered advice in terms of suitable online resources during perinatal visits (e.g. Bjelke et al., 2016; Oscarsson, Medin, Holmström, & Lendahls, 2018). As a result of the unreliability associated with social media sites, most fathers within the present study preferred utilising medical websites or evidence-based articles, particularly for health concerns. Another downside associated with social media sites was the concern regarding the privacy and security online, especially concerning the content related to their babies. Within this study, most fathers suggested feeling hesitant about posting content that included images of their babies, as they were motivated to protect the safety of their children's identity. Although some parents have been shown to feel reassured by the privacy settings offered by online platforms (e.g. Pedersen & Lupton 2018; Peyton et al. 2014), others were still sceptical, deciding to reduce their engagement (Morris, 2014).

The lack of credibility linked to social media sites was also related to the unrealistic nature of online content, which displays a single side of parenthood, excluding the difficult aspects (Lee, 2014). The fathers of this study disclosed feelings of insecurity and doubts regarding their parental efficacy, due to being exposed to other parents' posts. Past literature suggests that increased exposure to curated social media content can have a damaging effect amongst parents, as it can result in negative social comparisons (Vogel & Rose, 2016), leading to heightened feelings of loneliness (Shensa, Sidani, Lin, Bowman, & Primack, 2016), low self-confidence (Brunson, 2013) and elevated rates of depression or anxiety (Butzer & Kuiper, 2006). Some fathers believed that parents who are already struggling may be at a higher risk of being negatively affected by the overly positive online content. This finding is consistent with previous research which proposed that people who experience depressive symptoms partake in online social comparisons more frequently than non-depressed individuals (Bäzner, Breomer, Hammelstein, & Meyer, 2006).

6.7.1. Wider implications

Overall, the findings revealed that the transition to fatherhood created an intense emotional reaction, as well as worries and concerns related to the father-baby bond, connection which was shown to be affected by multiple factors. An important finding that has clinical implications was the perceived lack of professional support, as most fathers stated that they received limited consideration during postnatal appointments, feeling overlooked or even excluded. This result raised concerns about the formal support put in place for fathers following childbirth, in terms of parenting advice and information, as well as mental health support. Therefore, it is recommended that healthcare professionals, such as health visitors, midwives or GPs, should have more training opportunities focused on supporting fathers through their postnatal adjustment. The training sessions may include topics such as paternal challenges in bonding with the baby, risk factors in developing perinatal mental health issues, or the change in relationship dynamics and importance of social support, as well as practical activities in assisting fathers who are struggling in their transition. Although there have been attempts at producing informational tools and procedures aimed at perinatal mental health within the National Health System (NHS) in the UK (Darwin, Domoney, Iles, Bristow, McLeish, & Sethna, 2021), most of the information continues to focus on the needs of the mother, whilst perceiving fathers as supporters rather than autonomous parental figures.

Furthermore, healthcare professionals may be able to provide better perinatal support by being informed of the potential psychological impact that online platforms can have on

their parental wellbeing. As a result of healthcare workers being appropriately informed and prepared for specific issues surrounding paternal adjustment and wellbeing, this may lead to a more positive impact on services received by fathers and elevated overall satisfaction amongst parents. Finally, the current findings could influence and inform policy change in the UK, as longer paternity leave should be considered to encourage and support paternal involvement, and ensure positive outcomes to transition into fatherhood and wellbeing amongst fathers.

6.7.2. Strengths and limitations

A strength of the current study is represented by the novelty of exploring the use of online platforms in relation to fatherhood adjustment within the first year postpartum. The use of semi-structured interviews was considered a strength as well, as it allowed for a comprehensive insight into the personal experiences of fathers, thus allowing for flexibility and authenticity. A limitation of this study is the lack of ethnic diversity within the sample, as all participants who volunteered to take part were identified as white/white British. A suggestion for future studies would be to explore the digital behaviours within the postnatal period of fathers of other ethnicities, in order to provide a more comprehensive portrayal of fatherhood in relation to social media use. Moreover, future research may consider investigating the potential impact of demographic information, such as education level or relationship status, on the use of online platforms for parenting support during the first year after childbirth. It has been shown that mental health issues may be linked to digital behaviours, and paternal postnatal depression is twice as likely to occur amongst fathers in the postnatal period (Paulson & Bazemore, 2010), therefore a recommendation for future research would be to use a qualitative approach to explore the online engagement of fathers with PPND symptoms.

6.7.3. Conclusion

To conclude, this study provided an in-depth understanding of the emotional, social and behavioural impact of early parenthood on fathers, emphasising the detrimental effects of gender role expectations, both within an offline and online context. Social media networks were described as a useful parenting tool for general information and advice, however medical websites were preferred for health concerns due to increased credibility. Prolonged exposure to curated social media content was considered harmful for fathers struggling with

their mental health, accentuating the significance of research exploring the digital behaviours of fathers in the early postnatal period. Most importantly, this research study highlighted the overall limited acknowledgement, concern and support resources (online and offline) designed specifically for fathers, calling for increased consideration for paternal mental health and postnatal adjustment from healthcare professionals, governmental institutions and the general population.

Following a quantitative and qualitative exploration of the relationships between postnatal mental health, social support and social media usage amongst a population of mothers and fathers, it was clear that social support was significantly associated with the risk of PND symptoms amongst both samples. It is evident that language plays an important role in accessing support, as it is essential that parents are able to effectively communicate their experiences, challenges and needs to access the support appropriate for them. The previous qualitative studies within this thesis indicated that there are differences in the availability of postnatal support for mothers and fathers, with the fathers dealing with limited support resources available. Due to this, the next chapter involves a corpus linguistic analysis of online content related to PND, whilst considering gender differences in language style. Study Five proposed to assess the linguistic terms utilised when discussing PND on Twitter, and to examine whether there are any discrepancies in the language used between female users, male users, and organisational accounts. Conducting a corpus linguistic approach provides an additional, novel perspective on the potential associations between PND, social media use and help-seeking behaviours.

Chapter Seven: Study Five: Gender differences in postnatal depression on social media: A corpus linguistic analysis

7.1. Language and social support

Language abilities and expressivity play an essential role in help-seeking behaviours, as the capacity to openly express oneself could lead to receiving the appropriate support, or, on the contrary, miss out on the help needed, due to lack of communication (Branney & White, 2008; Ridge et al. 2011). Social support has been described as an important protective factor during the postnatal period (Don & Mickelson, 2012), as well as a predictor of postnatal depressive (PND) symptoms (Leahy-Warren, McCarthy, & Corcoran, 2012). Due to the links found between language style and access to social support (Ridge et al. 2011), it is essential to consider and evaluate the language used to express psychological distress in the postnatal period, especially as PND is seen as a stigmatised condition (Goodman, 2009), which may have an impact on disclosure.

Findings from the previous chapters of this thesis indicate that PND symptoms are significantly associated with perceived social support and online comparisons amongst mothers (see Chapter Three) and fathers (see Chapter Five). These studies identified that mothers and fathers with lower risk of PND perceived higher levels of social support from family, friends and significant others, in comparisons to mothers and fathers with higher risk of PND who reported reduced social support. Parents with higher risk of PND were also found to be more inclined to compare themselves with other parents online, in comparison to parents with lower risk of PND. Therefore, the current study investigated whether online content related to PND contains any language linked to support or help-seeking behaviours, as well as terms that imply a tendency to compare oneself with others. The previous quantitative study with fathers (see Chapter Five) further showed that fathers with higher risk of PND indicated elevated levels of perceived online support, in comparison to the fathers with low risk of PND. However, there were no significant differences between PND levels and perceived online support amongst the sample of mothers (see Chapter Three). Thus, the current study explored potential gender differences in online language related to help-seeking behaviours between female and male Twitter users.

7.2. Gender differences in language of depression

Women and men experience general depression in a similar way, however the way in which their symptoms manifest is different (Brownhill et al., 2005). Studies have shown that women generally tend to be more expressive in terms of their psychological distress, whilst men are more reluctant to verbalise their emotional struggles (Johnson et al., 2012); this discrepancy is believed to have its roots in gender stereotypes (Charteris-Black & Seale,

2013). Gender ideologies have frequently compared men and women in their ability and willingness to communicate and express their feelings. The traditional approach proposed that men should not disclose sadness or get tearful, and women should not use swear words or display their anger (Lakoff, 2003). This concept was further confirmed in a more recent study by Charteris-Black and Seale (2013), where they used a corpus linguistic analysis to explore illness-related language used in interviews with men and women. They found that the experience of illness represented an identity challenge for men, as it encouraged them to express words and behaviours which emphasised vulnerability and self-awareness. It was indicated that women were more direct in their verbalisation of illness by using strong adjectives such as "terrified" or "awful", whilst men were more likely to utilise swear words, make analogies or generalise. Simultaneously, other men within the same study were relating to their experience of illness in a less constricting way by discounting the social constructs of gender (Charteris-Black & Seale, 2013).

A linguistic representation that has shown gender differences in studies of depression is the use of self-referent lexical items (e.g., first-person pronouns) (e.g. De Choudhury, Counts, & Horvitz, 2013). The study by De Choudhury and colleagues (2013) employed a corpus analysis to assess language within Twitter content posted by women during the postnatal period, aiming to assess whether online language can predict likelihood of developing PND. Their findings showed that the linguistic style, online engagement rates and emotional connotation of the words were effective predictors of PND amongst new mothers. It was further identified that women experiencing from depression were using self-referent items more frequently than men with depression (Fast & Funder, 2010). The frequent use of self-referent words in association with depression has been linked with heightened self-doubt and decreased levels of self-competence amongst women, and with narcissistic behaviours and low self-esteem amongst men (Fast & Funder, 2010). As some of the symptoms of depression include low confidence or reduced self-worth (APA, 2013), these can present an obstacle in help-seeking behaviours and reduce the likelihood of speaking up about the illness or asking for help, due to feeling undeserving of support (Gask et al., 2003). A study conducted by Emslie, Ridge, Ziebland and Hunt (2007) found that, whilst the majority of their sample appreciated the ability to talk to health professionals or friends and family about their mental health challenges, some of them preferred conversing to an unknown person, for instance through a helpline service. However, there is currently a lack of research exploring the way in which mothers and fathers communicate with others about PND through an online

platform, in terms of their language style and the potential topics associated with PND in their online content.

It is believed that men tend to struggle with seeking support from healthcare professionals (Addis & Mahalik, 2003), as such actions are interpreted as incompatible with traditional concepts of masculinity, such as strength or resilience (O'Brien, Hunt & Hart, 2005). Additionally, health sociology has portrayed women as natural carers, thus illness-related support has been characterised as a "woman's domain" (O'Brien et al., 2005). Due to this, men have often been described as dependent on women for health issues, such as interpreting symptoms or encouragement to seek help (O'Brien et al., 2005). Contemporary qualitative research reveals that some men's willingness to discuss sensitive issues or topics related to mental health is often met with unkind and dismissive comments within their professional and social circles (Miller, Temple-Smith, & Bilardi, 2019; River, & Flood, 2021; Siegel & Sawyer, 2020). Research indicates that some men feel more comfortable disclosing to their female partners, friends or colleagues (River & Flood, 2021; Siegel, & Sawyer, 2020), which may be due to perceiving women as nurturing and the act of expressing difficult emotions as feminine.

Whilst it is clear that mental health stigma continues to negatively influence willingness to disclose amongst men (Brown, Moloney, & Brown, 2018), there has been a development in challenging normative beliefs, promoting the importance of speaking out and raising awareness about male mental health (Sharp, Bottorff, Rice, Oliffe, Schulenkorf, Impellizzeri, & Caperchione, 2022). As it appears that most men who choose to take part in research studies have less stigmatised opinions regarding gender expectations, it is important to conduct research on the male population that may be reluctant to participate in research and therefore may hold distinct views on the matter. Thus, investigating the way in which men and women engage with discussions around PND in a naturalistic environment, such as an online platform that is not controlled by the researcher, could allow access to novel data that provides an unfiltered view into PND-related discourse.

Sociolinguistic studies of gender have proposed binary distinctions within language styles, suggesting that the female approach to language involved intimacy, collaboration and compassion, whilst the male approach consisted of autonomy, rationality and competitiveness (Talbot, 2003). However, recent literature suggests that the way in which men and women express themselves or respond to health-related issues is more complex and is influenced by

the particularities of the illness, the socioeconomic background or the personal abilities of managing health obstacles (Charteris-Black & Seale, 2013). A qualitative interview-based study conducted by Emslie et. al (2006) on men with depression has found some participants formed their identity around conventional views of masculinity, whilst others felt confident in embracing their emotional sensitivity. In this way, emotional expressiveness became a valuable aspect of effective communication (Oliffe et al., 2011). Previous literature has suggested that some men were appreciative of emotional support received from partners or family (Ramirez & Badger, 2014), as well as from other individuals with depression, as it reduced fear of judgment and improved social connectedness (Cutcliffe et al., 2013). Whilst it has been identified that there are gendered discrepancies in language style in relation to general depression, it is unclear whether these differences apply to the context of parenthood and postnatal mental health.

7.3. Parental use of social media and online language

Another way of discussing mental health issues or seeking support in a more distanced way is via social media sites. Statistics show that the majority of individuals within the child-bearing age range use social media, with 75% of people between 18-29 years old and 66% of people between 30-39 years of age use social networking sites frequently (Sensis, 2016). According to the Office for National Statistics (2020), the average age in England and Wales for first time mothers and fathers is 30 years old and 33 years old, respectively (Bradford; ONS, 2022, p.3). Social media platforms represent a useful space for collecting and analyzing online material about human behavior as it provides a naturalistic setting where many people feel comfortable sharing information about themselves (Naaman, Boase, & Lai, 2010), and the content is often publicly available (De Choudhury et al., 2013).

A large amount of written language exists on social media sites, with Twitter users creating around 500 million messages daily (Reuters, 2013). Twitter is one of the most popular social media platforms and it is often used as a place to discuss all aspects of mental health, from symptoms and treatment for depression (Park, Cha, & Cha, 2012), to more serious and enduring mental health issues, including suicide (Sueki, 2015). Twitter is a social media site where individuals reveal difficulties related to experiences of depression, mental health outcomes, whilst they also provide or receive advice and support regarding experiences of depression (Park, Cha, & Cha, 2012). Tweets created by individuals with

depression often contain descriptions associated with feelings of low mood, irritation or guilt, which may indicate that the Twitter users experience depression (Cavazos-Rehg et al., 2016). In terms of gender differences, one study suggested that female Twitter users were more likely to post content surrounding symptoms of depression, compared to male Twitter users (Cavazos-Rehg et al., 2016).

Online communities have been characterised as a preferred complementary source of support for parents who do not dispose of traditional forms of support, such as close family or friends (Finn & Kerman, 2005). The findings of the previous qualitative study within this thesis (see Chapter Four) suggest that mothers often prefer using the internet to seek support or advice on certain issues related to childcare or parenthood, as they believe disclosing to family would provoke feelings of stress and worry. The study presented in Chapter Five also identified that fathers who are at a higher risk of developing PND reported reduced support from family, friends and significant others, but elevated rates of perceived online support, thus suggesting that a lack of traditional help leads to increase usage of social media for support.

Research shows that support forums allow mothers to engage with other mothers, obtain information or seek advice (Pedersen & Smithson, 2013), as well as receive comfort and reassurance for struggles related to pregnancy difficulties or postnatal depressive symptoms (Pedersen & Lupton, 2018). A qualitative content analysis of PND online support groups found that forums create a pleasant and safe atmosphere which allows mothers suffering from PND to disclose feelings of distress, anxiety or frustration with their own children, sentiments which may be viewed as controversial and therefore difficult to express otherwise (Evans, Donelle, & Hume-Loveland, 2012). Often, societal expectations portray motherhood in an unrealistic way by focusing on the positive side of it and excluding any display of sadness, anger or resentment, as they go against the ideal of a “good mother” (Powell, 2010). As a result of this, mothers develop feelings of guilt or shame as they conceal their psychological distress (Lupton, 2013; Wigginton & Lee, 2012), due to fear of being judged (Kennedy, 2013). Sharing difficulties with peers who have gone through similar experiences can decrease loneliness and stigma surrounding mental health issues (Maloni, Przeworski, & Damato, 2013). However, research has also found that use of social media sites can exacerbate the risk of depression (McDaniel & Coyne, 2016), increase parental stress (Bartholomew et al., 2012) or reduce feelings of self-worth (Cramer, Song, & Drent, 2016). Some of the reasons associated with the detrimental impact of social media use have been engaging with multiple platforms simultaneously (Becker et al., 2013; Chen & Yan,

2016) or negative online comparisons caused by prolonged exposure to posts presenting a false portrayal of parenthood (Rui & Stefanone, 2013). In terms of damaging online behaviours, women are more vulnerable to the damaging effects of negative online comparisons, in comparison to men (Chua & Chang, 2016; Fox & Vendemia, 2016).

There is a gender-based difference in internet use, with mothers being more interested in using social media networks for parenting information and advice (Duggan et al., 2015) and women generally being more likely to seek health support online, compared to men (Bidmon & Terlutter 2015). Simultaneously, it has been proposed that both mothers and fathers appreciate interacting with other parents online and sharing experiences and information (Niela-Vilén, Axelin, Salanterä, & Melender, 2014). There are some distinctions in the way mothers and fathers engage and communicate online, as it has been proposed that mothers seek more emotional support and feeling of belonging to a close-knit community, whilst fathers preferred to use humour in conversations and discuss similar experiences (Niela-Vilén, Axelin, Salanterä, & Melender, 2014). The previous studies confirm these findings, as it was identified that most mothers choose online platforms, including parenting forums or Facebook support groups, to connect with other women, disclose sensitive issues and seek advice (see Chapter Four). On the other hand, the fathers who participated in the qualitative study presented in Chapter Six reported that they are less likely to discuss personal matters regarding to their parenting role on social media sites, usually due to lack of father-specific platforms or limited engagement from other men.

Differences in communication style online exist outside of the parenting context, as it has been shown that women tend to post comments of an intimate and emotional nature, whilst men's discursive content is based on practicality, information and playfulness (Mo et al., 2009). These findings were reported by Mo and colleagues (2009) following a systematic review of multiple studies that used quantitative and qualitative techniques, such as grounded theory, content analysis or linguistic inquiry and wordcount, to explore gender differences in online health communities. Although it is clear that digital resources are often utilised by parents, there is a limited number of websites and online groups designed for the specific needs and experiences of fathers, as an overwhelming amount of parenting sites are targeted for mothers (Ammari, & Schoenebeck, 2015). The scarcity in male-dominated platforms may inhibit fathers from opening up and seeking the necessary support.

7.4. Rationale, hypothesis and aims

Social media is a frequently used source of support for parents, however there is limited information regarding the way in which parents who are suffering from postnatal depressive symptoms are utilising these resources, as well as the language associated with the experience of PND. Previous research has revealed various discrepancies in the language styles of men and women, especially in regards to illness or help-seeking behaviours, yet it is unclear whether these differences apply in the context of PND. Due to these factors, the current study has conducted a corpus linguistic analysis to investigate a number of online posts created by female and male Twitter users who have posted tweets that included specific search terms related to PND, such as "postpartum depression". This research aimed to address the gap in the literature regarding the online discourses surrounding PND, as well as explore any potential gender differences in communication style or in the frequency and meaning of the lexical terms associated with PND. The research questions that this study aimed to investigate what language is used in Twitter posts related to PND created by female users, male users and organisational Twitter accounts, and to examine whether there are any gender differences in language style, frequency or meaning of words associated with PND. Based on previous research (e.g., Fast & Funder, 2010; Johnson et al., 2012), it was hypothesised that there would be gender discrepancies within the linguistic features utilised by female and male users in their tweets when discussing thoughts, feelings and attitudes related to postnatal depression.

7.5. Methodology

7.5.1. Design & Data Analysis

A corpus linguistic (CL) analysis was performed to examine the textual information included in Twitter content collected based on a term search related to PND (e.g., "postnatal depression"), as well as to explore any linguistic differences based on gender or the type of Twitter account (i.e. organisational; unknown). CL is a methodological perspective that

focuses on the study of language (Baker, 2014) and it was considered a suitable form of analysis for this study as it can manage large amounts of data, or "corpora", and it generates statistically reliable results (Kennedy, 2014).

The corpus was examined using three main components of CL, namely wordlist frequency, collocations and keyness tests. The frequency feature explored how often lexical items occurred within the data (McEnery & Hardie, 2011), the collocations provided information on the context and meaning of words, while looking at the items that appear in close proximity to specific key terms (i.e., depression, help), and the keyness tests investigated differences in words that occur statistically more often in one corpus when compared to another (Anthony, 2004). As collocations examine the way in which words are utilised in context, this feature allowed for the addition of a qualitative exploration of the data, as examples of tweets were presented and discussed. Keyness tests provide statistical information on the association between the lexical items of the two corpora, as it displays a significance value (p value), as well as a keyness score which reports the strength of the significance (Anthony, 2004). Three keyness tests were conducted for the current study, and they were aimed at the female Twitter user corpus, the male Twitter user corpus and the organisational Twitter user corpus. The keyness tests analysed the lexical words that occur statistically more frequently in the female users corpus when compared to the male users corpus and vice versa, as well as the words that occur significantly more often in the organisational user corpus when compared to the female and male users corpora. Examples of textual content from the corpora were presented subsequent to the keyness tests by using a concordance search. Due to this methodological exploration, the data were analysed using both quantitative and qualitative elements.

A mixed design approach was previously employed in studies where they investigated large corpora of online text utilising a combination between corpus linguistic analysis for a quantitative perspective on frequency of words, concordances and collocations, and a qualitative perspective formed of critical discourse analysis (Ismail, Idrus & Syed Sahuri, 2020; Kinloch & Jaworska, 2021), or thematic analysis (Carter, Gee, McIlhone, Lally, & Lawson, 2021). Kinloch and Jaworska (2021) utilised a corpus linguistic analysis to investigate a large corpus of text consisting of PND-related content posted on the popular parenting forum called Mumsnet, examining frequency of keywords and collocations, whilst also employing a critical discourse analysis to explore the context of the lexical items in a qualitative manner.

7.5.2. Participants

The participants of this study were Twitter users who posted content which included one or more of the search words that were used during data collection. The search words were related to the main topic under investigation, namely postnatal depression (PND), and they involved different terms used to describe this condition, such as 'postnatal depression', 'postpartum depression', 'baby blues', 'PND' or 'PPD'. A total amount of 15,850 tweets, consisting of 431,683 words were collected, observed and analysed. As the gender of the participants was an important factor of this analysis, the corpora was separated in four groups, namely female users, male users, organisational users and unknown users. The "unknown" users group was formed of tweets created by Twitter account that could not be identified.

7.5.3. Materials

The materials used in this study were three software programmes and an application that were used to search for key terms, download, categorise and analyse data from Twitter accounts. The software programmes used for data collection were FireAnt (Version 1.1.4) and TAGS (Version 6.1) (Anthony, 2019b). FireAnt has been described as a social media and data analysis toolkit (Anthony, 2017) that enables researchers to download relevant data from social media sites, visualise the data in the form of plots, graphs or maps, and analyse the results using corpus techniques. TAGS is a Google sheet template that provides an automated collection of search results from Twitter based on key search terms. After the data collection, the information was inputted into a data base as part of an application created in Android Studio, which allowed the researcher to visualise each tweet with its corresponding profile picture, username and bio description and send it to one of the four categories created (Female users, Male users, Organisational users, Unknown users). The data were then analysed using AntConc (Version 3.5.8) (Anthony, 2019a), which is a toolkit that examines large sets of data, also known as corpora, with the use of various features, such as wordlist frequency, collocation or keyness tests.

7.5.4. Procedure

Study five was an internet-based study, therefore no participant-researcher interaction was necessary and there were no active participants taking part in the research. Textual data, in the form of tweets, were collected between April 2020 and June 2020 (see Appendix T for example of tweets collected), with the use of programmes such as TAGS (Version 6.1) (Anthony, 2019b) and FireAnt (Version 1.1.4) (Anthony & Hardaker, 2019). TAGS (also known as Twitter Archiving Google Sheet) and FireAnt (also known as Filter, Identify, Report and Export Analysis toolkit) are tools that allow the automated collection of result searches from Twitter, with the use of key terms. TAGS collects Twitter data posted within the previous seven to nine days, whilst FireAnt collects tweets posted in real time, and the data collection timeline can be set up by the researcher. Both programs were utilised for the collection of the data within this study in order to ensure the collection of previous tweets related to PND, as well as present ones.

This study aimed to investigate potential gender differences in tweets related to postnatal depression, thus it was decided that the data would be collected based on key terms that include the words "postnatal depression" or other titles of the condition, such as "postpartum depression", "PND","PPD", and "baby blues". After an initial examination of the data collected based on these key terms, it was noticed that the data collected based on the term "baby blues" was majorly unrelated to the concept of postnatal depression or the postnatal period. Therefore, it was decided that the data collected based on the key term "baby blues" would be removed from the analysis. After the programs downloaded a number of tweets that was considered appropriate for analysis (N= 15,850), the entire data set was introduced in a software application that displayed each individual tweet, with its associated profile picture, username and bio description. The application was connected to a data base, which allowed the researcher the visualise each tweet and deliver it to a different category (female, male, organisational or unknown). The type of the Twitter user or gender was decided based on the information provided by their Twitter profile, in either their profile picture, bio description, username or tweet. For instance, if a user posted a tweet mentioning their personal experiences of being a mother who suffered from PND, then the tweet would be directed towards the female user corpus. A similar approach of categorising the data and identifying new mothers within a Twitter data set was employed by De Choudhury, Counts and Horvitz (2013), where they assessed the predictability of digital language in postpartum changes. Following the separation of the data set into four different categories, the data were analysed using a program named AntConc (Version 3.5.8) (Anthony, 2019a). AntConc is a

tool that can analyse corpora of text using features such as word frequencies, collocations, concordances or corpora comparisons (Anthony, 2004), elements which were utilised to examine the data collected from Twitter using TAGS and FireAnt. The results collected were then written up and interpreted as part of the report.

7.6. Results

General descriptives

The current study investigated a lexical corpus formed of over fifteen thousand (15,850) tweets posted on the social networking site named Twitter. Table 7.1 provides information regarding the total number of tweets and words collected using FireAnt and AntConc. The majority of the data were collected using the search terms "postnatal depression" and "postpartum depression", and some of the data were also downloaded using additional search terms, namely "PPD", "PND" or "baby blues". The data were then separated based on gender (i.e. females, males), including a group which consisted of Twitter accounts that were operated by an organisation (i.e. Organisations), and a group that included tweets collected from Twitter accounts that could not be identified as either gender or an organisation due to their profiles containing insufficient or unclear information. The majority of the data were sourced from female users, with 9,863 tweets, followed by organisations Twitter accounts with 2,746 tweets, unknown users with 1,984 tweets and lastly, male users, with 1,257 tweets.

Table 7. 1

Total Number of Tweets and Words for Each Twitter User Group and for the Entire Data Set

7.6.1. Frequencies

As part of corpus linguistic analysis, the results focused on three main components, namely frequency, collocates and keyness tests. Tables 7.2, 7.3 and 7.4 display frequency wordlists for three groups, which were the entirety of the corpus, the female users group and the male users group. Frequency represents the recurrence of lexical items within a corpus (McEnery & Hardie, 2012). Although the most frequent linguistic elements found were grammatical words such as articles, conjunctions or determiners, the only lexical features displayed were nouns, adjectives, verbs and pronouns, in order to provide a more meaningful portrayal of the data.

	Tweets (*n*)	Words (*n*)
Females	9 863	273 305
Males	1 257	32 561
Organisations	2 746	74 455
Unknown	1 984	51 362
Total	15 850	431 683

The top 50 most frequent words found within the entire data set were represented in Table 10. As expected, “depression” and “postpartum” were the most utilised words, as they were part of the search terms, as well as “postnatal” and “ppd”. Moreover, other lexical items that often occurred throughout the whole corpus, were 1st and 3rd person pronouns (e.g. “I”, “me”, “she”, “he”, “us”), items referring to aspects of childbirth (e.g. “baby”, “birth”, “pregnancy”), or to parental roles or gender identities (e.g. “women”, “mom”, “mothers”, “men”), as well as words from the semantic field of support (e.g. “help”, “care”, “need”), words with a negative connotation (e.g. “hard”, “shit”, “suffering”, “bad”) or items that represent societal events/circumstances, such as “pandemic” or “life”. Thus, it appears that the general discourses existent within the corpus revolve around experiences of parenthood, more specifically, feelings or challenges related to mental health obstacles within the perinatal period. Table 11 and Table 12 present the top 50 most frequently used words within the female user and male user groups.

Table 7. 2

Top 50 Most Frequently Used Words (All data)

Rank	Word	Frequency	Rank	Word	Frequency
1	Depression	15659	26	Mothers	599
2	Postpartum	13710	27	Life	598
3	I	10728	28	He	583
4	My	4354	29	First	572
5	Me	2244	30	Mother	546
6	Her	2095	31	Never	545
7	She	2074	32	Moms	544
8	Postnatal	1835	33	Men	515
9	Baby	1761	34	Hard	499
10	Women	1562	35	Months	494
11	Anxiety	1414	36	Shit	476
12	Real	1264	37	Suffering	451
13	Help	1204	38	Why	449
14	Ppd	1108	39	Care	448
15	Health	1085	40	Pregnant	444
16	Mental	1016	41	Talk	437
17	Birth	958	42	Pandemic	427
18	Pregnancy	856	43	Love	426
19	Feel	856	44	Day	416
20	Support	736	45	Bad	411
21	Child	721	46	Year	408
22	People	676	47	Myself	386
23	Need	660	48	Woman	379
24	Mom	644	49	Us	377
25	Experience	640	50	Alone	372

Table 7. 3

Top 50 Most Frequently Used Words from The Female User Group

Rank	Word	Frequency	Rank	Word	Frequency
1	Depression	9820	26	Hard	431
2	Postpartum	8836	27	Life	405
3	I	8826	28	Shit	376
4	My	3645	29	He	375
5	You	2811	30	Support	367
6	Me	1900	31	Myself	352
7	She	1179	32	Bad	346
8	Baby	1177	33	Love	339
9	Her	1149	34	First	323
10	Real	1013	35	Experience	310
11	Postnatal	907	36	Talk	310
12	Anxiety	847	37	Pregnant	292
13	Women	826	38	Mother	283
14	We	706	39	Care	280
15	Help	696	40	Someone	272
16	Ppd	662	41	Men	268
17	Birth	558	42	Mothers	268
18	Mental	494	43	Good	258
19	People	474	44	Dealing	253
20	Mom	458	45	Kids	245
21	Health	447	46	Suffering	244
22	Child	444	47	Alone	237
23	Need	442	48	Better	235
24	Pregnancy	441	49	Moms	233
25	New	439	50	Feeling	232

Table 7. 4

Top 50 Most Frequently Used Words from The Male User Group

Rank	Word	Frequency	Rank	Word	Frequency
1	Depression	1295	26	Need	49
2	Postpartum	1085	27	Mothers	48
3	I	522	28	Support	48
4	She	250	29	Experience	47
5	Her	227	30	People	47
6	Postnatal	179	31	Pregnancy	44
7	My	164	32	Wife	44
8	Women	152	33	Medication	42
9	Baby	100	34	His	39
10	Ppd	99	35	Shit	36
11	New	94	36	Suffer	33
12	Birth	92	37	Man	32
13	Real	87	38	Mom	31
14	Men	79	39	Talk	31
15	First	77	40	Kids	29
16	Me	76	41	Life	28
17	Help	73	42	Children	27
18	Child	72	43	Someone	27
19	Mental	70	44	Stress	27
20	He	69	45	Symptoms	27
21	Health	69	46	Good	26
22	Mother	69	47	Moms	26
23	Woman	64	48	Covid	24
24	Suffering	53	49	Pandemic	24
25	Anxiety	52	50	Risk	24

7.6.2. Collocations

Another component of corpus linguistic analysis is described by collocates. Collocations allow the analysis of lexical items in context, providing essential details regarding the meaning behind the words (McEnery & Hardie, 2012). It is considered that the

analysis of words is more meaningful when they are being assessed in association with other items that are in close proximity, rather than on their own (Cantos Gomez, 2013).

As the current study is exploring gender differences in Twitter content related to postnatal depression and the way in which users may engage with Twitter to seek or provide support,, a collocation analysis was conducted for the items “depression” (see Table 7.5) and “help” (see Table 7.6). These two lexical items were considered essential in exploring the main topic under analysis and appropriately linked to the main research question and study aims. This analysis was performed using the collocation function available in AntConc (Anthony, 2019a) and it explored a range of five words that occur most frequently on each side (left and right) of the key term.

Table 7. 5

The 20 Most Frequent Words Utilised in Proximity to the Word “Depression”, in both the Female and Male User Groups

	DEPRESSION collocates							
Rank	Females				Males			
	Freq	Freq L	Freq R	Collocate	Freq	Freq L	Freq R	Collocate
1	9123	8341	782	postpartum	1130	1046	84	postpartum
2	1166	583	583	depression	186	170	16	postnatal
3	961	105	856	real	114	57	57	depression
4	878	841	37	postnatal	87	41	46	First
5	716	237	479	anxiety	68	4	64	Real
6	297	169	128	women	56	4	52	Ppd
7	269	141	128	baby	53	22	31	Women
8	210	129	81	think	48	20	28	Anxiety
9	207	196	11	suffering	45	42	3	suffering
10	199	35	164	joke	45	23	22	Men
11	191	174	17	dealing	32	8	24	Baby
12	179	110	69	help	29	26	3	experience

DEPRESSION collocates

Rank	Females				Males			
	Freq	Freq L	Freq R	Collocate	Freq	Freq L	Freq R	Collocate
13	175	67	108	pregnancy	28	15	13	New
14	170	88	82	birth	27	22	5	Suffer
15	167	139	28	experience	27	15	12	Know
16	165	29	136	thing	24	17	7	pregnancy
17	157	78	79	bad	24	10	14	mothers
18	150	41	109	shit	22	14	8	Mother
19	149	78	71	people	21	17	4	Risk
20	146	53	93	hard	21	12	9	Help

Table 7.5 displays the 20 most frequent words that were utilised in proximity to the word "depression", in both the female and male user groups. Firstly, it can be noticed that the key term was most frequently paired with the words "postpartum", "postnatal" or the same word "depression", in both groups. Secondly, it appears that both the male (M) and female (F) Twitter users associated "depression" with the lexical item "real". The high tendency to pair "depression" and "real" together suggests that most female and male users felt the need to reinforce the validity of postnatal depression, condition that appears to be questioned or overlooked. Additionally, the female users have used the lexical item "joke" as a negation, possibly to highlight the seriousness of postnatal depression. The frequent use of the words "real" and "joke" amongst both the female and male users, as seen in the examples below, may indicate the presence of stigma towards PND, which would determine Twitter users to promote the genuineness and severity of this condition.

(F) "*Postnatal anxiety and depression are both very **real**."*

(F) *"Postnatal depression really is no **joke**."*

(M) *"People need to know that postnatal depression exists and is **real**."*

Moreover, both groups utilised the word "anxiety" when discussing postnatal depression, often as a pair, suggesting the existence of comorbidity. As seen in the quotes below, some of the female users who had personal experience of postpartum depression and anxiety expressed regret at the lack of prior knowledge and awareness, suggesting that being informed may benefit to their experience of the illness. One of the male users discussed postpartum mental health in relation to the COVID-19 government restrictions, linking social isolation to heightened risk of depression and anxiety.

(F) "*[…] wish I learned more about postnatal depression & postnatal* ***anxiety*** *before I started experiencing it."*

(M) "*Mental health: depression and* ***anxiety*** *exacerbated by postnatal and social isolation."*

Additional terms used in close proximity to "depression" were part of the female group corpus, namely "bad", "shit" and "hard". As it can be seen in the following examples, these terms describe PND as a negative experience. Female users are more likely to associate "depression" with descriptors with a negative connotation, compared to the male users.

(F) *"I thought my depression was* ***bad*** *before but postnatal depression is kicking my ass for sure."*
(F) *"I still got postnatal depression, wondering when this* ***shit*** *will stop."*

Further, it appears that female users were more likely to refer to themselves or other women when talking about the experience of PND or access to support resources, while the male users mainly focused on the experiences of other women or men, and not so much on their personal struggles. Therefore, the experiences of men in the context of PND-related language were mostly mentioned by other male users. As seen in the examples below, some of the female users were posting content related to personal PND experiences, in terms of therapy techniques for coping with PND, the lack of support and assistance whilst struggling or PND symptoms. On the other hand, male users were talking about PND on a general level, posting about other people requiring support with PND or the validity of paternal PND.

(F) "*My therapist taught me this while I was* ***dealing*** *with postnatal depression […]."*

"I developed pretty severe postnatal depression, and I had no ***help****."*

(M) *"It's definitely real bro* ***men*** *also suffer from postnatal depression […]."*

*"Men and **women** both experience postnatal depression."*

Table 7. 6

The 20 Most Frequent Words Utilised in Proximity to the Word "Help", in both the Female and Male User Groups

Rank	HELP collocates							
	Females				Males			
	Freq	Freq L	Freq R	Collocate	Freq	Freq L	Freq R	Collocate
1	179	69	110	depression	21	9	12	depression
2	142	41	101	postpartum	17	5	12	postpartum
3	51	30	21	need	8	8	0	needs
4	44	21	23	out	8	6	2	need
5	38	28	10	needs	7	7	0	time
6	34	9	25	postnatal	6	6	0	seek
7	30	29	1	seek	5	0	5	postnatal
8	23	9	14	support	4	3	1	women
9	23	12	11	needed	4	0	4	think
10	2	10	12	women	4	1	3	support
11	20	10	10	help	4	3	1	best
12	18	14	4	hope	4	3	1	able
13	17	5	12	make	3	3	0	step
14	16	9	7	reach	3	1	2	out
15	16	14	2	please	3	1	2	new
16	16	9	7	moms	3	2	1	know
17	15	7	8	people	3	0	3	have
18	15	2	13	mothers	3	2	1	all
19	14	11	3	real	2	2	0	wary
20	14	6	8	ppd	2	1	1	talk

Table 7.6 displays the 20 most frequent words that were utilised in proximity to the word "help", in both the female and male user groups. The word "help" was most frequently utilised in association with "depression" and "postpartum", between both the female and male user groups; these items were also the search terms when the initial data collection was conducted. Within the data collected for the current study, it is clear that PND was perceived as an illness that requires support. As seen in the examples below, some of the female users were discussing their personal need for mental health support, whereas the male users were placing themselves in the position of a supporter willing to learn about PND in order to provide help for someone suffering from this condition.

(F) "*I knew it was more than postpartum* ***depression*** *& I needed help."*

(M) *I'm going to do some research on how I can help with* ***postpartum*** *depression […].*

Moreover, both groups have used variations of the term "need" when mentioning the word "help", and it may suggest the necessity of helping resources. Similarly, the word "seek" was often accompanying the word "help", referring to the action of searching or looking for support.

(F) "*[…] to check up on mothers to help those who* ***need*** *postpartum depression support."*

(M) *"Stay strong.* ***Seek*** *help. Find someone to talk to."*

Furthermore, both groups referred to the term "help" in association to words such as "women", "mothers" or "moms". However, it seems that the terms "men" or "fathers" were non-existent or used very rarely when paired together with the lexical item "help", as they could not be observed in top 20 collocates. These differences demonstrate a marked gender difference within the context of help and support for postnatal depression, indicating perhaps a lack of awareness for the postnatal needs of fathers. The quotes presented below show that some of the female users were offering to provide informational support for mothers with PND. Moreover, while gender differences are the focus of this work, issues around help and ethnicity were also noted in some of the quotes, as seen below.

(F) *"Happy to help out sharing information for* ***moms*** *with postnatal depression!"*

(M) *"Did you know that Black* ***women*** *receive less help for postnatal depression?"*

Overall, it appears that when the term “help” was utilised, it was often to discuss and encourage the necessity of support when suffering from PND, to offer help or advice, either in the form of external links or by invitation to disclosure, or to report dissatisfaction related to lack of helping services or resources.

The collocations revealed that the female and male Twitter users often used the word “depression” in proximity to lexical items such as “real” or “joke” to emphasise the validity of postnatal depression, suggesting the existence of stigma, which may cause some people to question the existence or severity of PND. The word “depression” was also frequently utilised in association with “anxiety”, indicating that the two conditions may present themselves simultaneously. Additionally, the proximity to words with a negative connotation such as “bad”, often described the difficulty of experiencing PND. The word “depression” was also frequently used alongside “help”, when discussing the presence or absence of support, as well as the importance of assistance for postnatal depression. Both the words “depression” and “help” were more often utilised in relation to “women” or “mom”, rather than “men” or “dads”, which may be explained by the greater number of female Twitter users. This discrepancy may also propose a higher tendency of associating postnatal depression with mothers rather than fathers.

7.6.3. Keyness tests

A keyness test is another essential component of corpus linguistic analysis and it represents the comparison between the frequency wordlists of two different corpora, displaying lexical items that occur statistically more often in one group than the other. These items can be either positive or negative, depending on whether they are the most or the least statistically frequent in a particular corpus compared to another (Baker, 2010). A keyness analysis can provide useful information that may be indicative of linguistic patterns that are characteristic to certain interactions, contexts or groups of individuals. Within the current study, this type of analysis was conducted to explore any potential gender differences among Twitter content related to postnatal depression, as well as possible discrepancies between the language utilised by organisational accounts versus female and male Twitter users, resulting in three keyness tests performed using AntConc (version 3.5.8) (Anthony, 2019a).

The first keyness analysis examined the frequency of words that were statistically more present in the female users group when compared to the male users group. The focus

was maintained on the words represented by pronouns, nouns, verbs and adjectives. As it can be observed in Table 7.7, first person pronouns appear to be more utilised in tweets created by female Twitter users (e.g. my, me, myself), as well as items which express difficulties, such as “hard”, “anxiety” or “alone”. In terms of the significance value, the first-person pronoun “I” is approaching significance, whilst the rest of the lexical terms were statistically significant. The word “happy” was also more frequently utilised within the female group, compared to the males group.

Table 7. 7

Keyness Analysis for the Female User Group, with the Male User Group as Reference Corpus

Key words	Frequency value	Keyness value	Significance value
I	8826	334.72	0.0577
My	3645	218.93	<.05
Me	1900	132.4	<.05
Myself	352	55.31	<.01
Hard	431	42.6	<.01
Anxiety	847	28.94	<.01
Alone	237	25.14	<.01
Happy	217	24.53	<.01

A concordance search was carried out to gain a better understanding of the role that the keywords played in context. In terms of the first-person pronouns, it appears that they were used by the female users to describe their personal experiences related to motherhood or postnatal mental health. One of the female users, as seen in the quote below, described the ability to recover from PND as an accomplishment, suggesting that overcoming the challenge of PND symptoms requires self-determination and intentional effort. This tweet further indicates that the user recognises that PND is a difficult illness, as they display satisfaction for the positive outcomes on their wellbeing.

*"**I** will always be proud of **myself** for overcoming **my** postnatal depression"*

Other female users posted tweets describing the difficult nature of the pregnancy stage and the impact that it had on them. This tweet indicates that the female user who posted the quote presented below, felt comfortable publicly disclosing their obstacles in adjusting to the perinatal process.

*"**My** pregnancy was a little difficult on **me**"*

Moreover, the terms "hard" and "alone" were utilised as a way to express the challenging nature of parenthood, whilst mostly revolving around postnatal depression and the negative impact it can have on one's wellbeing, as noticed in the quotes presented below. As it can be seen in these quotes, some Twitter users were discussing PND from their own or a general perspective, while others were referring to the experiences of other mothers. The majority of tweets were portraying PND as a difficult illness, often suggesting that the experience of PND was associated with loneliness or lack of support.

*"Postnatal depression is hitting **hard** and it sucks"*

*"She was a new mother left **alone** to care for a baby"*

Additionally, the words "hard" and "alone" were also included in phrases that suggested feelings of sympathy or compassion for others, as well as encouragement for seeking help, whilst portraying a sense of community. The second quote presented below reinforces the idea that support is available for mothers who struggle in their adjustment to the new role and they are encouraged to speak up.

*"Do not be **hard** on yourself mummies"*

*"People need to know that they are not **alone** and can ask for help"*

The word "happy" displayed multiple meanings throughout the corpus, as it was utilised as a negative term, expressing the lack of happiness, as a willingness to provide help or support, or as a positive feeling of joy, as seen in the quote below. This quote further describes a feeling of relief, alongside the happiness of meeting their new-born baby, suggesting that the expectation of childbirth was previously overwhelming or stressful.

*"I'm relieved and very **happy** that my baby is here"*

Table 7. 8

Keyness Analysis for the Male User Group, with the Female User Group as Reference Corpus

Key words	Frequency value	Keyness value	Significance value
Https	477	70.68	<.05
Wife	44	70.67	<.01
She	250	55.11	<.05
Paternal	19	47.27	.001
Men	79	39.64	<.01
Fathers	23	39.13	<.01
Her	227	38.9	<.05
Woman	64	34.79	<.01
Postnatal	179	30.52	<.01
First	77	23.91	<.01
Suicide	23	23	<.01
Mother	69	22.72	<.01
Father	21	22.53	<.01
New	94	21.32	<.01

The second keyness test investigated the words that occurred more frequently within the Male group when compared to the Female group. Table 7.8 suggests that the male Twitter users had a higher tendency to post content which included links to separate articles or websites, as the word “http” had the greatest keyness value. Lexical items which represent third person pronouns (e.g. she, her) or nouns which refer to the gender of individuals or parental role (e.g. wife, men, fathers) were also more frequently utilised by male users.

The male users were more likely to post content centred around women or their female partners, with “wife” and “she” as some of the other terms with high keyness values. In context, the male users utilised these terms as noticed below. Sometimes, the male Twitter users create tweets that describe assumptions made regarding the existence of PND, thus suggesting that some individuals associate actions or feelings noticed in others with an unofficial diagnosis of PND.

*“My **wife** had postnatal depression”*

*“**She** could have been suffering from postnatal depression”*

Other terms that were also more significantly present in the tweets created by male users, compared to the tweets by female users, were nouns referring to fatherhood or the male gender, such as “paternal”, “fathers” or “men”. In context, these terms were often utilised to question the validity of PPND or to increase awareness. The quote presented below suggests that some male Twitter users post tweets related to their own perspective, thoughts which had been impacted by their own experience of PND. The same quote indicates that this male Twitter user had frequently used this online platform to discuss and disclose personal opinions and experiences.

*“As someone who had **paternal** postpartum depression and vented on Twitter a lot […]”*

There were some male users who also posted tweets talking about their personal experiences with PND, sentences in which the term “postnatal” was often mentioned, as reported below. This quote portrays a feeling of uncertainty regarding the depressive symptoms and limited father-baby bond that occurred post-childbirth, highlighting the difficulty in recognising the symptoms of PND.

*“I cannot tell if the extreme depression and feeling I did not love my son after he was born was due to **postnatal** depression […]”*

The terms “first” and “new” were also more often utilised by male users in comparison to female users, and they were frequently related to the novelty of parenthood, often referring to new parents or first children, and sometimes to the difficulties related to the immediate period after childbirth, which was believed to improve over time. As it can be seen in the second quote presented below, some of the tweets posted by male users were still concentrated around the experience of PND amongst mothers.

*"[…] it is hard at **first** but it becomes a little bit easier every day"*

*"**New** dads need to recognise postpartum period and depression in women"*

The word "suicide" was another term that was more often used by male users compared to female users. Analysing the term in context, it appears that it was mostly utilised when referring to official statistical information or to experiences received by word-of-mouth. The first quote displayed below also refers to the support resources commonly available for parents who experience mental health issues post-childbirth, suggesting that some parents, in this case mothers, do access hotline support to assist with mental health crises.

*"[…] one of my clients partner called a **suicide** hotline after she had their baby"*

*"[…] the biggest killer in men under 50 is **suicide** in the UK"*

Male users were less likely to utilise descriptive terms, such as adjectives, as well as first-person pronouns, in their content posted on Twitter, compared to female users who were more inclined to discuss opinions or experiences from a personal point of view. The male Twitter users were also less inclined to include information regarding the emotional impact that parenthood transition had on their wellbeing. Interestingly, the female users preferred to post content related to their own PND experiences or those of other women, while male users appeared more inclusive by posting about both men and women when discussing PND.

The third keyness test (see Table 7.9) looked at the top 20 lexical items that were statistically more present in the tweets created by organisational Twitter accounts, in comparison to the Female and Male groups. It appears that the organisational Twitter accounts were more likely to post links to external websites, blogs or articles, as the "http" item had the highest keyness value, however it is presented as non-significant from a statistical point of view. Additionally, it could be suggested that the content created by the Twitter accounts ran by organisations was more focused on mothers and experiences of motherhood, as the items that had higher keyness values were "maternal", "moms", "maternalmhmatters", which were later followed by the word "dads". It appears that organisational accounts were significantly more inclined to post informational or educational content, which included words such as "learn" or "study", whilst referring to medical aspects of PND, such as "symptoms" or "treatment". It also seems that this group was more likely to refer to the external events which may have an impact on parental mental health, in

comparison to the Female and Male groups, by frequently utilising words such as “pandemic” or “Covid”.

Table 7. 9

Keyness Analysis for the Organisational User Group with the Female & Male Users Groups as Reference Corpus

Key words	Frequency value	Keyness value	Significance value
Https	3184	+2769.04	0.0659
New	511	+387.98	<.05
Health	498	+381.07	<.05
Mentalhealth	199	+268.26	<.01
Maternal	184	+244.61	<.01
Learn	143	+242.59	<.01
Moms	261	+209.65	<.01
Symptoms	172	+198.6	<.01
Pandemic	212	+179.99	<.01
Perinatal	112	+164.13	<.01
Mental	370	+159.48	<.01
Postpartumdepression	132	+157.88	<.01
Treatment	130	+144.4	<.01
Covid	152	+140.49	<.01
Maternalmhmatters	76	+129.12	<.01
Study	97	+128.54	<.01
Mothers	227	+114.7	.005
Support	265	+108.41	<.01

Key words	Frequency value	Keyness value	Significance value
Dads	86	+103.36	<.01
Risk	130	+100.75	<.01
I	455	-2253.99	<.01
My	168	-964.05	<.01
Me	68	-565.09	<.01
Real	46	-285.35	.001
Bad	9	-118	<.001
Postpartum	2134	-103.43	<.05
Myself	12	-102.46	<.001
Thing	19	-96.31	<.001
She	198	-93.48	<.01
Hard	26	-92.33	<.001
Think	56	-85.72	<.01
Joke	4	-79.77	.0001
Love	20	-78.13	<.001
Kids	11	-72.52	<.001
Feel	79	-68.08	<.01
Him	5	-63.71	.0001
Man	8	-61.56	<.001
Girl	3	-57.15	.0001
Worst	3	-46.13	.0001

To provide a more detailed outlook of the contextual meanings behind these key terms, the concordance feature was used. It appears that the organisational Twitter accounts were more likely to utilise the term “new”, compared to female or male users, and it was

usually in a context regarding new parents or recent scientific studies. The quote presented below indicates that much of the information within the tweets created by organisational accounts was based on scientific evidence, thus suggesting a sentiment of accuracy and reliability.

*"Research shows that 10% of **new** fathers experience paternal postnatal depression"*

Moreover, the tweets included in this corpus were frequently consisting of words referring to the wellbeing of parents, either through stand-alone words or hashtags, such as "health", "mental health" or "maternalmhmatters". These words were frequently utilised to announce or promote educational programs or events, increase awareness, as well as discuss aspects related to psychological wellness. As noticed in the quote presented, many of the tweets created by organisational accounts were referring to perinatal health in relation to support resources, therefore providing valuable assistance easily accessible by their audience.

*"Pre- & postnatal **health** care programmes can help young mothers."*

An important difference between the organisational/official Twitter accounts and the female and male accounts, was that the former group was highly concentrated on providing information and advice, mainly through attaching links that could direct other users towards external pages or articles. For example, the words "learn" and "study" which are commonly related to the action of acquiring new knowledge, were often utilised in the context of PND support. Whilst some of these accounts were advertising and promoting external platforms, such as blogs, they were providing additional sources of support and information seen as valuable in dealing with PND.

*"Head over to our blog to **learn** about postnatal #depression and the many options available to treat it."*

The word "support" was also significantly more present in the organisational group corpus, in comparison to the female or male corpus. This lexical item was part of informing others about the support available for parents, as well as providing direct help resources. The quote below describes a different perspective that informs the audience about limitations and barriers in perinatal health.

*"Women say phone **support** is not enough to safeguard their physical and mental health."*

Access to support was often linked to the word “treatment”, especially when referring specifically to the diagnosis of PND, and touching on aspects such as treatment accessibility or barriers. In this way, organisational Twitter accounts are seen as a step towards information on PND symptoms and quick access to treatment opportunities.

*“If you have postnatal depression, prompt **treatment** can help you manage your symptoms […].”*

It is shown that the organisational Twitter accounts were also more likely to post content regarding external events, by using the words “pandemic” or “covid”, situations which may indicative of potential health challenges. It appears that these lexical items were often utilised to inform about the negative impact these risky circumstances could have on parental wellbeing or to provide advice on how to prevent or manage any possible issue related to these events.

*“Stressful events like living through this **pandemic** can increase risk for postnatal depression […].”*

This keyness analysis test suggests that organisational Twitter accounts were more likely to provide educational or informational content related to PND, as opposed to lived experiences, which was expected. This content would often include scientific facts, such as symptoms or treatment for PND, as well as links to external websites, blog posts, or research papers, with the intention of educating their audience. It could also be proposed that the content created by the organisational Twitter accounts was slightly more oriented towards women and motherhood, than on men or fatherhood.

Overall, the findings of this study revealed that the majority of the Twitter users who used the search terms related to PND (e.g., postpartum depression) in their tweets were females and most of the lexical items connected to PND were related to motherhood or experiences of women (e.g. “mom”, “she”, “her”), with limited associations to fatherhood or experiences of men (e.g. “men”, “he”). Similarly, the results suggest that the tweets created by the organisational Twitter accounts were also slightly more inclined to link PND to experiences of mothers (e.g. “maternal”, “maternalmhmatters”). Additionally, it has been suggested that in comparison to the male Twitter users, the female Twitter users were significantly more likely to associate PND to words with a negative connotation (e.g. “hard”,

"alone") or to use self-referent items, such as first-person pronouns (e.g. "me", "my"). Overall, the findings indicate that the Twitter discourse related to PND tends to be created by female users and to be concentrated on the challenges faced by mothers, with a reduced focus on PND experiences of fathers.

7.7. Discussion

The current study used a corpus linguistic approach to examine the potential gender differences in social media language regarding postnatal depression. Based on previous research conducted on gender differences in linguistic processes within an online and wellbeing context (e.g., Fast & Funder, 2010; Johnson et al., 2012), it was hypothesised that there will be discrepancies between the tweets posted by female Twitter users versus male Twitter users when discussing PND online. According to the results and the interpretation of the findings, the hypothesis was supported by the current findings.

The results showed that female Twitter users were significantly more likely to post content related to PND, compared to male Twitter users. A likely cause of this finding could be the general emphasis on maternal mental health and women's experiences of childbirth (Nelson, 2003; Rashley, 2005), aspect which could overshadow the experiences of fatherhood and paternal mental health. As a result of this, unsurprisingly women posted more online content related to PND, as they may have been more exposed to information related to PND, both within their social circle and within a medical environment.

The reduced awareness regarding paternal mental health was suggested by another finding of the current study, which revealed that PPND was mostly discussed in content

posted by male Twitter users, and not so often by female Twitter users. Perhaps conversations related to PPND were more present among the male Twitter users as they were more familiar with this condition, either from personal experiences or experiences of others. Similarly, an analysis of the words that appeared significantly more often in the organisational Twitter accounts when compared to the female and male user corpora, showed that organisational Twitter accounts were also inclined to post content related to women's mental health or motherhood more frequently than they would post about fathers or fatherhood. These results suggest that there may be a gap in the online information and support for fathers with PPND. Whilst the research investigating PPND support online is scarce, previous studies that explored online engagement amongst men with depression reported a dissatisfaction regarding the online advice and support available for men who were suffering from mental health issues (Gough, 2016). Moreover, the female Twitter users were more inclined to talk about their personal experiences with PND, as well as those of other women, while the content posted by the male Twitter users was less centred around themselves and more focused on experiences of others. This was shown by the increased usage of first-person pronouns amongst the female Twitter users.

Previous research has found that symptoms of depression can be predicted by certain online communication processes, such as increased self-attentional focus, reduced sociability or heightened use of terms suggesting negative feelings (De Choudhury, Gamon, Counts, & Horvitz, 2013). Furthermore, it has been proposed that women with depression tend to show a higher usage of self-referent lexical items, in comparison to men with depression (Fast & Funder, 2010). This past research may explain the present findings, as it appears that most of the female Twitter users of this sample were talking about their own experiences of PND, thus it could be anticipated that they would use a language-type associated with depressive symptoms (i.e., first-person pronouns). However, the limited usage of self-referent items among the male users could be interpreted in multiple ways. On one hand, this way of communicating when talking about PND could express an avoidance or reluctance of discussing personal struggles. This aspect could be linked to traditional beliefs and stigma related to mental health issues amongst men (Cole & Davidson, 2019), which may then negatively impact on their help-seeking behaviours and access to support (Ridge et al., 2011). Alternatively, the lack of focus on personal experiences amongst the male Twitter users suggests that most of the male users of this sample were not direct sufferers of PND. This suggestion is linked to prior research which found that men with general depression or PPND

may be less likely to publicly look for information or advice, due to fear of being judged (Ammari, & Schoenebeck, 2015), and having limited knowledge regarding methods of accessing support or sources of information (Henderson, Evans-Lacko, & Thornicroft, 2013).

An additional gender difference was found in the words used when describing experiences of PND, with the female users using more adjectives or swear words, in comparison to the male users. Part of this finding ties in well with a previous study which conducted a similar analysis on interviews and showed that female participants were more likely to use adjectives that described emotions when discussing health issues, whereas the male participants were more inclined to refer to the experiences of others, to use generalisations or taboo language (Charteris-Black & Seale, 2013). However, the findings of the current study differ as the female Twitter users used significantly more swear words compared to the male users, potentially due to the heightened emotional response to their personal experience of PND (Rodriguez, Holleran, & Mehl, 2010). Another explanation could be linked to the differences in study design and data collection procedure between the current study and the study by Charteris-Black and Seale (2013). As the study by Charteris-Black and Seale (2013) collected data based on interviews conducted with the participants, whereas the current study collected unfiltered data from an uncontrolled environment, that may suggest that the female users in the current study felt more comfortable using swear words. As the male Twitter users were mostly discussing experiences of others, it is possible that they were not as emotionally involved in the content created, which may explain the reduced use of swear words.

Interestingly, the male Twitter users were more likely to mention both women and men when discussing the population affected by PND, while female users mostly focused on the PND experiences of women. A possible explanation for this could be that fathers are often put in the position of supporter for their partner (e.g. Salzmann-Erikson, & Eriksson, 2013), thus they have a natural tendency to concentrate on the wellbeing of their female partners, and place themselves as a secondary priority (e.g. Fenwick et al., 2012). In contrast, due to the major emotional, mental and physical changes that occur amongst women during childbirth and following the transition to motherhood (Wisner, Parry, & Piontek, 2002), it would be expected that their initial focus would be on their own experience, as well as the mother-infant bond. Therefore, this may be linked to the findings showing that the female users were more likely to talk about their personal PND experiences and experiences of other mothers, rather than discuss paternal postnatal depression. It is important to acknowledge that

the differences in frequency of self-referent pronouns, adjectives or taboo language may be at least in part due to the discrepancy in sample size between the female and male user groups.

The current findings also suggested that terms related to help-seeking behaviours were often existent among the Twitter content focused on PND, with the use of lexical items such as “help”, “need” or “support”. These words were mainly used to ask for support or advice, offer encouragement or increase awareness of the support available for parents in need. The heightened focus on support and helping resources for PND is in line with previous literature, as social support has been described as a protective factor for parents during the postnatal period, due to increase in parental self-efficacy, emotional wellbeing and decrease of risk of depression (Leahy-Warren, McCarthy, & Corcoran, 2012). It seems that the tweets mentioning support were often associated with women or motherhood and less with men or fatherhood, regardless of the gender of the users. This aspect could reinforce the scarcity of digital resources for fathers or the limited discussions surrounding paternal needs and mental health (Fletcher, & St George, 2011). Thus, the stigma associated with men’s mental health (e.g. Chatmon, 2020), along with societal pressures of parenthood (Habel, Feeley, Hayton, Bell, & Zelkowitz, 2015) and the focus being on the mother’s perspective, are some of the factors that may explain the tendency to reinforce the validity of PPND found within the data set.

The fact that experiences of fatherhood or PPND appear to be overlooked or questioned may represent a concerning finding, considering that one lexical item that was significantly more utilised by the male Twitter users was “suicide”. There are higher suicide rates in men compared to women (e.g. Oliffe, Han, Ogrodniczuk, Phillips, & Roy, 2011; Wray, Colen, & Pescosolido, 2011), and the risk of suicide amongst men doubles in the postnatal period (Quevedo et al., 2011). Therefore, the findings of this study provide valuable information, as it is shown that online users acknowledge the major wellbeing risks that are posed to fathers in the postnatal period. PPND has also been shown to be detrimental to the cognitive, emotional and behavioural development of infants (Fletcher et al, 2011), as well as the psychological wellbeing of their female partners (Paulson & Bazemore, 2010). Therefore, it is essential that the mental health of fathers is carefully considered, as it can severely disrupt their adjustment and wellbeing, whilst also affecting the healthy functioning of the entire family unit. Twitter has been described as a useful platform for the prediction of suicide risk (Sueki, 2015) or likelihood of depression (De Choudhury, Gamon, Counts & Horvitz, 2013). However, within the context of the current study, the word “suicide” was

primarily used to discuss experiences of others or scientific facts related to PND and suicide rates, thus these particular tweets could not be seen as predictors of depressive symptoms, as the male users were not referring to personal difficulties.

An additional interesting finding was that both female and male users seemed to frequently utilise the lexical item "real" in their tweets as a way to describe PND, potentially wanting to reinforce the gravity of PND, whilst suggesting a lack of public awareness and a shortcoming in the response of healthcare professionals. The lack of an accurate understanding can minimise the seriousness of PND and incorrectly portray it as a more common and short-lived reaction to childbirth, often described as "baby blues" (Jones & Shakespeare, 2014); this may result in depressed parents feeling inadequate or ashamed of their psychological distress. Due to these factors, it seems that some parents felt the need to educate others or increase awareness regarding the severity of maternal and paternal PND and, in this way, encourage others to speak up and seek support. Finally, it appears that the general discourses existent on the Twitter content focused on PND were about the experiences of parenthood, as well as the feelings, thoughts and challenges associated with it.

7.7.1. Implications, strengths and limitations

The current research study has some clinical implications, as the findings could be utilised as part of training or workshops for healthcare professionals, in order to provide a greater understanding of the language used when talking about PND, especially in regard to the gender discrepancies that occur within a digital context. This information could also improve perinatal assessments and encourage equal post-childbirth assistance to both mothers and fathers, in order to prevent potential escalations. An important strength of the current study is represented by the novel findings regarding the gender differences in volume and meaning behind the online content surrounding maternal and paternal PND. Another positive characteristic of the study would be the "naturalistic" setting in which the data occurred without the involvement of the researcher, an aspect which has been described as useful in terms of authenticity, especially when exploring discussions among men (Bennett & Gough, 2013).

A limitation of the present study would be the sole analysis of the tweets that contained one or more of the search terms (e.g., "postnatal depression"), thus excluding additional tweets that did not contain the search terms but may have also been related to

PND. This was done due to time constraints related to the timeline of the PhD course. Still, the methodological decision to only focus on the tweets that incorporated the search terms may have also had a positive effect, as it provided linguistic information that displayed views, opinions and reactions that were directly and closely connected to PND. In other words, the tweets related to other factors that may potentially influence parental wellbeing were eliminated.

It is essential to acknowledge the limitations of using Twitter as a social platform chosen for data collection. Firstly, Twitter allows its users to only write 280 characters per post, thus the data extracted did not provide an in-depth look into the views and attitudes related to PND, but a more general perspective. Secondly, prior literature suggests that the thoughts, feelings and experiences discussed on digital platforms may not accurately portray actual attitudes and behaviours (Jensen, 2017), however, the same assumptions can be made regarding all types of informational data provided within psychological research. Third, whilst Twitter disposes of a substantial amount of users with a personal account, it has been shown that a much smaller fraction of the overall number of users tend to post on Twitter regularly (Jensen, 2017; Wojcik & Hughes, 2019); therefore, most of the content found on Twitter was created by the same group of active users, indicating that the information cannot be generalised to a wider population. Additionally, whilst most individuals with an existent Twitter account are male (Mellon & Prosser, 2017), the most active users identify as female (Wojcik & Hughes, 2019), and this may explain the imbalanced proportion of female versus male users in the current study. Moreover, statistics suggest that the majority of Twitter users fall under specific demographic categories relative to the general population, as most users come from a high socioeconomic background with democratic political views, they tend to be in their early to middle adulthood and have a White ethnic background (Mellon & Prosser, 2017; Wojcik & Hughes, 2019). Thus, it is crucial to recognise that the gap in demographic background between Twitter users and the general population indicates that the data analysed in research may be skewed towards presenting the narrative of a specific sample of the population.

A recommendation for future studies would be to explore the linguistic processes regarding experiences of PND posted on other social media platforms that enable more detailed discussions (e.g., Facebook, Reddit), and perhaps analyse a more balanced sample size when exploring gender differences. Additionally, future research may consider exploring

language related to PND among other gender identities or sexualities (e.g., non-binary individuals; same-sex couples).

7.7.2. Conclusion

To conclude, the present study demonstrated that online Twitter content related to PND is mostly created by female users and the conversations surrounding this topic significantly revolve around the experiences and challenges of mothers. Consistent with previous research, it has been shown that female users tend to be more descriptive in their written opinions and attitudes, while the male users were more general and focused on external events or experiences of others (Charteris-Black & Seale, 2013). It could also be suggested that self-referent items were predictors of depressive symptoms (Fast, & Funder, 2010). The Twitter posts related to paternal PND were significantly limited amongst both female and male users, finding which provided important insight into the existent digital information related to paternal mental health, as well as the interest on online engagement amongst fathers.

Following a write-up of all five studies within this thesis, the next chapter presents an overall discussion of the current findings, including the links between the research questions, hypotheses, results and prior literature, the way in which the five studies informed each other, wider implications, and a reflexive account of the research journey.

Chapter Eight: General Discussion

The purpose of this thesis was to investigate the impact of postnatal depressive symptoms on social media use, to explore a detailed account of postnatal experiences of mothers and fathers in relation to social support and digital behaviours, as well as examine potential gender differences in online language related to PND. The research questions that were addressed within each individual study as part of this thesis are as follows: Studies one (see Chapter Three) and three (see Chapter Five) investigated whether there were any differences in social media use (i.e., emotional attachment and integration of social media in daily life, online support, online comparisons, frequency of social media use) and perceived traditional support between mothers and fathers with low and high levels of PND. Studies one and three also examined whether these PND levels and emotional attachment and integration of social media in daily life could be predicted by the other variables (e.g., online and traditional support, online comparisons, frequency of social media use). Studies two (see Chapter Four) and four (see Chapter Six) addressed the research question which explored how mothers and fathers experience the postnatal period, in terms of adjustment to parenthood, relationship with baby and partner, access to support and use of online platforms as a parenting tool. Finally, study five (see Chapter Seven) assessed the type of language utilised in Twitter posts related to PND posted by female users, male users and organisational

accounts, whilst also investigating whether there were any gender differences in language style or the frequency or meaning of lexical terms associated with PND.

This thesis employed a sequential-explanatory design; thus, the methodological technique was initiated by a quantitative approach, followed by a qualitative approach, and finally by a corpus linguistic approach. The following paragraphs present how the current findings addressed the research questions and provide an evaluation of the impact that the quantitative findings had on the qualitative design, and ultimately a description of how the quantitative and qualitative studies informed the corpus linguistic design.

8.1. Quantitative design

8.1.1. Study 1 and Study 3

A quantitative approach was utilised in Study One (see Chapter Three) and Study Three (see Chapter Five), where a sample of mothers and a sample of fathers in the first year-postpartum were presented with a number of self-reported questionnaires, assessing levels of PND risk, perceived social support, parental stress and social media usage. Studies One and Three aimed to investigate whether the level of maternal and paternal PND risk (low versus high) had any impact on social media usage and perceived social support, and to assess the potential associations between these variables.

There were a number of hypotheses that were formed following an extensive review of the literature. Firstly, it was expected that mothers (see Chapter Three) and fathers (see Chapter Five) with higher levels of PND symptoms would display increased social media usage, compared to mothers and fathers with lower levels of PND symptoms, according to prior research (e.g. Bäzner, Breomer, Hammelstein, & Meyer, 2006; Coyne, McDaniel & Stockdale, 2017; McDaniel & Coyne, 2016; Merolli, Gray, & Martin-Sanchez, 2014). For the purposes of this thesis, the term “social media usage” includes all the variables utilised to assess digital behaviours, namely emotional attachment and integration of social media in daily life (SMUIS), perceived online support, frequency of social media use and online comparisons. This hypothesis was partly supported by the findings of this thesis. As anticipated, the quantitative studies conducted with mothers and fathers identified that participants with lower levels of PND symptoms were less likely to engage in online comparisons with other parents, compared to the participants with higher levels of PND who

presented an increased likelihood of comparing themselves online. This finding is in line with prior literature which has suggested that there are associations between online comparisons and increased rates of depression (Coyne, McDaniel, & Stockdale, 2017). These results are supported by theoretical perspectives of social identity formation and social comparisons, as they proposed that a meaningful part of adjustment to the role of parents included comparing themselves with others who shared similar characteristics. However, it is important to note that, as pointed out in the study by Coyne, McDaniel and Stockdale (2017), the survey item related to online comparisons did not state whether the evaluation was positive or negative, therefore it is impossible to confirm whether the risk of PND was associated with upward, downward or lateral comparisons.

The differences amongst the groups of participants with low and high risk of PND in the tendency to compare themselves with other parents online were more meaningful and impactful amongst fathers, compared to mothers. The variation in the impactful effect of the engagement with online comparisons between the samples of mothers and fathers is unexpected, and it is considered a novel finding, as it highlights that fathers may be even more likely to compare themselves online, when compared to mothers. This result is inconsistent with prior research, as it has been identified that women are generally more likely to engage in comparisons with others online, compared to men (Chua & Chang, 2016). This finding suggests that men who have taken a parenting role may be more susceptible to online comparisons, compared to men who are not fathers, and thus, more vulnerable to developing depressive symptoms as a result of engaging in harmful online behaviours. It is possible that the inconsistencies between the current findings and prior literature regarding gender differences in online comparisons may be due to the existence of PND risk, which was identified as an influential factor in engaging in online harmful behaviours. Due to this, it is essential that further research considers the impact of digital content on the wellbeing of fathers in the postnatal period, particularly as fathers are twice as likely to experience depression compared to the general male population (Cameron et al., 2016), and this risk may be exacerbated by engaging in online comparisons.

A possible explanation for the heightened impact of online comparisons on PND levels identified amongst the sample of fathers compared, compared to the sample of mothers, may be due to its association with the finding related to perceived online support. The fathers who presented elevated PND risk were identified as more likely to engage with online support, compared to the mothers with high PND risk. As fathers were more likely to

seek support online, it is evident that the elevated exposure to online platforms would increase the likelihood of engaging in other digital behaviours, such as online comparisons. This result emphasises the importance of assessing digital behaviours amongst fathers in the postnatal period, especially as it has been shown that engaging in online comparisons could have a negative influence on psychological wellbeing (Coyne, McDaniel, & Stockdale, 2017), thus suggesting a bidirectional relationship between depressive symptoms and engagement in, potentially harmful, online behaviours. Additionally, this novel result indicates that there is a need for further research in the area of digital behaviours amongst fathers with perinatal mental health issues, particularly in exploring the act of participating in online comparisons within the context of parenthood.

The quantitative studies additionally showed that there were gender differences in the use of online platforms for support amongst parents with increased risk of PND, with fathers being more inclined to seek support online, in comparison to mothers who did not present a meaningful interest in online support. Interestingly, the fathers who appeared to experience elevated risk of PPND symptoms were more likely to engage with digital platforms for support, whilst the fathers with reduced risk of PPND symptoms displayed a lower likelihood of utilising or interpreting online platforms as valuable support tools. This is a novel finding, as there is no other research, to our knowledge, that investigated perceived online support amongst a population of fathers with low and high risk of PPND. This finding, therefore, brings an important contribution to knowledge, as it presents valuable information about the way in which fathers with postnatal mental health issues utilise social media for support.

A cause for the increased interest in utilising online platforms for support amongst the fathers who experienced symptoms of PND may be that they were compensating for the lack of traditional support or unwillingness to access other support resources. As it was presented in Study Three, fathers with higher levels of PND risk displayed reduced perceived social support provided by family, friends or significant others, therefore this explains their preference for digital platforms. The potential unwillingness amongst the fathers with high risk of PPND to seek traditional support could be linked to stigma or gender norms, as it was previously indicated that fathers feel pressed to focus on the wellbeing and support of their partners. It is also possible that the lower levels of perceived traditional support were a cause, rather than an effect of the high PND risk, as reduced social support has been identified as a risk factor for the development of postnatal mental illness. Previous literature has shown that perceived social support is associated with risk of developing PND, as reduced access to

support can lead to higher chances of PND (Leahy-Warren, McCarthy, & Corcoran, 2012). An explanation for the reduced perceived online support amongst the fathers with low risk of PND may be related to the poor credibility and reliability associated with digital information, factor which has been mentioned in the study by Oscarsson and colleagues (2018). It is notable to mention that, whilst both mothers and fathers with increased levels of PND risk displayed reduced traditional support, only the fathers were inclined to substitute this deficiency with online support. This discovery suggests that mothers with high risk of PND may not be accessing traditional support, nor online support, which may be seen as concerning. However, it is important to acknowledge that there was no assessment of whether the mothers in Study One were seeking support from healthcare professionals, and thus, it is possible that the mothers with higher risk of PND were more likely to seek professional support, over support from family, friends, or online platforms. The potential motivations behind social media use and the associations between maternal mental health and digital behaviours were further explored in the qualitative study presented in Chapter Four.

The expectation that postnatal depressive symptoms would be related to higher use of social media further included elevated frequency of social media usage and increased emotional attachment and integration of social media in daily life. Whilst it has been found that parents with higher risk of PND are more likely to compare themselves online with other parents, the findings suggest that PND levels are not associated with frequency of social media use and integration of online platforms in daily life. These findings suggest that the mothers and fathers with low and high risk of PND did not differ in their time spent on social media platforms and in their attachment to online platforms. In other words, these findings suggested that low or high risk of maternal or paternal PND had no significant impact on the way they integrated social media platforms into their daily habits. These results provided some clarification to the inconsistent findings in prior literature, as some previous research found no relationship between PND symptoms or impaired postnatal wellbeing and the time spent on social media (Coyne, McDaniel, & Stockdale, 2017), whilst other studies suggested the contrary (Bartholomew et al., 2012). However, the expectation that the participants with higher levels of PND symptoms would be more likely to report emotional attachment and integration of social media in daily life, compared to participants with lower levels of PND (Woods & Scott, 2016), was not met. It is possible that this finding is inconsistent with prior research due to the SMUIS scale having been previously used amongst samples of adolescents (Woods & Scott, 2016) and university students (Savci & Aysan, 2016). Thus, it is

possible that the thoughts, behaviours and attitudes assessed by this scale do not directly associate with the use of social media within a parenting context. Further details on the justification for the use of SMUIS scale within the current thesis can be found in the General Methodology chapter.

The lack of an association between the levels of PND risk and the emotional attachment and integration of social media in daily life amongst participants may be further related to the parenting experience amongst the samples, and the impact this may have on engagement with online platforms. As most participants who took part in the quantitative studies reported that their youngest child was between the ages of three to six months (sample of mothers) or six to twelve months old (sample of fathers). Therefore, as most participants had passed the early postnatal period, it is possible that they felt experienced in their parenting abilities, and this level of parental confidence may have modified their engagement with social media, resulting in lower levels of emotional attachment and integration of social media in daily habits. This finding is in line with the qualitative studies within this thesis, as it was found that both mothers and fathers modified their online engagement throughout the postnatal period, with the early period being associated with increased frequency and intensity of social media use, whereas the later postnatal period would be linked to decreased frequency of social media online, behaviour associated with changes in parental competence and perceived self-efficacy.

Within this body of work, it was further proposed that mothers and fathers who were at higher risk for PND felt that they had lower levels of social support (Da Costa et al., 2015; Freitas et al., 2016; Leahy-Warren, McCarthy, & Corcoran, 2012). The quantitative studies conducted with mothers and fathers revealed that the participants with low risk of developing PND were more content with the social support available to them (from family, friends or significant others), whereas the mothers and fathers with higher risk of developing PND were more likely to consider that they were lacking in social support from those around them. This finding suggested that perceived social support had a meaningful impact on maternal and paternal postnatal wellbeing. This is a valuable finding, as it indicates that the mental health of both mothers and fathers is significantly affected by the support available to them. This thesis identified social support as a crucial factor in postnatal maternal and paternal mental health, and this finding is strongly supported by literature which suggests that social support acts as a buffer in developing psychological distress in the postnatal period (e.g. Da Costa et al., 2015; Freitas et al., 2016; Leahy-Warren, McCarthy, & Corcoran, 2012) Still, there is

evidence, including within the qualitative findings of this thesis (see Chapter Six), that fathers report a scarcity in the availability and accessibility of paternal-specific support (e.g. Åsenhed, Kilstam, Alehagen, & Baggens, 2014; Edhborg et al., 2016; Fletcher & StGeorge, 2011), online and offline. Therefore, the current thesis further reinforces and highlights the value of postnatal support for fathers and the potential consequences that could arise as a result of insufficient or inadequate support.

The current findings showed that fathers with lower risk of PPND felt satisfied with the support available from family, friends and significant others, therefore proving online support as unnecessary. However, the risk of maternal PND had no influence on the mothers' perception or interaction of online support. This distinction indicates that paternal mental health is more likely to influence the way in which fathers engage with sources of support (online and offline), whereas maternal mental health does not play a major role in choosing between online or offline support. This contrasting aspect may, again, be due to the discrepancy in support opportunities available for mothers compared to fathers, as well as the societal perspective on gender norms and parenting (Salzmann-Erikson & Eriksson, 2013). This finding highlights the need for increased acknowledgement and focus on the digital behaviours and online resources available for fathers, as these findings suggest that online platforms are particularly utilised by fathers who struggle with their mental health. As fathers who experience psychological distress may deal with stigma (Cole & Davidson, 2019) or could feel overlooked by healthcare professionals (Åsenhed, Kilstam, Alehagen, & Baggens, 2014), it is evident that online platforms, which provide anonymity (Kauer, Mangan, & Sanci, 2014) and communities of individuals who experience similar challenges (Merolli, Gray, & Martin-Sanchez, 2014), would be identified as a more suitable and accessible source of support.

The quantitative study conducted with mothers found that maternal mental health had a meaningful impact on stress related to parenthood (Anding et al., 2016), as the mothers with higher risk of PND felt more distressed regarding their parental role and responsibilities, compared to mothers with low risk of PND. It is possible that experiencing the symptoms associated with PND exacerbated the perceived difficulty of parenting, therefore causing the mothers to feel particularly overwhelmed by the demands of parenthood. This finding is consistent with prior literature, as PND has frequently been linked to heightened parental stress (Gordo et al., 2018). However, whilst other studies found that parental stress was influenced by social media use (Bartholomew et al., 2012), this study did not find a

relationship between the two factors. This result may be linked to the qualitative reports from Study Two (see Chapter Four) where mothers disclosed that they frequently utilised social media platforms when experiencing psychological difficulties, such as suicidal ideation, anxiety or depressive symptoms. The mothers in Study Two reported that the accessibility and convenience of social media platforms, especially during night-time or times of extreme distress, was greatly beneficial in relieving their worries by communicating their challenges with other mothers and allowing themselves to feel encouraged and supported. Thus, it appears that, whilst social media has occasionally been described as damaging due to aspects such as negative comparisons, many of the mothers within the current research believed that online platforms may, in fact, reduce their stress, alleviate emotional hardships and improve their adjustment to parenthood.

8.2. Qualitative design

A qualitative approach was utilised in Study Two (see Chapter Four) and Study Four (see Chapter Six), where semi-structured interviews were conducted to explore how mothers and fathers experience the first-year postpartum, in terms of adjustment to parenthood, relationship to baby and partner, access to support, as well as the use of social media for parenting support, advice or information.

8.2.1. Study 2 and Study 4

A thematic analysis of the data collected from the interviews conducted with mothers (see Chapter Four) led to the formation of three main themes, namely "Motherhood as a challenge to identity", "Community at your fingertips" and "The dark side of social media". The first theme was formed of two sub-themes, "Change of lifestyle" and "Learning experience" and it presents an exploration of the early postnatal period, with elements including the overwhelming nature of early parenthood, the fluctuation of emotions, the adjustment of habits and routine, and the accumulation of new parental knowledge and abilities. The second theme included the sub-themes "Accessibility and Convenience" and "Online support", and it presented a discussion around the manner in which mothers engage with online platforms as parenting tools, the reasoning behind their engagement with social media and the supporting nature of online communities. The third theme included the sub-

themes “Online expectations of motherhood” and “Scepticism and self-discipline online” and it delved into the way in which engagement with social media platforms poses a negative influence on maternal adjustment and wellbeing, focusing on the perceived pressure and curated content found on social media, as well as issues of privacy, reliability of information and risk of psychological distress.

A thematic analysis of the data collected from the interviews conducted with fathers (see Chapter Six) led to the formation of four main themes, namely “A bit of a rollercoaster”, “What about men?”, “Men don’t talk to each other about that kinda stuff” and “Who’s a friend, who’s a stranger, who’s malicious”. The first theme incorporated a personal account of the early transition into fatherhood, including the positive and difficult emotions and experiences, the adjustment to the new role and involvement in parental duties, and the access to support from family, friends and healthcare professionals. The second theme included a deeper exploration of the accessibility to support, the variations in support aimed at mothers versus fathers, the paternal identity and role within the family unit and the overall parental community, and the relation between the fathers and the healthcare system and services available for fathers. The third theme included a presentation of the online engagement amongst the fathers within this study, involving a description of the online platforms used and the reason behind participation with social media, as well as the barriers to online support and access to digital resources for fathers. The fourth theme further explored the detrimental aspects to social media sites and the problematic features, such as the unrealistic portrayal of parenthood, unreliable information, and risk of exacerbation of mental health issues for vulnerable fathers.

In a similar manner to the quantitative studies, the findings of the qualitative studies of this doctoral project (see Chapter Four and Six) further identified social support as imperative in the adjustment to parenthood, however there was some variation between the groups of participants. More specifically, the discussion amongst the mothers mostly revolved around the support found on online platforms, including the feeling of community and the opportunity to relate to others within online communities, including forums or online support groups. This finding is supported by social comparison theory which suggests that individuals have a tendency of comparing themselves with others who share similar characteristics when they evaluate their own experiences. On the other hand, the fathers presented contrasting information. Some of the male participants suggested that the support should be focused on mothers, rather than on fathers (Darwin et al., 2017), therefore

proposing that they do not require help or assistance in the postnatal period. Simultaneously, other fathers within the qualitative study expressed concern due to the perceived lack of online representation of paternal mental illness and the necessity of paternal support. Others also stated feeling overlooked or dismissed by healthcare professionals in the early postnatal period, result which aligns with prior literature (e.g. Åsenhed, Kilstam, Alehagen, & Baggens, 2014; Brown, & Davies, 2014; Johnsen et al., 2017). Thus, it is clear that the mothers and fathers within the two qualitative studies presented similarities, as well as disparities in their experiences with social support in the postnatal period. These dissimilarities between mothers and fathers emphasise the need for gender-specific perinatal care and access to individualised support resources.

Both mothers and fathers who took part in the current research study described the postnatal period as an "emotional rollercoaster", where they experienced fluctuating emotions and they gradually learned how to engage in parenting duties and interactions with their baby, whilst also presenting their parent-infant bond as a relationship that develops steadily, rather than experiencing an immediate connection. This result is supported by prior literature that identified that the parent-infant connection improves as the baby develops and becomes more interactive with their parent (Figueiredo et al., 2009). These findings are important, as many of the parents that took part in these qualitative studies disclosed feelings of guilt or shame due to the lack of an immediate emotional connection with their babies, or the absence of an "innate" parenting ability. The feelings of guilt or shame were linked to societal expectations of parenthood that tend to particularly focus on the positive and joyous aspects of parenthood and overlook the challenges and learning process that occur as part of becoming a parent, as seen in prior research (Miller, 2011; Staneva et al. 2015). These results can be understood through the lens of social identity theory, which proposes that one's self-esteem and self-concept are dependent on their group memberships, and engaging in specific group norms is essential in building a feeling of belonging (Tajfel, 1974). Thus, the need to belong could justify how some participants felt inadequate in their postnatal experiences due to pressure, or inability, to comply with certain expectations of parenthood that may be seen as social norms.

It is essential that societal expectations are acknowledged, as their overwhelming and judgmental nature have shown to increase the risk of psychological distress and decrease self-confidence amongst parents (Staneva & Wittkowski, 2013). These feelings and experiences were further disclosed in relation to social media use, as participants revealed that online platforms could be disadvantageous due to the unrealistic portrayal of parenthood, as well as

the concerns related to their child's online safety or privacy. This finding was well supported by previous literature which has identified that internet users tend to post content related to positive life experiences and dismiss difficulties, thus promoting an incomplete representation of their life (e.g. Darvill, Skirton, & Farrand, 2010; Shensa, Sidani, Lin, Bowman, & Primack, 2016). It has been found that heightened exposure to an unrealistic portrayal of parenthood can increase the likelihood of engaging in online comparisons (Lee, 2014; Rui & Stefanone, 2013), which could then lead to elevated risk of depressive symptoms (e.g. Coyne, McDaniel, & Stockdale, 2017; Feinstein et al., 2013), as users may perceive themselves as lacking in the skills, knowledge or opportunities displayed by other users. The qualitative discourse regarding the harmful effects of being exposed to curated online content can be clearly linked to the quantitative findings found in Chapter Three and Chapter Five where it was found that mothers and fathers with higher PND risk were inclined to compare themselves with other parents online. It is, therefore, evident that there is an association between postnatal mental health and the tendency to be influenced by digital content.

8.3. Corpus Linguistic design

8.3.1. Study 5

A corpus linguistic approach was utilised in Study Five (see Chapter Seven), where a large Twitter-based corpora of text was collected and analysed to investigate the type of lexical items utilised to discuss PND on Twitter, and to assess potential gender differences in language style amongst female Twitter users and male Twitter users, including frequency and meaning of words. Differences were further assessed between the male and female users and organisational Twitter users.

Study Five, in line with prior literature (Fast & Funder, 2010; Johnson et al., 2012), indicates that female Twitter users and male Twitter users display distinct online language when discussing postnatal depression on Twitter. More specifically, female users are inclined to communicate personal experiences or thoughts related to PND, whereas male users are more general in their communication regarding PND, and they are more likely to produce textual posts regarding the experiences of other parents. This finding is supported by previous research (Charteris-Black & Seale, 2013), which suggests that men are more likely to

generalise when discussing illness, whereas women are more inclined to use adjectives and be specific in their discourse. This finding suggests that whilst mothers perceive Twitter as a social media platform that allows them to openly disclose personal experiences and thoughts regarding PND, fathers have a different perception of this platform. This finding is thought-provoking, as it is slightly inconsistent with previous findings from Chapter Six (Study Four) which revealed that fathers felt there was insufficient opportunity for them to disclose postnatal difficulties on social media. Whilst Twitter is not generally considered a parenting-specific online platform, and thus it is not targeted at either mothers or fathers, it appears to still be considered as an unsuitable place to communicate paternal challenges. It is, however, likely that fathers may feel inadequate in initiating vulnerable discussions, regardless of the platform, as it was previously suggested by the fathers in Study Four. The perceived lack of adequacy amongst fathers regarding disclosure of psychological distress on online platforms may be associated with issues discussed previously, such as social expectations regarding parenthood, mental health stigma or gender norms.

Gender differences were also found when producing Twitter posts that included a description of PND, as the female users were more likely to use adjectives or taboo language to describe the experience of PND, compared to male Twitter users who were less likely to include these types of language items in their online posts. Previous research has found that mothers use lexical items with an emotional connotation when discussing PND (Evans, Donelle, & Hume-Loveland, 2012), however it has also been suggested that men are more likely than women to utilise taboo language when discussing illness (Charteris-Black & Seale, 2013), therefore this finding is partly supported by previous literature. As explained in Chapter Seven, the type of online language used by the female users when describing the experience of PND may be associated with the fact that the descriptions were related to personal experiences, therefore it is evident that the emotional impact of experiencing PND could lead to the usage of words with a stronger emotional connotation. Another explanation for the use of adjectives or taboo language amongst the female users may be the anonymity provided by online platforms, as the feeling of security provided by the barrier between themselves and a screen may increase the feeling of comfort and encourage women to be more expressive in their language.

A distinction in perceived social support amongst mothers and fathers could also be found in the study presented in Chapter Seven (Study Five), where it was revealed that Twitter content related to PND consists of frequent mentions of support-related terms, such

as “help” or “care”, however there were gender differences in how the Twitter users referred to the content produced. The Twitter female users were more likely to refer to themselves or other women in their tweets when discussing PND and support, whilst the content created by the male users was mainly directed at others. The findings of the fifth study are supported by prior literature that identified men as less likely to seek support due to mental health stigma (Cole & Davidson, 2019; Ridge et al., 2011) and fear of judgment, particularly amongst men with PPND symptoms (Ammari, & Schoenebeck, 2015). Thus, the findings of this study provided additional evidence that suggests that there are gender differences in relation to the social support available for mothers and fathers in the postnatal period. This finding is directly linked to the qualitative studies within this thesis, as fathers reported that they sometimes felt unable or uninterested in disclosing a need for postnatal support. A more detailed presentation of the various connections between the five studies within this thesis is displayed below.

8.4. What are the links between the five studies?

The quantitative studies presented in Chapters Three and Five identified that the level of maternal and paternal PND risk had no impact on the usage of social media (i.e., SMUIS, frequency of social media use). These findings were contradictory to previous studies (e.g., Andreassen et al., 2016; McDougall et al., 2016; Woods & Scott, 2016), therefore it was deemed essential to further explore these inconsistent findings using a qualitative approach. Whilst the quantitative studies examined differences between participants with low and high risk of PND symptoms, the qualitative studies presented in the Chapters Four and Six did not purposefully recruit participants with a self-reported or official diagnosis of PND. The participants that took part in the qualitative studies were not included in the research based on a PND diagnosis because not all individuals who experience depression hold an official diagnosis. Regardless, many of the female participants reported personal experiences or diagnoses of perinatal mental health issues, such as perinatal depression, anxiety, suicidal ideation, obsessive-compulsive disorder (OCD) or posttraumatic stress disorder (PTSD). Thus, it was possible to further explore an in-depth account of potential relationships between social media behaviours and perinatal mental health issues, within the context of postnatal adjustment. It was concluded, within the qualitative studies, that whilst frequency of social media use changed over time and it was dependent on their parental confidence, it was not

associated or impacted by their mental health, thus supporting the quantitative findings. The emotional attachment and integration of social media in daily habits (SMUIS) and its lack of relation to risk of PND was partly aligned with the qualitative findings. Although some of the parents described online platforms as greatly advantageous in relieving psychological distress, they did not portray online sites as essential in their overall emotional stability.

Additional connections between the quantitative and qualitative studies were formed based on the findings related to perceived online and traditional support. The quantitative study in Chapter Five indicated that fathers with higher risk of PPND were more inclined to access online support, compared to fathers with lower risk of PPND, and this was in line with prior research (e.g. Kauer, Mangan, & Sanci, 2014; Oscarsson, Medin, Holmström, & Lendahls, 2018). However, the literature around perceived online support amongst fathers with potential perinatal mental health issues is sparse, therefore it was further explored using the qualitative approach. The fathers who took part in the qualitative study in Chapter Six did not disclose any personal experiences of postnatal depressive symptoms, however they felt that social media sites can be considered harmful for other fathers who struggle with their mental health. Additionally, the qualitative interviews with fathers revealed that the participants did not frequently use online platforms for parenting support, due to reasons such as unreliable information or reluctancy to disclose challenges. Thus, considering the association between the risk of PPND and online support found in Chapter Five, it is possible that the fathers in Chapter Six did not favour social media sites as supportive networks due to their stable psychological wellbeing.

Another quantitative finding that was further explored in the qualitative studies was that mothers and fathers with higher risk of PND were more likely to feel dissatisfied or unsupported by family, friends and significant others, result which was consistent with previous literature (Da Costa et al., 2015; Leahy-Warren et al., 2012). There has been little research evaluating the potential connections between perceived traditional social support, perinatal mental health and social media use, especially regarding underlying thoughts, motivations and attitudes, thus these aspects were further explored in the qualitative studies. The qualitative studies found that mothers and fathers often chose online platforms over their close ones when seeking parental advice or information due to being concerned that disclosing uncertainties or difficulties would worry their family or friends; therefore, the participants appeared concerned about the impact that their needs would have on others. It is

possible, therefore, that this could explain why parents who struggle with their mental health may be less likely to communicate it with their close ones, as a way to protect them.

There were also associations between the first four studies that involved a mixed-methods design and the fifth study (Chapter Seven) that utilised a corpus linguistic approach. Study five supported some of the findings resulted from the first four studies. More specifically, the results from the study using a corpus linguistic approach highlighted that the focus is usually on motherhood and maternal postnatal depression, and not so much on fathers or fatherhood. The imbalanced discussion and acknowledgement of maternal and paternal PND was observed in all groups analysed within Study Five, namely the groups of female Twitter users, male Twitter users and the Twitter accounts representing organisations or official figures. This study also suggested that men displayed a level of discomfort and reduced likelihood of discussing personal experiences of PND, compared to women. These findings indicated that the online resources and support opportunities are not as vast for fathers, as they are for mothers, which is in line with what was discussed in the qualitative study with fathers (see Chapter Six). Additionally, study five suggested that organisational accounts were less likely to discuss perinatal mental health amongst fathers, specifically paternal PND. This is in line with previous research (Whitelock, 2016), as well as the qualitative study with fathers that concluded that fathers felt overlooked or dismissed by healthcare professionals during the early postnatal period. Linguistic terms related to help-seeking behaviours were frequent amongst the Twitter content collected in Study Five, especially within the content created by female users; this is in line with the quantitative studies that identified social support as a meaningful and influential factor in likelihood of developing PND symptoms (see Chapters Three and Five). However, the terms related to help-seeking behaviours were mainly related to experiences of women or motherhood, rather than fathers or fatherhood. This finding could be considered concerning as the results from the quantitative study with fathers identified that social support is significantly associated with risk of developing paternal PND, result which is clearly associated with prior literature (Wee, Skouteris, Pier, Richardson, & Milgrom, 2011; Zande & Sebre, 2014).

8.5. Reflexivity

This section consists of a reflection on my position as a researcher throughout the process of conducting this research, highlighting the potential impact of my background, personal experiences and assumptions on the design, analysis and write-up process of the thesis. Within this section, I will also reflect on the overall journey, and how the research might have been influenced by the continuous development of knowledge, self-confidence, research skills and increased interest in the topic area.

I started working on this research project from a position of a non-expert, young female with no children. As I do not have a personal experience with parenthood and I have generally not been exposed to young children or parents of infants throughout my life, I did not possess a subjective stance on the experience of the early postnatal period. The lack of personal experiences on this matter, and ultimately of expectations that may be formed through subjective experience, was helpful in approaching the research questions objectively and critically. It is, however, important to mention that, during the PhD programme, I volunteered for Acacia Family Support, a local non-profit organisation that supports parents with perinatal mental health issues. During my time as a volunteer for Acacia Family Support, I had the opportunity to be present during open and vulnerable discussions surrounding the challenges and difficulties of the early postnatal period, and to learn about coping techniques and helping strategies. Participating as a volunteer during these raw presentations of motherhood, helped me gain a deeper understanding of the challenges that can occur during the postnatal period, and it led to approaching the research topic and design with more empathy, responsibility, and motivation. Thus, whilst the research design, including the formulation of research questions, data collection materials, analysis and interpretation of results, were mainly based on prior literature and theory, my volunteering experience encouraged me to maintain an open, sympathetic and flexible attitude to the thoughts, emotions and experiences of the participants who took part in the research.

The thesis investigated the potential differences and associations between PND symptoms, perceived social support and social media use. Whilst I did not initially have any subjective assumptions or exposure to the experience of the postnatal period, I would consider myself a social media user, as I have been engaging with online platforms since my teenage years. Due to possessing a first-hand experience with digital platforms, I started working on the thesis with preconceived ideas of how social media sites are utilised by users, as well as the beneficial and harmful impact of the internet on wellbeing. Acknowledging the assumptions and expectations formed by my personal experience with social media, pushed

me to approach the research with curiosity, openness, and critical thinking. To ensure that the research design, analysis and interpretation of the results were not biased by personal experiences, I maintained the focus on the scientific literature surrounding the topic and attended regular meetings with the supervisory team. In this way, I was able to maintain an objective and unbiased attitude towards the participants' experience with social media, and I had the chance to communicate any potential inconsistencies with the supervisory team. Importantly, I held an open-mind as I recognised that digital behaviours and experiences with online platforms differ amongst various populations and contexts, therefore realising that my personal social media experience may greatly vary to a parent's social media experience.

Finally, it is important to recognise that my knowledge and abilities as a researcher on this doctoral project evolved and developed throughout the programme, thus influencing the decisions taken along the way. It could be noticed that, whilst the quantitative studies within this thesis investigated the same research questions, albeit amongst different populations, there are slight differences in the data collected and materials used. The first quantitative study (see Chapter Three) initially included the collection of an extensive list of demographic elements, such as profession or household income, however this information was excluded from the final analysis as it was deemed not relevant to the research question. This study further included the analysis of parental stress as a variable, however it was not included in the study conducted with fathers. Whilst the initial decision to include these elements in the quantitative study conducted with mothers was based on prior literature, this methodological choice was later revaluated and modified, as I learned that maintaining a focus on the research question is paramount. I started working on the second quantitative study (see Chapter Five) with a clearer and more definite viewpoint on how to assess the research questions in an effective way. As a result of this, the quantitative study conducted with fathers included the PND symptoms, social support and social media use as the main variables under analysis, disregarding parental stress and non-relevant demographic details; this study, however, included two additional survey items, to gain further information on digital behaviours. The differences between the two studies were, in the end, a result of my development as a researcher, in terms of my confidence, skills and knowledge gained through continuous practice and valuable supervisory support. The practice and self-confidence in myself as a researcher played an important role when I conducted the final study within this thesis (see Chapter Seven), where I employed an analytical approach which is not common within psychological research, namely a corpus linguistic analysis of social media content.

Thus, the self-assurance, knowledge and abilities gained throughout the doctoral programme have been crucial in the formation of my identity as a mixed-methods researcher, which in turn allowed me to produce a comprehensive exploration of a meaningful topic area that disposes of significant real-world applications.

8.6. Implications of the findings

This thesis identified important information regarding the relationships between social media usage and postnatal mental health that can pose significant wider implications, in terms of public awareness, impact on mothers and fathers, online resources, influence on the healthcare system and policy change.

8.6.1. Public awareness

The findings of this thesis could be utilised in informing and educating the public about the mental health challenges associated with the postnatal period, the support available for mothers and fathers, and the way in which social media plays a part in parental adjustment. Communicating this information to a wider audience could be beneficial in raising awareness about postnatal depression, particularly paternal PND and reducing stigma surrounding perinatal mental health issues. At the same time, these findings could be used in normalising and validating aspects of the postnatal period that can be considered taboo, such as the immediate reaction to meeting the infant, the parent-baby bond, alongside postnatal mental health amongst mothers and fathers. An important take-away point from the current findings would be that parenting is a learning experience, rather than an innate ability. This aspect is especially raised amongst the population of mothers, as motherhood is seen as "natural", and this can raise expectations and added pressure. This perception or belief can have detrimental impact on mothers who are struggling to adjust, as they may feel inadequate if they believe they are not able to meet societal expectations. Importantly, the resources available for mothers may be incomplete or not detailed enough due to the social assumption that women are naturally skilled at parenting; thus, these findings emphasise the process of learning how to be a parent and proposes comprehensive resources that must be accessible for parents.

Mothers could greatly benefit from being presented with common postnatal experiences of other mothers, as it could support them in feeling more confident and less

anxious about their own experiences. These findings could help mothers recognise potential elements that may lead to PND, such as reduced social support or engaging in online comparisons. As they feel more comfortable in their experience of motherhood, mothers might also be more likely to disclose any challenges or parenting aspects considered taboo. Additionally, these findings could educate mothers on paternal mental health and how to support or assist potential partners. Similarly, fathers could also benefit from these findings, as it could validate parental experiences, thoughts and emotions, especially regarding their experiences with the healthcare system or support resources available for dads. These findings could also be utilised to encourage fathers to connect with other fathers online or offline, as the male participants in this thesis (see Chapter Six) disclosed that they have attempted to engage with online platforms for fathers, however they sometimes feel inadequate as the engagement from other fathers is generally low. These findings could also be utilised in validating symptoms of paternal PND and supporting fathers in speaking out about their needs in the postnatal period.

Another take-away point from the current findings is that the bond with the baby does not always occur immediately, and the first reaction to meeting the baby does not always consist of immense happiness and overwhelming emotion. As the participants in the qualitative studies reported, these expectations put pressure on parents and lead to feelings of inadequacy, guilt and shame when their experience is different. The current findings showed that most mothers and fathers had mixed reactions to meeting their baby for the first time, some were happy, some were shocked or numb, others were anxious. Amongst most of the parents who took part in the current research, their bond with the baby developed over time, as the babies became more responsive towards their parents, and as the parents became more confident in their abilities. Whilst it is common for the bond with the baby to develop gradually, some parents experience obstacles in their connection with the baby due to psychological issues, such as postnatal depression. If parents with depression feel guilty about not developing a quick bond with their baby, they might be less likely to disclose this with their healthcare providers, which in this case may be seen as a potential symptom of depression. Doing this would be an obstacle in receiving the care and treatment needed to improve wellbeing and the experience of parenthood. Therefore, it is important that awareness is spread about the common experiences of parenthood, as this helps parents feel more self-confident and less guilty or anxious, and it also supports vulnerable parents in feeling more comfortable in disclosing potential symptoms. Spreading awareness could be

facilitated in academic ways, such as disseminating research findings during conferences, writing-up articles or books and introducing this information in educational contexts (i.e., schools, universities), or non-academic ways, such as through social media posts, campaigns, charitable events, organising parenting classes and workshops or ensuring that healthcare workers provide sufficient information and advice to new parents.

As most of the focus is usually on mothers when it comes to postnatal mental health, the findings of this thesis can inform the public on the existence of paternal PND and its associations with social support and help-seeking behaviours. The findings showed that fathers are more likely to experience symptoms of PND when they report reduced level of traditional support, and they are more likely to look for support online. Therefore, this highlights the importance of considering the postnatal wellbeing of fathers and the support resources available of them. With these findings, it is hoped that stigma against paternal PPND is reduced.

This thesis can also inform the public about the advantages of using social media during the postnatal period, such as night-time support, support groups for specific issues, accessible and convenient access to information, and connection with other parents. The negative aspects of social media can also be seen as valuable information for the public, such as the associations between online comparisons and risk of PND, the unrealistic portrayal of parenthood, the privacy issues, and the increased likelihood of psychological distress for vulnerable parents. These aspects can inform the public on how to use social media in a way that benefits them or their family members or friends who are parents, and to recognise the detrimental digital behaviours that may be harmful for their wellbeing. The valuable information regarding the role of social media on parental adjustment could be shared with the public in multiple ways, such as providing parenting workshops or classes, via social media platforms targeting parents or other media sources and by designing digital applications that support parents.

8.6.2. Online resources

The findings of this thesis could be utilised to inform and assist tech companies and software developers in creating digital resources for parents, with special focus on perinatal mental health or PND. The platforms created could be in the form of websites that include research-based information on adjustment to parenthood, postnatal mental health, symptoms of PND, as the parents in this research identified reliability as an important factor when seeking online information. The online platforms designed should also contain support

available for different needs related to parenthood and childcare, such as feeding (breastfeeding, formula feeding, weaning), sleep techniques, milestones or bonding with the baby, as these are elements that cause parental stress and anxiety. Access to specialists should also be a part of online platforms available to parents, such as sleep consultants or midwives. The parents who took part in the current doctoral research appreciated the accessibility and convenience of online support, however they sometimes questioned the credibility and validity of the support offered by others online. Thus, by incorporating professional advice within online platforms, parents may be more likely to access support and disclose difficulties.

Another important feature of online platforms should be the access to education and socialisation. Online platforms created for parents could include links that would direct them to information and resources about parenting classes, events, workshops, meet up events, social media support groups, or even nurseries. Chatrooms or forums should also be considered as essential features of online platforms available for parents, especially if they included regular engagement from healthcare providers that can provide advice and support. Healthcare institutions could liaise with tech companies to create online sites that include up-to-date, specific and reliable parenting information, and potentially online support from healthcare providers on a volunteering basis, particularly during night-time. It is also important to consider the distinct needs of mothers and fathers, and the great need for father-specific online resources and support. The fathers who took part in the current research felt that there is a lack of father-specific online support and resources, and that even if there are platforms that are designed for fathers, many men feel inadequate in initiating discussions. Therefore, it is clear that the existent online resources for fathers are either not promoted adequately, or they lack in features that satisfy paternal needs. Other digital platforms that could be created could be apps aimed at parents with postnatal depression, or who struggle with perinatal mental health, with easy access to evidence-based information, self-help exercises (e.g., meditation tools), advice on treatment options, and contact details for specialised healthcare workers, such as therapists.

8.6.3. Impact on healthcare system

The findings of the current thesis have clinical implications, as they could be utilised in clinical practice and training by incorporating materials related to maternal and paternal

PND, the parent-baby bond, the importance of social support and the influence of social media on postnatal mental health.

It would be greatly beneficial to ensure that healthcare professionals acknowledge and possess the resources and training required to manage paternal mental health, as it has previously been found that some healthcare workers lack the knowledge necessary to support fathers with depressive symptoms (Hammarlund, Andersson, Tenenbaum, & Sundler, 2015). This barrier was identified by the fathers in the qualitative study of the current thesis (see Chapter Six), as fathers mentioned that they often felt left out and overlooked by healthcare providers. Therefore, it is important that healthcare institutions improve the quality of care available for fathers, by including regular postnatal checks with a focus on paternal adjustment and mental health.

Accessibility and convenience have been described as essential factors for social support amongst the participants of the current study, therefore another practical application of the findings involves healthcare institutions to consider online platforms as a potential location for providing reliable and accurate parental information and advice, as well as the possibility for real-time (online) interaction between healthcare staff and parents.

8.6.4. Policy change

Fathers who took part in the current study reported that their involvement in childcare responsibilities and interactions with their baby is impaired by insufficient time due to work commitments and short paternity leave. Based on the current findings, it is proposed that the paternity leave strategy needs to be revised, as well as the shared parental leave. It is clear that paternity leave allows fathers to have a more positive adjustment to fatherhood and to have a more substantial involvement within the family unit (Saxbe, Rossin-Slater, & Goldenberg, 2018), which is seen as beneficial for maternal and paternal support, as well as infant development. Therefore, a proposition would be to consider adopting a strategy similar to the Sweden's stance on family wellbeing and policy (Wall & Escobedo, 2013), and extend the period of paternity leave available for fathers.

8.7. Strengths and limitations

This thesis has some significant strengths that highlight the importance of the research that was undertaken. Firstly, this was, to our knowledge, the first research project to explore and investigate the impact of social media use on postnatal adjustment and PND symptoms amongst a sample of mothers and fathers within the first year postpartum. Importantly, this research assessed linguistic data related to PND created by Twitter accounts identified as organisations or official profiles, which is considered novel and meaningful data. Secondly, the methodology used was all-encompassing, as it included three different approaches of collecting and analysing data, namely a quantitative, a qualitative and a corpus linguistic perspective. It has been suggested that mixed-methods designs are greatly advantageous, as they limit the downsides of utilising a single methodological approach (Kelle, 2006); for example, quantitative research has been criticised for the inability to explore the meaning behind experiences, behaviours or attitudes (Moghaddam, Walker, & Harre, 2003), therefore adding a qualitative perspective would compensate for these methodological challenges.

However, there are also some limitations that should be acknowledged. One limitation was the lack of diversity in the sample that was recruited and took part in the studies, as most participants were of a White/British White background, which means that the findings could not be generalised to a wider and more diverse population. This factor could be related to the increased mental health stigma amongst minority ethnic groups, which may lead to reluctancy in disclosing personal experiences related to sensitive topics (Halbreich & Karkun, 2006). Research has found that ethnic minority populations are more likely to experience digital poverty or low digital literacy, compared to populations from white backgrounds (Eruchalu et al., 2021), which might also explain the lack of diversity in the participants who volunteered to take part in the current research project. Another limitation was the relatively small sample of fathers that took part in the quantitative study presented in Chapter Five (Study Three). Prior literature suggests that men are typically less likely to take part in research (Markanday, Brennan, Gould, & Pasco, 2013) or parenting programs (Panter-Brick et al., 2014), due to reasons, such as time constraints (Markanday, Brennan, Gould, & Pasco, 2013) or work demands (Tully et al., 2017). These justifications could be applied to the sample characteristics required for this thesis, as parents, particularly in the first year postpartum, may prioritise childcare over taking part in research. The reduced likelihood of men, specifically fathers, taking part in research is considered problematic, as it limits the knowledge and insight into the experiences of fatherhood, including paternal mental health. The reduced knowledge into the postnatal experiences of fathers leaves a gap in the

information required to assess the potential risk factors and barriers that fathers encounter in their adjustment to parenthood, and it could then greatly affect the quality of the resources available for fathers. This current thesis, therefore, highlights the importance of fathers taking part in research and of researchers conducting studies exploring the experiences and needs of fathers, as this information is paramount in ensuring that fathers have access to reliable support, approachable healthcare visits and personalised treatment.

8.8. Suggestions for future research

A suggestion for future research would be to explore the associations between digital behaviours and PND symptoms amongst a more diverse sample, especially as it has been found that women from minority ethnic backgrounds are at a higher risk of developing depressive symptoms in the postnatal period, compared to women of white ethnic origins (Onozawa, Kumar, Adams, Dore, & Glover, 2003). It would also be useful to generate a more detailed insight into the accessibility to digital support amongst parents from an ethnic minority or with low socioeconomic status, as it has been shown that there this population is more likely to experience digital poverty and low digital literacy (Eruchalu et al., 2021); this aspect would be particularly relevant in the current times, especially considering the Covid-19 pandemic and the transition to online communication and support from healthcare providers. Additionally, it may be advantageous to replicate the methodology of the current thesis with a sample of parents that received a diagnosis of PND, instead of relying on self-reported levels of depressive symptoms. Although it is important to acknowledge that some individuals may experience symptoms of depression whilst not being officially diagnosed by a specialist, looking into a clinical population could provide a clearer and more definite perspective into the role of social media in relation to postnatal depressive symptoms. Finally, future research may consider the particularities of various social media platforms and how they could influence the likelihood of developing PND or the behaviours of parents with a PND diagnosis. The current findings showed that parents with higher risk of PND are more likely to engage in online comparisons, therefore it would be useful to examine whether parents are more inclined to compare themselves on one online platform, rather than another. Whilst some studies identified that social media sites, such as Instagram, which is a platform that focuses on images, is likely to encourage online comparisons and be associated with

depression (Robinson et al., 2019), other research found that mothers compare themselves on sites that are not focused on image-sharing, such as forums (Pedersen, 2016).

8.9. Conclusion

This thesis utilised a sequential-explanatory, mixed-methods approach to examine the impact of PND symptoms on digital behaviours, conduct an in-depth exploration into the adjustment to parenthood, including the influence of social support and social media use, and investigate gender differences in online language related to PND.

This thesis included five individual studies, where both mothers and fathers were recruited to take part in quantitative and qualitative research. The first and third studies employed a quantitative examination, where the data were collected using self-reported questionnaires, assessing emotional attachment and integration of social media in daily life, perceived social support, PND symptoms, parental stress, online support, frequency of social media use and online comparisons. A statistical analysis of the data identified that mothers and fathers with higher levels of PND symptoms were more likely to engage in online comparisons and to perceive poor support from family, friends and significant others. Higher PND risk in mothers was further associated with parental stress, and higher PND risk in fathers showed stronger likelihood to use online platforms for support, whereas this association was not significant for mothers. It was also found that mothers and fathers who were more attached to social media, were also more likely to use online platforms frequently, to engage in online comparisons and to perceive increased online support. The quantitative studies within the thesis provided a valuable insight into the impact of low and high levels of PND symptoms on social media usage amongst mothers and fathers within the first-year postpartum. These findings hold clinical implications, as they can support healthcare providers in training and education regarding postnatal mental health and support resources. Wider implications include informing the general population of the potential risk factors for PND, such as decreased social support or engaging in online comparisons, and reducing stigma surrounding perinatal mental health.

The second and fourth studies employed a qualitative exploration, where the data were collected using semi-structured interviews, discussing the adjustment to early parenthood, access to support, relationship with baby and partner, and social media use for

parenting support. A thematic analysis of the data revealed that parenting was perceived as a learning experience, rather than an innate ability, a healthy parent-baby bond is not always instantaneous, and social media can be beneficial for mothers who experience psychological distress, including suicidal tendencies. Moreover, it was found that fathers felt overlooked and dismissed by healthcare professionals, and unrealistic social media content may be detrimental for parents who struggle psychologically. The qualitative findings generated meaningful results that produced a detailed portrayal of the expectations, challenges, fears and joyful moments of early parenthood. These results are expected to encourage parents to openly communicate about their postnatal experiences when seeking support, particularly for issues that may be considered taboo, such as the parent-baby bond or postnatal mental health, and to consider the benefits of social media sites for parental support.

The fifth and final study employed a corpus-linguistic approach, where the data were collected using automated online data collection software, to investigate PND-related content posted on Twitter by male, female and organisational/official accounts. A corpus linguistic analysis, including a wordlist frequency, keyword comparisons, collocations and concordances revealed that female users are more likely to use first-person pronouns, adjectives and taboo language when tweeting about PND, and male users are more likely to discuss PND generally or to refer to the experiences of other parents, rather than themselves. It was also found that organisational Twitter accounts were inclined to use lexical items referring to teaching, informing or supporting their audience, and they were more likely to refer to motherhood or maternal PND, and less likely to post content related to fatherhood or paternal PND. The final study generated valuable and novel results, as it is, to our knowledge, the first study that used a corpus linguistic approach to investigate how organisations use Twitter to post content related to PND. These results have practical implications, as they highlight the importance of online platforms aimed at parents, that contain reliable and accessible advice, information and support resources, whilst considering the unique needs of mothers and fathers.

Overall, this thesis identified crucial information that could increase the quality of clinical services for parents during the postnatal period, and it could prevent potential harmful consequences of overlooking the severity of paternal PND and the impact of engaging in negative online behaviours.

References

Abbass-Dick, J., Brown, H. K., Jackson, K. T., Rempel, L., & Dennis, C. L. (2019). Perinatal breastfeeding interventions including fathers/partners: A systematic review of the literature. *Midwifery*, *75*, 41-51. https://doi.org/10.1016/j.midw.2019.04.001

Abrams, L. S., & Curran, L. (2011). Maternal identity negotiations among low-income women with symptoms of postpartum depression. *Qualitative Health Research, 21*(3), 373-385. https://doi.org/10.1177/1049732310385123

Addis, M. E. (2008). Gender and depression in men. *Clinical Psychology: Science and Practice, 15*(3), 153–168. https://doi.org/10.1111/j.1468-2850.2008.00125.x

Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist, 58*(1), 5–14. https://doi.org/10.1037/0003-066X.58.1.5

Afolabi, O., Bunce, L., Lusher, J., & Banbury, S. (2020). Postnatal depression, maternal–infant bonding and social support: a cross-cultural comparison of Nigerian and British mothers. *Journal of Mental Health*, *29*(4), 424-430. https://doi.org/10.1080/09638237.2017.1340595

Aichner, T., & Jacob, F. (2015). Measuring the degree of corporate social media use. *International Journal of Market Research*, 57(2), 257-276. https://doi.org/10.2501/IJMR-2015-018

Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S.N. (2015). Patterns of Attachment: A Psychological Study of the Strange Situation (1st ed.). *Psychology Press*. https://doi.org/10.4324/9780203758045

Al Namir, H. M. A., Brady, A. M., & Gallagher, L. (2017). Fathers and breastfeeding: Attitudes, involvement and support. *British Journal of Midwifery*, *25*(7), 426-440. https://doi.org/10.12968/bjom.2017.25.7.426

Alio, A. P., Lewis, C. A., Scarborough, K., Harris, K., & Fiscella, K. (2013). A community perspective on the role of fathers during pregnancy: a qualitative study. *BMC pregnancy and childbirth*, *13*(1), 1-11. https://doi.org/10.1186/1471-2393-13-60

Allport, B. S., Johnson, S., Aqil, A., Labrique, A. B., Nelson, T., Angela, K. C., ... & Marcell, A. V. (2018). Promoting father involvement for child and family health. *Academic pediatrics*, *18*(7), 746-753. https://doi.org/10.1016/j.acap.2018.03.011

Almond, P., & Lathlean, J. (2011). Inequity in provision of and access to health visiting postnatal depression services. *Journal of advanced nursing*, *67*(11), 2350-2362. **https://doi.org/10.1111/j.1365-2648.2011.05669.x**

Altman, D. G., & Royston, P. (2006). The cost of dichotomising continuous variables. *Bmj*, 332(7549), 1080. https://doi.org/10.1136/bmj.332.7549.1080

Amaro, L. M., Joseph, N. T., & de los Santos, T. M. (2019). Relationships of online social comparison and parenting satisfaction among new mothers: The mediating roles of belonging and emotion. *Journal of Family Communication*, 19(2), 144-156. https://doi.org/10.1080/15267431.2019.1586711

American Psychiatric Association Division of Research. (2013). Highlights of changes from dsm-iv to dsm-5: Somatic symptom and related disorders. *Focus*, *11*(4), 525-527. https://doi.org/10.1176/appi.focus.11.4.525

Ammari, T., & Schoenebeck, S. (2015). Understanding and supporting fathers and fatherhood on social media sites. In *Proceedings of the 33rd annual ACM conference on human factors in computing systems*, 1905-1914. https://doi.org/10.1145/2702123.2702205

Anderson, C. M., Robins, C. S., Greeno, C. G., Cahalane, H., Copeland, V. C., & Andrews, R. M. (2006). Why lower income mothers do not engage with the formal mental health care system:

Perceived barriers to care. *Qualitative Health Research, 16*(7), 926-943. https://doi.org/10.1177/1049732306289224

Anding, J. E., Röhrle, B., Grieshop, M., Schücking, B., & Christiansen, H. (2016). Couple comorbidity and correlates of postnatal depressive symptoms in mothers and fathers in the first two weeks following delivery. *Journal of affective disorders*, 190, 300-309. https://doi.org/10.1016/j.jad.2015.10.033

Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., et al. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors*, 30(2), 252-262. 2. http://dx.doi.org/10.1037/adb0000160

Andrews, G., Cuijpers, P., Craske, M. G., McEvoy, P., & Titov, N. (2010). Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: a meta-analysis. *PloS one*, *5*(10), e13196. https://doi.org/10.1371/journal.pone.0013196

Anthony, L. & Hardaker, C. (2019). FireAnt (Version 1.1.4) [Computer Software]. Tokyo, Japan: Waseda University. Available from https://www.laurenceanthony.net/software/fireant/

Anthony, L. (2004). AntConc: A learner and classroom friendly, multi-platform corpus analysis toolkit. *proceedings of IWLeL*, 7-13.

Anthony, L. (2019a). AntConc (Version 3.5.8) [Computer Software]. Tokyo, Japan: Waseda University. Available from https://www.laurenceanthony.net/software/antconc/

Anthony, L. (2019b). TAGS (Version 6.1) [Google Sheet Template]. Tokyo, Japan: Waseda University. Available from https://tags.hawksey.info/get-tags/

Asano, R., Tsuchiya, K. J., Takei, N., Harada, T., Kugizaki, Y., Nakahara, R., ... & HBC Study Team. (2014). Broader autism phenotype as a risk factor for postpartum depression: Hamamatsu Birth Cohort (HBC) Study. *Research in Autism Spectrum Disorders*, *8*(12), 1672-1678. https://doi.org/10.1016/j.rasd.2014.08.010

Asenhed, L., Kilstam, J., Alehagen, S., & Baggens, C. (2014). Becoming a father is an emotional roller coaster–an analysis of first-time fathers′ blogs. *Journal of clinical nursing*, *23*(9-10), 1309-1317. **https://doi.org/10.1111/jocn.12355**

Astedt-Kurki, P., & Heikkinen, R. L. (1994). Two approaches to the study of experiences of health and old age: The thematic interview and the narrative method. *Journal of Advanced Nursing, 20*(3), 418-421. https://doi.org/10.1111/j.1365-2648.1994.tb02375.x

Attanasio, L. B., & Hardeman, R. R. (2019). Declined care and discrimination during the childbirth hospitalization. *Social Science & Medicine, 232*, 270-277. https://doi.org/10.1016/j.socscimed.2019.05.008

Aziz, A., Zork, N., Aubey, J. J., Baptiste, C. D., D'alton, M. E., Emeruwa, U. N., ... & Friedman, A. M. (2020). Telehealth for high-risk pregnancies in the setting of the COVID-19 pandemic. *American journal of perinatology, 37*(08), 800-808. http://doi.org/10.1055/s-0040-1712121

Bailey, S. (2010). Postnatal care: exploring the views of first-time mothers. *Community Practitioner*, *83*(12).

Baker, B., & Yang, I. (2018). Social media as social support in pregnancy and the postpartum. *Sexual & Reproductive Healthcare*, 17, 31-34. https://doi.org/10.1016/j.srhc.2018.05.003

Baker, L., Wagner, T. H., Singer, S., & Bundorf, M. K. (2003). Use of the Internet and email for health care information: Results from a national survey. *Journal of the American Medical Association*, 289(18), 2400–2406. http://doi.org/10.1001/jama.289.18.2400

Baker, P. (2010). *Sociolinguistics and corpus linguistics*. Edinburgh University Press.

Baker, P. (2014). Corpus linguistics in sociolinguistics. *Research methods in sociolinguistics: A practical guide*, *5*, 107.

Baker, S., Sanders, M. R., & Morawska, A. (2017). Who uses online parenting support? A cross-sectional survey exploring Australian parents' internet use for parenting. *Journal of Child and Family Studies, 26*(3), 916-927. https://doi.org/10.1007/s10826-016-0608-1

Banister, E., & Kerrane, B. (2022). Glimpses of change? UK fathers navigating work and care within the context of Shared Parental Leave. *Gender, Work & Organization*. **https://doi.org/10.1111/gwao.12813**

Barr, J. A. (2008). Postpartum depression, delayed maternal adaptation, and mechanical infant caring: A phenomenological hermeneutic study. *International journal of nursing studies, 45*(3), 362-369. https://doi.org/10.1016/j.ijnurstu.2006.10.002

Barriball K.L. & While A. (1994) Collecting data using a semi-structured interview: a discussion paper. *Journal of Advanced Nursing* **19(**2), 328– 335. http://doi.org/10.1111/j.1365-2648.1994.tb01088.x

Bartholomew, M. K., Schoppe-Sullivan, S. J., Glassman, M., Kamp Dush, C. M., & Sullivan, J. M. (2012). New parents' Facebook use at the transition to parenthood. *Family relations*, 61(3), 455-469. **https://doi.org/10.1111/j.1741-3729.2012.00708.x**

Bazner, E., Bromer, P., Hammelstein, P., & Meyer, T. D. (2006). Current and former depression and their relationship to the effects of social comparison processes. Results of an internet based study. *Journal of Affective Disorders*, *93*(1-3), 97-103. https://doi.org/10.1016/j.jad.2006.02.017

Beattie, A., Shaw, A., Kaur, S., & Kessler, D. (2009). Primary-care patients' expectations and experiences of online cognitive behavioural therapy for depression: a qualitative study. *Health expectations*, *12*(1), 45-59. **https://doi.org/10.1111/j.1369-7625.2008.00531.x**

Beck, C. T. (2001). Predictors of postpartum depression: an update. *Nursing research*, *50*(5), 275-285. https://doi.org/10.1097/00006199-200109000-00004

Beck, C. T. (2002). Theoretical perspectives of postpartum depression and their treatment implications. *MCN: The American Journal of Maternal/Child Nursing*, *27*(5), 282-287. http://doi.org/10.1097/00005721-200209000-00008

Becker, M. W., Alzahabi, R., & Hopwood, C. J. (2013). Media multitasking is associated with symptoms of depression and social anxiety. *Cyberpsychology, behavior, and social networking*, *16*(2), 132-135. https://doi.org/10.1089/cyber.2012.0291

Beebe, B., Jaffe, J., Buck, K. A., Chen, H., Cohen, P., Feldstein, S., & Andrews, H. (2008). Six-week postpartum maternal depressive symptoms and 4-month mother infant self- and interactive contingency. *Infant Mental Health Journal*, 29(5), 442–471. http://dx.doi.org/10.1002/imhj.20191

Beer, D., & Burrows, R. (2013). Popular culture, digital archives and the new social life of data. *Theory, culture & society*, *30*(4), 47-71. https://doi.org/10.1177/0263276413476542

Belsky, J., Spanier, G. B., & Rovine, M. (1983). Stability and change in marriage across the transition to parenthood. *Journal of Marriage and the Family*, 567-577. https://doi.org/10.2307/351661

Bennett, E., & Gough, B. (2013). In pursuit of leanness: The management of appearance, affect and masculinities within a men's weight loss forum. *Health, 17*(3), 284-299. https://doi.org/10.1177/1363459312454149

Bernhardt, J. M., & Felter, E. M. (2004). Online pediatric information seeking among mothers of young children: results from a qualitative study using focus groups. *Journal of medical Internet research, 6*(1), e36. http://doi.org/10.2196/jmir.6.1.e7

Berry, J. O., & Jones, W. H. (1995). The parental stress scale: Initial psychometric evidence. *Journal of Social and Personal Relationships,* 12(3), 463-472. https://doi.org/10.1177/0265407595123009

Bessière, K., Pressman, S., Kiesler, S., & Kraut, R. (2010). Effects of internet use on health and depression: a longitudinal study. *Journal of Medical Internet Research,* 12(1), 78-91. http://doi.org/10.2196/jmir.1149

Bidmon, S., & Terlutter, R. (2015). Gender differences in searching for health information on the internet and the virtual patient-physician relationship in Germany: exploratory results on how men and women differ and why. *Journal of medical Internet research, 17*(6), e4127. http://doi.org/10.2196/jmir.4127

Bielawska-Batorowicz, E., & Kossakowska-Petrycka, K. (2006). Depressive mood in men after the birth of their offspring in relation to a partner's depression, social support, fathers' personality and prenatal expectations. *Journal of reproductive and infant psychology, 24*(1), 21-29. https://doi.org/10.1080/02646830500475179

Bigelow, A. E., Beebe, B., Power, M., Stafford, A. L., Ewing, J., Egleson, A., & Kaminer, T. (2018). Longitudinal relations among maternal depressive symptoms, maternal mind-mindedness, and infant attachment behavior. *Infant Behavior and Development, 51,* 33-44. https://doi.org/10.1016/j.infbeh.2018.02.006

Bishop, F. L. (2015). Using mixed methods research designs in health psychology: An illustrated discussion from a pragmatist perspective. *British journal of health psychology, 20*(1), 5-20. **https://doi.org/10.1111/bjhp.12122**

Bjelke, M., Martinsson, A. K., Lendahls, L., & Oscarsson, M. (2016). Using the Internet as a source of information during pregnancy—A descriptive cross-sectional study in Sweden. *Midwifery, 40,* 187-191. https://doi.org/10.1016/j.midw.2016.06.020

Block, M., Stern, D. B., Raman, K., Lee, S., Carey, J., Humphreys, A. A.,…Breiter, H. C. (2014). The relationship between self-report of depression and media usage. *Frontiers in Human Neuroscience*, 8, 712. https://doi.org/10.3389/fnhum.2014.00712

Bloomfield, L., & Kendall, S. (2012). Parenting self-efficacy, parenting stress and child behaviour before and after a parenting programme. *Primary health care research & development*, 13(4), 364-372. http://doi.org/10.1017/S1463423612000060

Bloomfield, L., Kendall, S., Applin, L., RHV, V. A. R., Dearnley, K., Edwards, L., ... & Newcombe, T. (2005). A qualitative study exploring the experiences and views of mothers, health visitors and family support centre workers on the challenges and difficulties of parenting. *Health & social care in the community*, *13*(1), 46-55. **https://doi.org/10.1111/j.1365-2524.2005.00527.x**

Boath, E., & Henshaw, C. (2001). The treatment of postnatal depression: a comprehensive literature review. *Journal of reproductive and infant psychology*, *19*(3), 215-248. https://doi.org/10.1080/02646830120073224

Boath, E., Bradley, E., & Henshaw, C. (2004). Women's views of antidepressants in the treatment of postnatal depression. *Journal of Psychosomatic Obstetrics & Gynecology*, *25*(3-4), 221-233. https://doi.org/10.1080/01674820400017889

Bobel, C. (2002). The paradox of natural mothering. Philadelphia: Temple University Press .

Borelli, J. L., & Prinstein, M. J. (2006). Reciprocal, longitudinal associations among adolescents' negative feedback-seeking, depressive symptoms, and peer relations. *Journal of abnormal child psychology*, 34(2), 154-164. https://doi.org/10.1007/s10802-005-9010-y

Bottino, M. N., Nadanovsky, P., Moraes, C. L., Reichenheim, M. E., & Lobato, G. (2012). Reappraising the relationship between maternal age and postpartum depression according to the evolutionary theory: Empirical evidence from a survey in primary health services. *Journal of Affective Disorders*, *142*(1-3), 219-224. https://doi.org/10.1016/j.jad.2012.04.030

Bowlby, J. (1969). Attachment and Loss, Vol. 1: Attachment. Attachment and Loss. New York: Basic Books.

Boyce, P., Condon, J., Barton, J., & Corkindale, C. (2007). First-time fathers' study: psychological distress in expectant fathers during pregnancy. *Australian & New Zealand Journal of Psychiatry*, *41*(9), 718-725. https://doi.org/10.1080/00048670701517959

Braarud, H. C., Skotheim, S., Høie, K., Markhus, M. W., Kjellevold, M., Graff, I. E., ... & Stormark, K. M. (2017). Affective facial expression in sub-clinically depressed and non-depressed mothers during contingent and non-contingent face-to-face interactions with their infants. *Infant Behavior and Development*, *48*, 98-104. https://doi.org/10.1016/j.infbeh.2017.05.004

Bradford, S. (2022). Birth characteristics in England and Wales. Office for National Statistics. https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/bulletins/birthcharacteristicsinenglandandwales/2020

Brady, M., Stevens, E., Coles, L., Zadoroznyj, M., & Martin, B. (2017). 'You can Spend Time... But not Necessarily be Bonding with Them': Australian Fathers' Constructions and Enactments of Infant Bonding. *Journal of Social Policy*, *46*(1), 69-90. http://doi.org/10.1017/S0047279416000374

Branney, P., & White, A. (2008). Big boys don't cry: Depression and men. *Advances in Psychiatric Treatment*, *14*(4), 256-262. http://doi.org/10.1192/apt.bp.106.003467

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101. http://doi.org/10.1191/1478088706qp063oa

Bretherton, I., & Munholland, K. A. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications*, 102–127. The Guilford Press.

Britton, L., Barkhuus, L., & Semaan, B. (2019). " Mothers as Candy Wrappers": Critical infrastructure supporting the transition into motherhood. *Proceedings of the ACM on Human-Computer Interaction*, *3*(GROUP), 1-21. https://doi.org/10.1145/3361113

Brockington, I. F., Aucamp, H. M., & Fraser, C. (2006). Severe disorders of the mother– infant relationship: Definitions and frequency. *Archives of Women's Mental Health*, 9(5), 243–251. https://doi.org/10.1007/s00737-006-0133-0

Brody, L. R., & Hall, J. A. (2010). Gender, emotion, and socialization. In *Handbook of gender research in psychology*, 429-454. Springer, New York, NY. http://doi.org/10.1007/978-1-4419-1465-1_21

Brooks, S. K., Weston, D., & Greenberg, N. (2020). Psychological impact of infectious disease outbreaks on pregnant women: rapid evidence review. *Public health*, *189*, 26-36. https://doi.org/10.1016/j.puhe.2020.09.006

Brown, A., & Davies, R. (2014). Fathers' experiences of supporting breastfeeding: challenges for breastfeeding promotion and education. *Maternal & child nutrition*, *10*(4), 510-526. **https://doi.org/10.1111/mcn.12129**

Brown, R. L., Moloney, M. E., & Brown, J. (2018). Gender differences in the processes linking public stigma and self-disclosure among college students with mental illness. *Journal of Community Psychology*, *46*(2), 202-212. **https://doi.org/10.1002/jcop.21933**

Brownhill, S., Wilhelm, K., Barclay, L., & Schmied, V. (2005). 'Big build': hidden depression in men. *Australian & New Zealand Journal of Psychiatry*, *39*(10), 921-931. https://doi.org/10.1080/j.1440-1614.2005.01665.x

Brunson, E. K. (2013). The impact of social networks on parents' vaccination decisions. *Pediatrics*, *131*(5), e1397-e1404. https://doi.org/10.1542/peds.2012-2452

Burke, M., Kraut, R., & Marlow, C. (2011). Social capital on Facebook: Differentiating uses and users. *In Proceedings of the SIGCHI conference on human factors in computing systems*, 571-580. https://doi.org/10.1145/1978942.1979023

Butzer, B., & Kuiper, N. A. (2006). Relationships between the frequency of social comparisons and self-concept clarity, intolerance of uncertainty, anxiety, and depression. *Personality and individual differences*, *41*(1), 167-176. https://doi.org/10.1016/j.paid.2005.12.017

Byatt, N., Biebel, K., Friedman, L., Debordes-Jackson, G., & Ziedonis, D. (2013). Women's perspectives on postpartum depression screening in pediatric settings: A preliminary study. *Archives of women's mental health*, *16*(5), 429-432. https://doi.org/10.1007/s00737-013-0369-4

Callister, L. C., Holt, S. T., & Kuhre, M. W. (2010). Giving birth: the voices of Australian women. *The Journal of perinatal & neonatal nursing*, *24*(2), 128-136. http://doi.org/10.1097/JPN.0b013e3181cf0429

Cameron, E. E., Hunter, D., Sedov, I. D., & Tomfohr-Madsen, L. M. (2017). What do dads want? Treatment preferences for paternal postpartum depression. *Journal of affective disorders*, *215*, 62-70. https://doi.org/10.1016/j.jad.2017.03.031

Cameron, E. E., Sedov, I. D., & Tomfohr-Madsen, L. M. (2016). Prevalence of paternal depression in pregnancy and the postpartum: an updated meta-analysis. *Journal of affective disorders*, *206*, 189-203. https://doi.org/10.1016/j.jad.2016.07.044

Cantwell, R., Clutton-Brock, T., Cooper, G., Dawson, A., Drife, J., Garrod, D., ... & Springett, A. (2011). Saving mothers' lives: reviewing maternal deaths to make motherhood safer: 2006-2008. The eighth report of the confidential enquiries into maternal deaths in the United Kingdom. *BJOG: an international journal of obstetrics and gynaecology*, *118*, 1-203. **https://doi.org/10.1111/j.1471-0528.2010.02847.x**

Carlson, J., Edleson, J. L., & Kimball, E. (2014). First-time fathers' experiences of and desires for formal support: A multiple lens perspective. *Fathering*, *12*(3), 242-261. https://doi.org/10.3149/fth.1203.242

Carolan, M. (2005). "Doing it properly": The experience of first mothering over 35 years. *Health Care for Women International*, *26*(9), 764-787. https://doi.org/10.1080/07399330500230987

Carpenter, M., Nagell, K., Tomasello, M., Butterworth, G., & Moore, C. (1998). Social Cognition, Joint Attention, and Communicative Competence from 9 to 15 Months of Age. *Monographs of the Society for Research in Child Development*, *63*(4), i–174. https://doi.org/10.2307/1166214

Carter, P., Gee, M., McIlhone, H., Lally, H., & Lawson, R. (2021). Comparing manual and computational approaches to theme identification in online forums: A case study of a sex work special interest community. *Methods in Psychology*, *5*, 100065. https://doi.org/10.1016/j.metip.2021.100065

Castro, F. G., Kellison, J. G., Boyd, S. J., & Kopak, A. (2010). A methodology for conducting integrative mixed methods research and data analyses. *Journal of mixed methods research*, *4*(4), 342-360. https://doi.org/10.1177/1558689810382916

Cavazos-Rehg, P. A., Krauss, M. J., Sowles, S., Connolly, S., Rosas, C., Bharadwaj, M., & Bierut, L. J. (2016). A content analysis of depression-related tweets. *Computers in human behavior*, *54*, 351-357. https://doi.org/10.1016/j.chb.2015.08.023

Chae, J. (2015). “Am I a better mother than you?” Media and 21st-century motherhood in the context of the social comparison theory. *Communication Research, 42*(4), 503-525. https://doi.org/10.1177/0093650214534969

Chae, J. (2017). Virtual makeover: Selfie-taking and social media use increase selfie-editing frequency through social comparison. *Computers in Human Behavior, 66*, 370-376. https://doi.org/10.1016/j.chb.2016.10.007

Chandran, M., Tharyan, P., Muliyil, J., Abraham, S., (2002). Post-partum depression in a cohort of women from a rural area of Tamil Nadu, India. Incidence and risk factors. *Br. J. Psychiatry* 181, 499–504. https://doi.org/10.1192/bjp.181.6.499

Chang, J. J., Pien, G. W., Duntley, S. P., & Macones, G. A. (2010). Sleep deprivation during pregnancy and maternal and fetal outcomes: is there a relationship?. *Sleep medicine reviews*, *14*(2), 107-114. https://doi.org/10.1016/j.smrv.2009.05.001

Charteris-Black, J., & Seale, C. (2013). Men and emotion talk: Evidence from the experience of illness. *Gender and Language*, 1(1). https://doi.org/10.1558/genl.v1.i1.17190

Chen, E. Y.-J., Enright, R. D., & Tung, E. Y.-L. (2016). The influence of family unions and parenthood transitions on self-development. *Journal of Family Psychology*, 30(3), 341– 352. http://doi.org/10.1037/fam0000154

Chen, P., Aram, D., & Tannenbaum, M. (2014). Forums for Parents of Young Children: Parents' Online Conversations in Israel and France. *International Journal About Parents in Education*, *8*(1), 11-25.

Chen, Q., & Yan, Z. (2016). Does multitasking with mobile phones affect learning? A review. *Computers in Human Behavior*, 54, 34-42. https://doi.org/10.1016/j.chb.2015.07.047

Chin, R., Hall, P., & Daiches, A. (2011). Fathers' experiences of their transition to fatherhood: a metasynthesis. *Journal of reproductive and infant psychology*, *29*(1), 4-18. https://doi.org/10.1080/02646838.2010.513044

Choi, M. J., Kim, S. H., Lee, S., Kwon, B. C., Yi, J. S., Choo, J., & Huh, J. (2017). Toward predicting social support needs in online health social networks. *Journal of medical Internet research*, *19*(8), e7660. Http://doi.org/10.2196/jmir.7660

Choi, P., Henshaw, C., Baker, S., & Tree, J. (2005). Supermum, superwife, supereverything: performing femininity in the transition to motherhood. *Journal of reproductive and infant psychology*, *23*(2), 167-180. https://doi.org/10.1080/02646830500129487

Chou, H. T. G., & Edge, N. (2012). "They are happier and having better lives than I am": The impact of using Facebook on perceptions of others' lives. *Cyberpsychology, behavior, and social networking*, *15*(2), 117-121. https://doi.org/10.1089/cyber.2011.0324

Chronholm, A. (2007). Fathers' experience of shared parental leave in Sweden. *Recherches sociologiques et anthropologiques*, *38*(38-2), 9-25. https://doi.org/10.4000/rsa.456

Chua, T. H. H., & Chang, L. (2016). Follow me and like my beautiful selfies: Singapore teenage girls' engagement in self-presentation and peer comparison on social media. *Computers in Human Behavior*, *55*, 190-197. https://doi.org/10.1016/j.chb.2015.09.011

Church, N. F., Brechman-Toussaint, M. L., & Hine, D. W. (2005). Do dysfunctional cognitions mediate the relationship between risk factors and postnatal depression symptomatology?. *Journal of affective disorders*, *87*(1), 65-72. https://doi.org/10.1016/j.jad.2005.03.009

Clark, R., Tluczek, A., & Wenzel, A. (2003). Psychotherapy for postpartum depression: a preliminary report. *American Journal of Orthopsychiatry*, *73*(4), 441-454. **https://doi.org/10.1037/0002-9432.73.4.441**

Coates, R., Ayers, S., & de Visser, R. (2014). Women's experiences of postnatal distress: a qualitative study. *BMC pregnancy and childbirth*, *14*(1), 1-14. https://doi.org/10.1186/1471-2393-14-359

Cole, B. P., & Davidson, M. M. (2019). Exploring men's perceptions about male depression. *Psychology of Men & Masculinities*, *20*(4), 459-466. https://doi.org/10.1037/men0000176

Condon, J. T., Boyce, P., & Corkindale, C. J. (2004). The first-time fathers study: A prospective study of the mental health and wellbeing of men during the transition to parenthood. *Australian and New Zealand Journal of Psychiatry*, *38*(1-2), 56-64. **https://doi.org/10.1111/j.1440-1614.2004.01298.x**

Cooklin, A. R., Giallo, R., & Rose, N. (2012). Parental fatigue and parenting practices during early childhood: An Australian community survey. *Child: care, health and development*, *38*(5), 654-664. **https://doi.org/10.1111/j.1365-2214.2011.01333.x**

Corcoran, K., Crusius, J., & Mussweiler, T. (2011). Social comparison: motives, standards, and mechanisms. In D. Chadee (Ed.), *Theories in social psychology*, 119–139. Wiley Blackwell

Cornish, A. M., McMahon, C., & Ungerer, J. A. (2008). Postnatal depression and the quality of mother-infant interactions during the second year of life. *Australian Journal of Psychology*, *60*(3), 142-151. **https://doi.org/10.1080/00049530701477738**

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry*, 150(6), 782-786. https://doi.org/10.1192/bjp.150.6.782

Coyne, S. M., McDaniel, B. T., & Stockdale, L. A. (2017). "Do you dare to compare?" Associations between maternal social comparisons on social networking sites and parenting, mental health, and romantic relationship outcomes. *Computers in Human Behavior*, 70, 335-340. https://doi.org/10.1016/j.chb.2016.12.081

Cramer, E. M., Song, H., & Drent, A. M. (2016). Social comparison on Facebook: Motivation, affective consequences, self-esteem, and Facebook fatigue. *Computers in Human Behavior*, 64, 739-746. https://doi.org/10.1016/j.chb.2016.07.049

Creswell, J. W., & Plano Clark, V. L. (2007). Designing and conducting mixed methods research. (1st ed.) Thousand Oaks, CA: Sage.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. *Handbook of mixed methods in social and behavioral research*, *209*(240), 209-240.

Cridland E.K., Jones S.C., Caputi P. & Magee C.A. (2015) Qualitative research with families living with autism spectrum disorder: recommendations for conducting semistructured interviews. *Journal of Intellectual & Developmental Disability* **40**(1), 78– 91. http://doi.org/10.3109/13668250.2014.964191

Cronin, C., & McCarthy, G. (2003). First-time mothers-identifying their needs, perceptions and experiences. *Journal of clinical nursing*, *12*(2), 260-267. http://doi.org/10.1046/j.1365-2702.2003.00684.x

Cryan, E., Keogh, F., Connolly, E., Cody, S., Quinlan, A., & Daly, I. (2001). Depression among postnatal women in an urban Irish community. *Irish Journal of Psychological Medicine*, *18*(1), 5-10. https://doi.org/10.1017/S0790966700006145

Cumberland, P. M., Czanner, G., Bunce, C., Doré, C. J., Freemantle, N., García-Fiñana, M., & Ophthalmic Statistics Group. (2014). Ophthalmic statistics note: the perils of dichotomising continuous variables. *British Journal of Ophthalmology*, 98(6), 841-843. http://dx.doi.org/10.1136/bjophthalmol-2014-304930

Cutcliffe, J. R., McKenna, H., Keeney, S., Stevenson, C., & Jordan, J. (2013). 'Straight from the horse's mouth': Rethinking and reconfiguring services in Northern Ireland in response to suicidal young men. *Journal of Psychiatric and Mental Health Nursing, 20*(5), 466–472. https://doi.org/10.1111/jpm.12012

Da Costa, D., Zelkowitz, P., Dasgupta, K., Sewitch, M., Lowensteyn, I., Cruz, R., ... & Khalifé, S. (2015). Dads get sad too: Depressive symptoms and associated factors in expectant first-time fathers. *American journal of men's health*, *11*(5), 1376-1384. https://doi.org/10.1177/1557988315606963

Da Costa, D., Zelkowitz, P., Letourneau, N., Howlett, A., Dennis, C. L., Russell, B., ... & Khalifé, S. (2017). HealthyDads. ca: what do men want in a website designed to promote emotional wellness and healthy behaviors during the transition to parenthood?. *Journal of medical Internet research*, *19*(10), e325. http://doi.org/10.2196/jmir.7415

Dahlberg, U., Haugan, G., & Aune, I. (2016). Women's experiences of home visits by midwives in the early postnatal period. *Midwifery*, *39*, 57-62. https://doi.org/10.1016/j.midw.2016.05.003

Dambi, J. M., Corten, L., Chiwaridzo, M., Jack, H., Mlambo, T., & Jelsma, J. (2018). A systematic review of the psychometric properties of the cross-cultural translations and adaptations of the Multidimensional Perceived Social Support Scale (MSPSS). *Health and quality of life outcomes*, 16(1), 1-19. https://doi.org/10.1186/s12955-018-0912-0

Dankner, R., Goldberg, R. P., Fisch, R. Z., & Crum, R. M. (2000). Cultural elements of postpartum depression. A study of 327 Jewish Jerusalem women. *The Journal of reproductive medicine*, *45*(2), 97-104.

Darvill, R., Skirton, H., & Farrand, P. (2010). Psychological factors that impact on women's experiences of first-time motherhood: a qualitative study of the transition. *Midwifery*, *26*(3), 357-366. https://doi.org/10.1016/j.midw.2008.07.006

Darwin, Z., Domoney, J., Iles, J., Bristow, F., McLeish, J., & Sethna, V. (2021). Involving and supporting partners and other family members in specialist perinatal mental health services:

Good practice guide. Retrieved from https://www.england.nhs.uk /wp-content/uploads/2021/03/Good-practice-guide-March-2021.pdf

Darwin, Z., Galdas, P., Hinchliff, S., Littlewood, E., McMillan, D., McGowan, L., & Gilbody, S. (2017). Fathers' views and experiences of their own mental health during pregnancy and the first postnatal year: a qualitative interview study of men participating in the UK Born and Bred in Yorkshire (BaBY) cohort. *BMC pregnancy and childbirth*, *17*(1), 1-15. https://doi.org/10.1186/s12884-017-1229-4

Davison, K. K., Charles, J. N., Khandpur, N., & Nelson, T. J. (2017). Fathers' perceived reasons for their underrepresentation in child health research and strategies to increase their involvement. *Maternal and child health journal*, *21*(2), 267-274. https://doi.org/10.1007/s10995-016-2157-z

De Castro, F., Place, J. M. S., Billings, D. L., Rivera, L., & Frongillo, E. A. (2015). Risk profiles associated with postnatal depressive symptoms among women in a public sector hospital in Mexico: the role of sociodemographic and psychosocial factors. *Archives of women's mental health*, *18*(3), 463-471. https://doi.org/10.1007/s00737-014-0472-1

De Choudhury, M., Counts, S., & Horvitz, E. (2013). Predicting postpartum changes in emotion and behavior via social media. In *Proceedings of the SIGCHI conference on human factors in computing systems*, 3267-3276. https://doi.org/10.1145/2470654.2466447

De Choudhury, M., Gamon, M., Counts, S., & Horvitz, E. (2013). Predicting Depression via Social Media. *Proceedings of the International AAAI Conference on Web and Social Media*, 7(1), 128-137. https://ojs.aaai.org/index.php/ICWSM/article/view/14432

De la Peña, A., & Quintanilla, C. (2015). Share, like and achieve: the power of Facebook to reach health-related goals. *International Journal of Consumer Studies*, *39*(5), 495-505. **https://doi.org/10.1111/ijcs.12224**

Deater-Deckard, K. (1998). Parenting stress and child adjustment: Some old hypotheses and new questions. *Clinical psychology: Science and practice*, *5*(3), 314-332. **https://doi.org/10.1111/j.1468-2850.1998.tb00152.x**

DeCou, S. E., & Vidair, H. B. (2017). What low-income, depressed mothers need from mental health care: overcoming treatment barriers from their perspective. *Journal of Child and Family Studies*, *26*(8), 2252-2265. https://doi.org/10.1007/s10826-017-0733-5

Demontigny, F., Girard, M. E., Lacharité, C., Dubeau, D., & Devault, A. (2013). Psychosocial factors associated with paternal postnatal depression. *Journal of affective disorders*, *150*(1), 44-49. https://doi.org/10.1016/j.jad.2013.01.048

Denis, A., Callahan, S., & Bouvard, M. (2015). Evaluation of the French version of the multidimensional scale of perceived social support during the postpartum period. *Maternal and Child Health Journal*, 19(6), 1245-1251. https://doi.org/10.1007/s10995-014-1630-9

Dennis, C. L. (2003). Peer support within a health care context: a concept analysis. *International journal of nursing studies*, *40*(3), 321-332. https://doi.org/10.1016/S0020-7489(02)00092-5

Dennis, C. L., & Chung-Lee, L. (2006). Postpartum depression help-seeking barriers and maternal treatment preferences: A qualitative systematic review. *Birth*, *33*(4), 323-331. http://dx.doi.org/10.1111/j.1523-536X.2006.00130.x

Dennis, C. L., & Dowswell, T. (2013). Psychosocial and psychological interventions for preventing postpartum depression. *Cochrane database of systematic reviews*, (2). https://doi.org/10.1002/14651858.CD001134.pub3

Dennis, C. L., Hodnett, E., Kenton, L., Weston, J., Zupancic, J., Stewart, D. E., & Kiss, A. (2009). Effect of peer support on prevention of postnatal depression among high risk women: multisite randomised controlled trial. *Bmj*, *338*, a3064. https://doi.org/10.1136/bmj.a3064

Dietz, H. P. (2013). Pelvic floor trauma in childbirth. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, *53*(3), 220-230. **https://doi.org/10.1111/ajo.12059**

Do, T. K. L., Nguyen, T. T. H., & Pham, T. T. H. (2018). Postpartum depression and risk factors among Vietnamese women. *BioMed research international*, *2018*. https://doi.org/10.1155/2018/4028913

Don, B., & Mickelson, K. (2012). Paternal postpartum depression: The role of maternal postpartum depression, spousal support, and relationship satisfaction. *Couple and Family Psychology*, 1(4), 323–334. http://dx.doi.org/10.1037/a0029148

Donders, F., Lonnée-Hoffmann, R., Tsiakalos, A., Mendling, W., Martinez de Oliveira, J., Judlin, P., ... & ISIDOG COVID-19 Guideline Workgroup. (2020). ISIDOG recommendations

concerning COVID-19 and pregnancy. *Diagnostics*, *10*(4), 243. **https://doi.org/10.3390/diagnostics10040243**

Donker, T., van Straten, A., Riper, H., Marks, I., Andersson, G., & Cuijpers, P. (2009). Implementation of Internet-based preventive interventions for depression and anxiety: role of support? The design of a randomized controlled trial. *Trials*, *10*(1), 1-8. https://doi.org/10.1186/1745-6215-10-59

Doty, J. L., Dworkin, J., & Connell, J. H. (2012). Examining digital differences: Parents' online activities. *Family Science Review*, 17(2), 18-39. http://doi.org/10.26536/FSR.2012.17.02.02

Duberstein, Z. T., Brunner, J., Panisch, L. S., Bandyopadhyay, S., Irvine, C., Macri, J. A., ... & O'Connor, T. G. (2021). The biopsychosocial model and perinatal health care: determinants of perinatal care in a community sample. *Frontiers in psychiatry*, 12, 746803. https://doi.org/10.3389/fpsyt.2021.746803

Duggan, M. & A. Lehnhart. (2015). Parents and Social Media. Pew Research Center. Retrieved on from: http://www.pewinternet.org/2015/07/16/parents-and-social-media/

Duggan, M., Lenhart, A., Lampe, C., & Ellison, N. B. (2015). Parents and social media. *Pew Research Center*, *16*(1), 2. Retrieved from http://www.pewinternet.org/2015/07/16/parents-and-social-media/

Duggan, M., Smith, A. (2013) **Social media update**. Pew Internet & American Life Project (2013), Retrieved from http://pewinternet.org/Reports/2013/Social-Media-Update.aspx

Dunford, E., & Granger, C. (2017). Maternal guilt and shame: Relationship to postnatal depression and attitudes towards help-seeking. *Journal of Child and Family Studies*, *26*(6), 1692-1701. https://doi.org/10.1007/s10826-017-0690-z

Dworkin, J., Connell, J., & Doty, J. (2013). A literature review of parents' online behavior. *Cyberpsychology*, *7*(2), 1-10. http://doi.org/10.5817/CP2013-2-2

Eaton, N. R., Keyes, K. M., Krueger, R. F., Balsis, S., Skodol, A. E., Markon, K. E., ... & Hasin, D. S. (2012). An invariant dimensional liability model of gender differences in mental disorder prevalence: evidence from a national sample. *Journal of abnormal psychology*, *121*(1), 282-288. https://doi.org/10.1037/a0024780

Edhborg, M., Carlberg, M., Simon, F., & Lindberg, L. (2016). “Waiting for better times” experiences in the first postpartum year by Swedish fathers with depressive symptoms. *American journal of men's health*, *10*(5), 428-439. https://doi.org/10.1177/1557988315574740

Edmondson, O. J., Psychogiou, L., Vlachos, H., Netsi, E., & Ramchandani, P. G. (2010). Depression in fathers in the postnatal period: assessment of the Edinburgh Postnatal Depression Scale as a screening measure. *Journal of affective disorders*, *125*(1-3), 365-368. https://doi.org/10.1016/j.jad.2010.01.069

Egan, K. G., & Moreno, M. A. (2011). Alcohol references on undergraduate males’ Facebook profiles. *American Journal of Men's Health*, 5(5), 413-420. https://doi.org/10.1177/1557988310394341

Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review*, *66*(5), 522-541. https://doi.org/10.1177/1077558709335173

Eisenberg, M. L., Park, Y., Hollenbeck, A. R., Lipshultz, L. I., Schatzkin, A., & Pletcher, M. J. (2011). Fatherhood and the risk of cardiovascular mortality in the NIH-AARP Diet and Health Study. *Human reproduction*, *26*(12), 3479-3485. https://doi.org/10.1093/humrep/der305

Elgar, F. J., Mills, R. S., McGrath, P. J., Waschbusch, D. A., & Brownridge, D. A. (2007). Maternal and paternal depressive symptoms and child maladjustment: The mediating role of parental behavior. *Journal of abnormal child psychology*, *35*(6), 943-955. https://doi.org/10.1007/s10802-007-9145-0

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends:” Social capital and college students’ use of online social network sites. *Journal of computer-mediated communication*, *12*(4), 1143-1168. **https://doi.org/10.1111/j.1083-6101.2007.00367.x**

Emmanuel, E. N., Creedy, D. K., St John, W., & Brown, C. (2011). Maternal role development: the impact of maternal distress and social support following childbirth. *Midwifery*, *27*(2), 265-272. https://doi.org/10.1016/j.midw.2009.07.003

Emslie, C., Ridge, D., Ziebland, S., & Hunt, K. (2006). Men's accounts of depression: reconstructing or resisting hegemonic masculinity?. *Social science & medicine*, *62*(9), 2246-2257. https://doi.org/10.1016/j.socscimed.2005.10.017

Emslie, C., Ridge, D., Ziebland, S., & Hunt, K. (2007). Exploring men's and women's experiences of depression and engagement with health professionals: more similarities than differences? A qualitative interview study. *BMC Family Practice*, *8*(1), 43. https://doi.org/10.1186/1471-2296-8-43

Enatescu, V. R., Bernad, E., Gluhovschi, A., Papava, I., Romosan, R., Palicsak, A., ... & Enatescu, I. (2017). Perinatal characteristics and mother's personality profile associated with increased likelihood of postpartum depression occurrence in a Romanian outpatient sample. *Journal of Mental Health*, *26*(3), 212-219. https://doi.org/10.3109/09638237.2016.1149802

Eriksson, H., & Salzmann-Erikson, M. (2013). Supporting a caring fatherhood in cyberspace–an analysis of communication about caring within an online forum for fathers. *Scandinavian Journal of Caring Sciences*, *27*(1), 63-69. **https://doi.org/10.1111/j.1471-6712.2012.01001.x**

Eriksson, H., Salzmann-Erikson, M., & Pringle, K. (2014). Virtual Invisible Men: Privacy and invisibility as forms of privilege in online venues for fathers during early parenthood. *Culture, Society and Masculinities*, *6*(1), 52-68. http://doi.org/10.3149/CSM.0601.52

Eruchalu, C. N., Pichardo, M. S., Bharadwaj, M., Rodriguez, C. B., Rodriguez, J. A., Bergmark, R. W., ... & Ortega, G. (2021). The expanding digital divide: digital health access inequities during the COVID-19 pandemic in New York City. *Journal of Urban Health*, *98*(2), 183-186. https://doi.org/10.1007/s11524-020-00508-9

Evans, M., Donelle, L., & Hume-Loveland, L. (2012). Social support and online postpartum depression discussion groups: A content analysis. *Patient education and counseling*, *87*(3), 405-410. https://doi.org/10.1016/j.pec.2011.09.011

Eysenbach, G., Powell, J., Kuss, O., & Sa, E. R. (2002). Empirical studies assessing the quality of health information for consumers on the world wide web: a systematic review. *Jama*, *287*(20), 2691-2700. http://doi.org/10.1001/jama.287.20.2691

Fägerskiöld, A. (2006). Support of fathers of infants by the child health nurse. *Scandinavian Journal of Caring Sciences*, *20*(1), 79-85. **https://doi.org/10.1111/j.1471-6712.2006.00383.x**

Fahey, J. O., & Shenassa, E. (2013). Understanding and meeting the needs of women in the postpartum period: the perinatal maternal health promotion model. *Journal of midwifery & women's health*, *58*(6), 613-621. **https://doi.org/10.1111/jmwh.12139**

Fairbrother, N., Janssen, P., Antony, M. M., Tucker, E., & Young, A. H. (2016). Perinatal anxiety disorder prevalence and incidence. *Journal of affective disorders*, *200*, 148-155. https://doi.org/10.1016/j.jad.2015.12.082

Fast, L. A., & Funder, D. C. (2010). Gender Differences in the Correlates of Self-Referent Word Use: Authority, Entitlement, and Depressive Symptoms. *Journal of personality*, *78*(1), 313-338. **https://doi.org/10.1111/j.1467-6494.2009.00617.x**

Fearon, R. P., Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., Lapsley, A. M., & Roisman, G. I. (2010). The significance of insecure attachment and disorganization in the development of children's externalizing behavior: A meta-analytic study. *Child Development*, 81, 435–456. **https://doi.org/10.1111/j.1467-8624.2009.01405.x**

Feinstein, B. A., Hershenberg, R., Bhatia, V., Latack, J. A., Meuwly, N., & Davila, J. (2013). Negative social comparison on Facebook and depressive symptoms: Rumination as a mechanism. *Psychology of Popular Media Culture, 2*(3), 161–170. https://doi.org/10.1037/a0033111

Feldman, R. (2007). Parent–infant synchrony and the construction of shared timing; physiological precursors, developmental outcomes, and risk conditions. *Journal of Child psychology and Psychiatry*, *48*(3-4), 329-354. **https://doi.org/10.1111/j.1469-7610.2006.01701.x**

Feldman, R., Granat, A., Pariente, C., Kanety, H., Kuint, J., & Gilboa-Schechtman, E. (2009). Maternal depression and anxiety across the postpartum year and infant social engagement, fear regulation, and stress reactivity. *American Academy of Child and Adolescent Psychiatry*, 48(9), 919-927. http://dx.doi.org/10.1097/CHI.0b013e3181b21651

Feldman, R., Sussman, A. L., & Zigler, E. (2004). Parental leave and work adaptation at the transition to parenthood: Individual, marital, and social correlates. *Journal of Applied Developmental Psychology*, *25*(4), 459-479. https://doi.org/10.1016/j.appdev.2004.06.004

Fenwick, J., Bayes, S., & Johansson, M. (2012). A qualitative investigation into the pregnancy experiences and childbirth expectations of Australian fathers-to-be. *Sexual & Reproductive Healthcare*, *3*(1), 3-9. https://doi.org/10.1016/j.srhc.2011.11.001

Ferber, S. G., Feldman, R., & Makhoul, I. R. (2008). The development of maternal touch across the first year of life. *Early human development*, *84*(6), 363-370. https://doi.org/10.1016/j.earlhumdev.2007.09.019

Fetters, M. D., & Molina-Azorin, J. F. (2017). The Journal of Mixed Methods Research starts a new decade: The mixed methods research integration trilogy and its dimensions. *Journal of Mixed Methods Research*, *11*(3), 291-307. https://doi.org/10.1177/1558689817714066

Field, T. (2010). Postpartum depression effects on early interactions, parenting, and safety practices: a review. *Infant Behaviour and Development*, 33(1), 1-6. https://doi.org/10.1016/j.infbeh.2009.10.005

Field, T., Diego, M., & Hernandez-Reif, M. (2006). Prenatal depression effects on the fetus and newborn: a review. *Infant Behavior and Development*, 29(3), 445-455. https://doi.org/10.1016/j.infbeh.2006.03.003

Field, T., Diego, M., Dieter, J., Hernandez-Reif, M., Schanberg, S., Kuhn, C., ... & Bendell, D. (2004). Prenatal depression effects on the fetus and the newborn. *Infant Behavior and Development*, *27*(2), 216-229. https://doi.org/10.1016/j.infbeh.2003.09.010

Figueiredo, B., Costa, R., Pacheco, A., & Pais, A. (2009). Mother-to-infant emotional involvement at birth. *Maternal and Child Health Journal*, *13*(4), 539-549.

Finn, J., & Kerman, B. (2005). The use of online social support by foster families. *Journal of Family Social Work*, *8*(4), 67-85. https://doi.org/10.1300/J039v08n04_04

Fisher, J., Mello, M. C. D., Patel, V., Rahman, A., Tran, T., Holton, S., & Holmes, W. (2012). Prevalence and determinants of common perinatal mental disorders in women in low-and lower-middle-income countries: a systematic review. *Bulletin of the World Health Organization*, *90*, 139-149. http://dx.doi.org/10.2471/BLT.11.091850

Fleming, S. E., Vandermause, R., & Shaw, M. (2014). First-time mothers preparing for birthing in an electronic world: internet and mobile phone technology. *Journal of Reproductive and Infant Psychology*, *32*(3), 240-253. http://dx.doi.org/10.1080/02646838.2014.886104

Fletcher, R. J., Feeman, E., Garfield, C., & Vimpani, G. (2011). The effects of early paternal depression on children's development. *Medical Journal of Australia*, *195*(11-12), 685-689. **https://doi.org/10.5694/mja11.10192**

Fletcher, R., Knight, T., Macdonald, J. A., & StGeorge, J. (2019). Process evaluation of text-based support for fathers during the transition to fatherhood (SMS4dads): mechanisms of impact. *BMC psychology*, 7(1), 1-11. https://doi.org/10.1186/s40359-019-0338-4

Fletcher, R., & StGeorge, J. (2011). Heading into fatherhood—nervously: Support for fathering from online dads. *Qualitative health research, 21*(8), 1101-1114. https://doi.org/10.1177/1049732311404903

Fletcher, R., Vimpani, G., Russell, G., & Keatinge, D. (2008). The evaluation of tailored and web-based information for new fathers. *Child: care, health and development, 34*(4), 439-446. **https://doi.org/10.1111/j.1365-2214.2008.00811.x**

Flykt, M., Palosaari, E., Lindblom, J., Vänskä, M., Poikkeus, P., Repokari, L., Tiitinen, A., Tulppala, M., & Punamäki, R.-L. (2014). What explains violated expectations of parent–child relationship in transition to parenthood? *Journal of Family Psychology, 28*(2), 148–159. https://doi.org/10.1037/a0036050

Flynn, H. A., Henshaw, E., O'Mahen, H., & Forman, J. (2010). Patient perspectives on improving the depression referral processes in obstetrics settings: a qualitative study. *General hospital psychiatry, 32*(1), 9-16. https://doi.org/10.1016/j.genhosppsych.2009.07.005

Fonseca, A., Gorayeb, R., & Canavarro, M. C. (2016). Women's use of online resources and acceptance of e-mental health tools during the perinatal period. *International journal of medical informatics*, 94, 228-236. https://doi.org/10.1016/j.ijmedinf.2016.07.016

Forest, A. L., & Wood, J. V. (2012). When social networking is not working: Individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*, 23(3), 295-302. https://doi.org/10.1177/0956797611429709

Forman, D. R., O'HARA, M. W., Stuart, S., Gorman, L. L., Larsen, K. E., & Coy, K. C. (2007). Effective treatment for postpartum depression is not sufficient to improve the developing mother–child relationship. *Development and psychopathology, 19*(2), 585-602. https://doi.org/10.1017/S0954579407070289

Foroushani, P. S., Schneider, J., & Assareh, N. (2011). Meta-review of the effectiveness of computerised CBT in treating depression. *BMC psychiatry*, *11*(1), 1-6. https://doi.org/10.1186/1471-244X-11-131

Forsyth, C., Skouteris, H., Wertheim, E. H., Paxton, S. J., & Milgrom, J. (2011). Men's emotional responses to their partner's pregnancy and their views on support and information received. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, *51*(1), 53-56. **https://doi.org/10.1111/j.1479-828X.2010.01244.x**

Fortinguerra, F., Clavenna, A., & Bonati, M. (2009). Psychotropic drug use during breastfeeding: A review of the evidence. *Pediatrics*, 124(4), 547–556. https://doi.org/10.1542/peds.2009-0326

Fox, J., & Vendemia, M. A. (2016). Selective self-presentation and social comparison through photographs on social networking sites. *Cyberpsychology, Behavior, and Social Networking*, 19(10), 593-600. https://doi.org/10.1089/cyber.2016.0248

Fox, S. (2011a). Health Topics. Pew Research Center's Internet & American Life Project. Retrieved from. http://pewinternet.org/Reports/2011/HealthTopics.aspx

Fox, S. (2011b). Peer-to-Peer Healthcare. Pew Research Center's Internet & American LifeProject. Retrieved from. http://pewinternet.org/Reports/2011/P2PHealthcare.aspx

Freitas, C. J., Williams-Reade, J., Distelberg, B., Fox, C. A., & Lister, Z. (2016). Paternal depression during pregnancy and postpartum: An international Delphi study. *Journal of affective disorders*, *202*, 128-136. https://doi.org/10.1016/j.jad.2016.05.056

Furnham, A. (1986). Response bias, social desirability and dissimulation. *Personality and Individual Differences*, 7(3), 385–400. https://doi.org/10.1016/0191-8869(86)90014-0

Garfield, C. F., Isacco, A., & Bartlo, W. D. (2010). Men's Health and Fatherhood in the Urban Midwestern United States. *International Journal of Men's Health*, *9*(3), 161-174.

Gask, L., Rogers, A., Oliver, D., May, C., & Roland, M. (2003). Qualitative study of patients' perceptions of the quality of care for depression in general practice. *British Journal of General Practice*, *53*(489), 278-283.

Gaylin, W. (2000). Relating traditional models of depression to male depression. *Men and depression: Clinical and empirical perspectives*, 25-49.

Gemmill, A. W., Leigh, B., Ericksen, J., & Milgrom, J. (2006). A survey of the clinical acceptability of screening for postnatal depression in depressed and non-depressed women. *BMC Public Health*, 6(1), 211. https://doi.org/10.1186/1471-2458-6-211

Genesoni, L., & Tallandini, M. A. (2009). Men's psychological transition to fatherhood: an analysis of the literature, 1989–2008. *Birth*, *36*(4), 305-318. **https://doi.org/10.1111/j.1523-536X.2009.00358.x**

Gentile, S., & Fusco, M. L. (2017). Untreated perinatal paternal depression: Effects on offspring. *Psychiatry Research*, *252*, 325-332. https://doi.org/10.1016/j.psychres.2017.02.064

Gere, M. K., Hagen, K. A., Villabø, M. A., Arnberg, K., Neumer, S. P., & Torgersen, S. (2013). Fathers' mental health as a protective factor in the relationship between maternal and child depressive symptoms. *Depression and anxiety*, *30*(1), 31-38. **https://doi.org/10.1002/da.22010**

Gerhardt, S. (2014). Why Love Matters: How affection shapes a baby's brain (2nd ed.). Routledge. https://doi.org/10.4324/9781315758312

Gettler, L. T., McDade, T. W., Feranil, A. B., & Kuzawa, C. W. (2011). Longitudinal evidence that fatherhood decreases testosterone in human males. *Proceedings of the National Academy of Sciences*, 108(39), 16194-16199.

Giallo, R., D'Esposito, F., Cooklin, A., Mensah, F., Lucas, N., Wade, C., & Nicholson, J. M. (2013). Psychosocial risk factors associated with fathers' mental health in the postnatal period: results from a population-based study. *Social psychiatry and psychiatric epidemiology*, *48*(4), 563-573. https://doi.org/10.1007/s00127-012-0568-8

Gibson, L., & Hanson, V. L. (2013). Digital motherhood: How does technology help new mothers?. *Proceedings of the SIGCHI conference on human factors in computing systems*, 313-322. https://doi.org/10.1145/2470654.2470700

Gjerde, L. C., Eilertsen, E. M., Reichborn-Kjennerud, T., McAdams, T. A., Zachrisson, H. D., Zambrana, I. M., ... & Ystrom, E. (2017). Maternal perinatal and concurrent depressive symptoms and child behavior problems: a sibling comparison study. *Journal of Child Psychology and Psychiatry*, *58*(7), 779-786. **https://doi.org/10.1111/jcpp.12704**

Goldman-Mellor, S., & Margerison, C. E. (2019). Maternal drug-related death and suicide are leading causes of postpartum death in California. *American journal of obstetrics and gynecology*, *221*(5), 489-e1. https://doi.org/10.1016/j.ajog.2019.05.045

Goodman, J. H. (2004). Paternal postpartum depression, its relationship to maternal postpartum depression, and implications for family health. *Journal of advanced nursing*, *45*(1), 26-35. **https://doi.org/10.1046/j.1365-2648.2003.02857.x**

Goodman, J. H. (2005). Becoming an involved father of an infant. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *34*(2), 190-200. **https://doi.org/10.1177/0884217505274581**

Goodman, J. H. (2009). Women's attitudes, preferences, and perceived barriers to treatment for perinatal depression. *Birth*, *36*(1), 60-69. **https://doi.org/10.1111/j.1523-536X.2008.00296.x**

Goodman, J. H., & Tyer-Viola, L. (2010). Detection, treatment, and referral of perinatal depression and anxiety by obstetrical providers. *Journal of Women's Health*, 19(3), 477–490. https://doi.org/10.1089/jwh.2008.1352

Goodman, S. H., & Gotlib, I. H. (2002). Children of depressed parents: Mechanisms of risk and implications for treatment. *Washington, DC*. http://doi.org/10.1037/10449-000

Gordo, L., Oliver-Roig, A., Martínez-Pampliega, A., Iriarte Elejalde, L., Fernández-Alcantara, M., & Richart-Martínez, M. (2018). Parental perception of child vulnerability and parental competence: The role of postnatal depression and parental stress in fathers and mothers. *PloS one*, 13(8), e0202894. https://doi.org/10.1371/journal.pone.0202894

Gough, B. (2016). Men's depression talk online: A qualitative analysis of accountability and authenticity in help-seeking and support formulations. *Psychology of Men & Masculinity, 17*(2), 156–164. https://doi.org/10.1037/a0039456

Goyal, D., Gay, C., & Lee, K. A. (2010). How much does low socioeconomic status increase the risk of prenatal and postpartum depressive symptoms in first-time mothers?. *Women's Health Issues*, *20*(2), 96-104. https://doi.org/10.1016/j.whi.2009.11.003

Gray, P. B., Reece, J. A., Coore-Desai, C., Dinnall-Johnson, T., Pellington, S., Bateman, A., & Samms-Vaughan, M. (2018). Patterns and predictors of depressive symptoms among

Jamaican fathers of newborns. *Social psychiatry and psychiatric epidemiology*, *53*(10), 1063-1070. https://doi.org/10.1007/s00127-018-1566-2

Grekin, R., & O'Hara, M. W. (2014). Prevalence and risk factors of postpartum posttraumatic stress disorder: a meta-analysis. *Clinical psychology review*, *34*(5), 389-401. https://doi.org/10.1016/j.cpr.2014.05.003

Groh, A. M., Fearon, R. P., van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Roisman, G. I. (2017). Attachment in the early life course: Meta-analytic evidence for its role in socioemotional development. *Child Development Perspectives*, *11*(1), 70-76. **https://doi.org/10.1111/cdep.12213**

Guastella, A. J., & Moulds, M. L. (2007). The impact of rumination on sleep quality following a stressful life event. *Personality and Individual Differences*, *42*(6), 1151-1162. https://doi.org/10.1016/j.paid.2006.04.028

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, *18*(1), 59-82. https://doi.org/10.1177/1525822X05279903

Gundersen, T. (2011). 'One wants to know what a chromosome is': the internet as a coping resource when adjusting to life parenting a child with a rare genetic disorder. *Sociology of health & illness*, *33*(1), 81-95. **https://doi.org/10.1111/j.1467-9566.2010.01277.x**

Gurung, B., Jackson, L. J., Monahan, M., Butterworth, R., & Roberts, T. E. (2018). Identifying and assessing the benefits of interventions for postnatal depression: a systematic review of economic evaluations. *BMC pregnancy and childbirth*, *18*(1), 1-18. https://doi.org/10.1186/s12884-018-1738-9

Haar, J. M., & Bardoel, E. A. (2008). Positive spillover from the work—family interface: A study of Australian employees. *Asia Pacific Journal of Human Resources*, *46*(3), 275-287. https://doi.org/10.1177/1038411108095759

Habel, C., Feeley, N., Hayton, B., Bell, L., & Zelkowitz, P. (2015). Causes of women′ s postpartum depression symptoms: Men′ s and women′ s perceptions. *Midwifery*, *31*(7), 728-734. https://doi.org/10.1016/j.midw.2015.03.007

Haga, S. M., Lynne, A., Slinning, K., & Kraft, P. (2012). A qualitative study of depressive symptoms and well-being among first-time mothers. *Scandinavian journal of caring sciences*, *26*(3), 458-466. **https://doi.org/10.1111/j.1471-6712.2011.00950.x**

Haga, S. M., Ulleberg, P., Slinning, K., Kraft, P., Steen, T. B., & Staff, A. (2012). A longitudinal study of postpartum depressive symptoms: multilevel growth curve analyses of emotion regulation strategies, breastfeeding self-efficacy, and social support. *Archives of Women's Mental Health*, 15(3), 175-184. https://doi.org/10.1007/s00737-012-0274-2

Hagen, E. W., Mirer, A. G., Palta, M., & Peppard, P. E. (2013). The sleep-time cost of parenting: Sleep duration and sleepiness among employed parents in the Wisconsin Sleep Cohort Study. *American journal of epidemiology*, *177*(5), 394-401. https://doi.org/10.1093/aje/kws246

Halbreich, U., & Kahn, L. S. (2001). Role of estrogen in the aetiology and treatment of mood disorders. *CNS drugs*, *15*(10), 797-817. https://doi.org/10.2165/00023210-200115100-00005

Halbreich, U., & Karkun, S. (2006). Cross-cultural and social diversity of prevalence of postpartum depression and depressive symptoms. *Journal of Affective Disorders*, 91(2), 97-111. https://doi.org/10.1016/j.jad.2005.12.051

Hall, W., & Irvine, V. (2009). E-communication among mothers of infants and toddlers in a community-based cohort: A content analysis. *Journal of advanced nursing*, *65*(1), 175-183. **https://doi.org/10.1111/j.1365-2648.2008.04856.x**

Hammarlund, K., Andersson, E., Tenenbaum, H., & Sundler, A. J. (2015). We are also interested in how fathers feel: A qualitative exploration of child health center nurses' recognition of postnatal depression in fathers. *BMC pregnancy and childbirth*, *15*(1), 1-7. https://doi.org/10.1186/s12884-015-0726-6

Hammer, J. H., Vogel, D. L., & Heimerdinger-Edwards, S. R. (2013). Men's help seeking: Examination of differences across community size, education, and income. *Psychology of Men & Masculinity, 14*(1), 65–75. https://doi.org/10.1037/a0026813

Hannan, J., Alce, M., & Astros, A. (2016). Psychometric properties of the newly translated creole multidimensional scale of perceived social support (MSPSS) and perceived adequacy of resource scale (PARS) and the relationship between perceived social support and resources in Haitian mothers in the US. *BMC psychology*, *4*(1), 1-9. https://doi.org/10.1186/s40359-016-0113-8

Haruna, M., & Nishi, D. (2020). Perinatal mental health and COVID-19 in Japan. *Psychiatry and Clinical Neurosciences, 74(9), 502-503. Http://doi.org/10.1111/pcn.13091*

Harville, E. W., Xiong, X., Buekens, P., Pridjian, G., & Elkind-Hirsch, K. (2010). Resilience after hurricane Katrina among pregnant and postpartum women. *Women's health issues*, *20*(1), 20-27. https://doi.org/10.1016/j.whi.2009.10.002

Harville, E. W., Xiong, X., Pridjian, G., Elkind-Hirsch, K., & Buekens, P. (2009). Postpartum mental health after Hurricane Katrina: A cohort study. *BMC pregnancy and childbirth*, *9*(1), 1-8. https://doi.org/10.1186/1471-2393-9-21

Harwood, K., McLean, N., & Durkin, K. (2007). First-time mothers' expectations of parenthood: What happens when optimistic expectations are not matched by later experiences? *Developmental Psychology, 43*(1), 1–12. https://doi.org/10.1037/0012-1649.43.1.1

Haslam, D. M., Sanders, M. R., & Sofronoff, K. (2013). Reducing work and family conflict in teachers: A randomised controlled trial of Workplace Triple P. *School Mental Health*, 5(2), 70–82. https://doi.org/10.1007/s12310-012-9091-z

Haslam, D. M., Tee, A., & Baker, S. (2017). The Use of Social Media as a Mechanism of Social Support in Parents. *Journal of Child and Family Studies*, *26*(7), 2026-2037. https://doi.org/10.1007/s10826-017-0716-6

Hau, F. W., & Levy, V. A. (2003). The maternity blues and Hong Kong Chinese women: an exploratory study. *Journal of affective disorders*, *75*(2), 197-203. https://doi.org/10.1016/S0165-0327(02)00039-3

Hauck, Y., Hall, W. A., & Jones, C. (2007). Prevalence, self-efficacy and perceptions of conflicting advice and self-management: effects of a breastfeeding journal. *Journal of Advanced Nursing*, *57*(3), 306-317. **https://doi.org/10.1111/j.1365-2648.2006.04136.x**

Hayakawa, N., Koide, T., Okada, T., Murase, S., Aleksic, B., Furumura, K., ... & Ozaki, N. (2012). The postpartum depressive state in relation to perceived rearing: a prospective cohort study. *PLoS One*, *7*(11), e50220. https://doi.org/10.1371/journal.pone.0050220

Hays, S. (1996). *The cultural contradictions of motherhood*. Yale University Press.

Heinrichs, N., Bertram, H., Kuschel, A., & Hahlweg, K. (2005). Parent recruitment and retention in a universal prevention program for child behavior and emotional problems: Barriers to research and program participation. *Prevention Science, 6*(4), 275-286. https://doi.org/10.1007/s11121-005-0006-1

Henderson, C., Evans-Lacko, S., & Thornicroft, G. (2013). Mental illness stigma, help seeking, and public health programs. *American journal of public health, 103*(5), 777-780. https://doi.org/10.2105/AJPH.2012.301056

Henshaw, E. J., Flynn, H. A., Himle, J. A., O'Mahen, H. A., Forman, J., & Fedock, G. (2011). Patient preferences for clinician interactional style in treatment of perinatal depression. *Qualitative Health Research*, 21(7), 936-951. https://doi.org/10.1177/1049732311403499

Hewitt, C., Gilbody, S., Brealey, S., Paulden, M., Palmer, S., Mann, R., ... & Richards, D. (2009). Methods to identify postnatal depression in primary care: an integrated evidence synthesis and value of information analysis. *Health Technology Assessment (Winchester, England), 13*(36), 1-145. http://doi.org/10.3310/hta13360

Hjälmhult, E., & Lomborg, K. (2012). Managing the first period at home with a newborn: a grounded theory study of mothers' experiences. *Scandinavian journal of caring sciences, 26*(4), 654-662. **https://doi.org/10.1111/j.1471-6712.2012.00974.x**

Hodgkinson, E. L., Smith, D. M., & Wittkowski, A. (2014). Women's experiences of their pregnancy and postpartum body image: a systematic review and meta-synthesis. *BMC pregnancy and childbirth*, *14*(1), 1-11. https://doi.org/10.1186/1471-2393-14-330

Hoffnung, M. (2004). Wanting it all: Career, marriage, and motherhood during college-educated women's 20s. *Sex roles*, *50*(9), 711-723. https://doi.org/10.1023/B:SERS.0000027572.57049.ff

Hom, M. A., Chu, C., Schneider, M. E., Lim, I. C., Hirsch, J. K., Gutierrez, P. M., & Joiner, T. E. (2017). Thwarted belongingness as an explanatory link between insomnia symptoms and suicidal ideation: Findings from three samples of military service members and veterans. *Journal of affective disorders, 209*, 114-123. https://doi.org/10.1016/j.jad.2016.11.032

Hook, A., & Andrews, B. (2005). The relationship of non-disclosure in therapy to shame and depression. *British Journal of Clinical Psychology*, *44*(3), 425-438. **https://doi.org/10.1348/014466505X34165**

Horowitz, J. A., & Cousins, A. (2006). Postpartum depression treatment rates for at-risk women. *Nursing Research*, 55(2S), 23–27. http://doi.org/10.1097/00006199-200603001-00005

Horowitz, J. A., Murphy, C. A., Gregory, K. E., & Wojcik, J. (2011). A community-based screening initiative to identify mothers at risk for postpartum depression. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, *40*(1), 52-61. https://doi.org/10.1111/j.1552-6909.2010.01199.x

Horrigan, J. (2007). *The mobile difference: Wireless connectivity has drawn many users more deeply into digital life*. Pew Internet and American Life Project. Retrieved from http://www.pewinternet.org/~/media//Files/Reports/2009/The_Mobile_Difference.pdf

Hosey, M. M., & Needham, D. M. (2020). Survivorship after COVID-19 ICU stay. *Nature reviews Disease primers*, *6*(1), 1-2. https://doi.org/10.1038/s41572-020-0201-1

House, S. J., Tripathi, S. P., Knight, B. T., Morris, N., Newport, D. J., & Stowe, Z. N. (2016). Obsessive-compulsive disorder in pregnancy and the postpartum period: course of illness and obstetrical outcome. *Archives of women's mental health*, *19*(1), 3-10. https://doi.org/10.1007/s00737-015-0542-z

Howell, E. A., Egorova, N. N., Janevic, T., Brodman, M., Balbierz, A., Zeitlin, J., & Hebert, P. L. (2020). Race and ethnicity, medical insurance, and within-hospital severe maternal morbidity disparities. *Obstetrics and gynecology*, *135*(2), 285-293. Http://doi.org/0.1097/AOG.0000000000003667

Hrybanova, Y., Ekström, A., & Thorstensson, S. (2019). First-time fathers' experiences of professional support from child health nurses. *Scandinavian Journal of Caring Sciences*, 33(4), 921-930. https://doi.org/10.1111/scs.12690

Huang, Y. C., & Mathers, N. (2001). Postnatal depression–biological or cultural? A comparative study of postnatal women in the UK and Taiwan. *Journal of Advanced Nursing*, *33*(3), 279-287. **https://doi.org/10.1046/j.1365-2648.2001.01664.x**

Hudson, D. B., Campbell-Grossman, C., Ofe Fleck, M. A. R. G. A. R. E. T., Elek, S. M., & Shipman, A. M. Y. (2003). Effects of the new fathers network on first-time fathers' parenting self-efficacy and parenting satisfaction during the transition to parenthood. *Issues in Comprehensive Pediatric Nursing*, *26*(4), 217-229. https://doi.org/10.1080/01460860390246687

Hughes, O., Mohamad, M. M., Doyle, P., & Burke, G. (2018). The significance of breastfeeding on sleep patterns during the first 48 hours postpartum for first time mothers. *Journal of Obstetrics and Gynaecology*, 38(3), 316-320. https://doi.org/10.1080/01443615.2017.1353594

Hung, C. H., Yu, C. Y., Chang, S. J., & Stocker, J. (2011). Postpartum psychosocial changes among experienced and inexperienced mothers in Taiwan. *Journal of Transcultural Nursing, 22*(3), 217-224. https://doi.org/10.1177/1043659611404432

Hunter, S. C., Riggs, D. W., & Augoustinos, M. (2017). Hegemonic masculinity versus a caring masculinity: Implications for understanding primary caregiving fathers. *Social and Personality Psychology Compass, 11*(3), e12307. **https://doi.org/10.1111/spc3.12307**

Hunter, T. (2014). Breastfeeding initiation and duration in first-time mothers: exploring the impact of father involvement in the early post-partum period. *Health promotion perspectives, 4*(2), 132. http://doi.org/10.5681/hpp.2014.017

Huusko, L., Sjöberg, S., Ekström, A., Hertfelt Wahn, E., & Thorstensson, S. (2018). First-time fathers' experience of support from midwives in maternity clinics: An interview study. *Nursing research and practice*, 2018. https://doi.org/10.1155/2018/9618036

Ip, P., Li, T. M., Chan, K. L., Ting, A. Y. Y., Chan, C. Y., Koh, Y. W., ... & Lee, A. (2018). Associations of paternal postpartum depressive symptoms and infant development in a Chinese longitudinal study. *Infant Behavior and Development, 53*, 81-89. https://doi.org/10.1016/j.infbeh.2018.08.002

Ismail, H., Idrus, M. M., & Syed Sahuri, S. N. (2020). Masculinity through 'emotion:'A corpus-assisted discourse analysis on sport news and implications for social workers in sport. *Journal of Human Behavior in the Social Environment, 30*(1), 54-70. https://doi.org/10.1080/10911359.2019.1664358

Iwata, H., Mori, E., Sakajo, A., Aoki, K., Maehara, K., & Tamakoshi, K. (2016). Prevalence of postpartum depressive symptoms during the first 6 months postpartum: association with maternal age and parity. *Journal of affective disorders*, *203*, 227-232. https://doi.org/10.1016/j.jad.2016.06.002

Jackson, L., De Pascalis, L., Harrold, J. A., Fallon, V., & Silverio, S. A. (2021). Postpartum women's psychological experiences during the COVID-19 pandemic: a modified recurrent cross-sectional thematic analysis. *BMC pregnancy and childbirth*, *21*(1), 1-16. https://doi.org/10.1186/s12884-021-04071-2

Jang, J., & Dworkin, J. (2014). Does social network site use matter for mothers? Implications for bonding and bridging capital. *Computers in Human Behavior*, *35*, 489-495. https://doi.org/10.1016/j.chb.2014.02.049

Jaworska, S. (2018). 'Bad'mums tell the 'untellable': narrative practices and agency in online stories about postnatal depression on Mumsnet. *Discourse, context & media*, 25, 25-33. https://doi.org/10.1016/j.dcm.2017.11.002

Jenkins-Guarnieri, M. A., Wright, S. L., & Johnson, B. (2013). Development and validation of a social media use integration scale. *Psychology of Popular Media Culture*, 2(1), 38-50. https://doi.org/10.1037/a0030277

Jennings, K. D., Ross, S., Popper, S., & Elmore, M. (1999). Thought of harming infants in depressed and nondepressed mothers. *Journal of Affective Disorders*, 54, 21–28. https://doi.org/10.1016/S0165-0327(98)00185-2

Jensen, E. A. (2017). Putting the methodological brakes on claims to measure national happiness through Twitter: Methodological limitations in social media analytics. *PLoS one*, 12(9), e0180080. https://doi.org/10.1371/journal.pone.0180080

Jin, S. V., Phua, J., & Lee, K. M. (2015). Telling stories about breastfeeding through Facebook: The impact of user-generated content (UGC) on pro-breastfeeding attitudes. *Computers in Human Behavior*, *46*, 6-17. https://doi.org/10.1016/j.chb.2014.12.046

Johansson, M., Benderix, Y., & Svensson, I. (2020). Mothers' and fathers' lived experiences of postpartum depression and parental stress after childbirth: a qualitative study. *International journal of qualitative studies on health and well-being*, *15*(1), 1722564. https://doi.org/10.1080/17482631.2020.1722564

Johansson, T., & Hammarén, N. (2014). 'Imagine, just 16 years old and already a dad!' The construction of young fatherhood on the Internet. *International Journal of Adolescence and Youth*, *19*(3), 366-381. https://doi.org/10.1080/02673843.2012.747972

Johnsen, H., Stenback, P., Halldén, B. M., Crang Svalenius, E., & Persson, E. K. (2017). Nordic fathers' willingness to participate during pregnancy. *Journal of reproductive and infant psychology*, *35*(3), 223-235. https://doi.org/10.1080/02646838.2017.1297890

Johnson, J. L., Oliffe, J. L., Kelly, M. T., Galdas, P., & Ogrodniczuk, J. S. (2012). Men's discourses of help-seeking in the context of depression. *Sociology of health & illness*, *34*(3), 345-361. **https://doi.org/10.1111/j.1467-9566.2011.01372.x**

Johnson, S. A. (2015). 'Intimate mothering publics': comparing face-to-face support groups and Internet use for women seeking information and advice in the transition to first-time motherhood. *Culture, health & sexuality*, *17*(2), 237-251. https://doi.org/10.1080/13691058.2014.968807

Johnston, C., & Mash, E. J. (1989). A measure of parenting satisfaction and efficacy. *Journal of clinical child psychology*, *18*(2), 167-175. https://doi.org/10.1207/s15374424jccp1802_8

Jones, I., & Shakespeare, J. (2014). Postnatal depression. BMJ, 349. https://doi.org/10.1136/bmj.g4500

Jones, N. A., Field, T., & Almeida, A. (2009). Right frontal EEG asymmetry and behavioral inhibition in infants of depressed mothers. *Infant Behavior and Development*, *32*(3), 298-304. https://doi.org/10.1016/j.infbeh.2009.04.004

Jones, S. S. (2009). The development of imitation in infancy. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *364*(1528), 2325-2335. **https://doi.org/10.1098/rstb.2009.0045**

Jones, T. L., & Prinz, R. J. (2005). Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical psychology review*, 25(3), 341-363. https://doi.org/10.1016/j.cpr.2004.12.004

Kalmbach, D. A., Pillai, V., & Drake, C. L. (2018). Nocturnal insomnia symptoms and stress-induced cognitive intrusions in risk for depression: A 2-year prospective study. *PloS one*, *13*(2), e0192088. https://doi.org/10.1371/journal.pone.0192088

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons*, *53*(1), 59-68. https://doi.org/10.1016/j.bushor.2009.09.003

Kauer, S. D., Mangan, C., & Sanci, L. (2014). Do online mental health services improve help-seeking for young people? A systematic review. *Journal of medical Internet research*, *16*(3), e3103. http://doi.org/10.2196/jmir.3103

Kaufmann, R., & Buckner, M. M. (2014). To connect or promote?: An exploratory examination of facebook pages dedicated to moms. *Computers in Human Behavior*, *35*, 479-482. https://doi.org/10.1016/j.chb.2014.02.030

Kelle, U. (2006). Combining qualitative and quantitative methods in research practice: purposes and advantages. *Qualitative research in psychology*, *3*(4), 293-311. http://doi.org/10.1177/1478088706070839

Kendall-Tackett, K., Cong, Z., & Hale, T. W. (2011). The effect of feeding method on sleep duration, maternal well-being, and postpartum depression. *Clinical Lactation*, 2(2), 22-26. https://doi.org/10.1891/215805311807011593

Kennedy, G. (2014). *An introduction to corpus linguistics*. Routledge, (1st Edition). https://doi.org/10.4324/9781315843674

Kennedy, M. (2013). Freeing the smothered (M) other: The refocalisation of the reluctant mother in modern Irish society as evinced through the works of Anne Enright. Retrieved from*: http://www. otherness.dk/fileadmin/www.othernessandthearts.org/Publications/Journal_Otherness/Otherness_Essays_and_Studies_3, 2*.

Kerruish, N. J., Settle, K., Campbell-Stokes, P., & Taylor, B. J. (2005). Vulnerable Baby Scale: Development and piloting of a questionnaire to measure maternal perceptions of their baby's vulnerability. *Journal of paediatrics and child health*, *41*(8), 419-423. **https://doi.org/10.1111/j.1440-1754.2005.00658.x**

Khoo, K., Bolt, P., Babl, F. E., Jury, S., & Goldman, R. D. (2008). Health information seeking by parents in the Internet age. *Journal of Paediatrics and Child Health*, 44(7-8), 419-423. **https://doi.org/10.1111/j.1440-1754.2008.01322.x**

Kim, P., & Swain, J. E. (2007). Sad dads: paternal postpartum depression. *Psychiatry (edgmont)*, *4*(2), 35.

Kim, P., Feldman, R., Mayes, L. C., Eicher, V., Thompson, N., Leckman, J. F., & Swain, J. E. (2011). Breastfeeding, brain activation to own infant cry, and maternal sensitivity. *Journal of Child Psychology & Psychiatry*, 52(8), 907-915. http://doi.org/10.1111/j.1469-7610.2011.02406.x

Kingsnorth, S., Gall, C., Beayni, S., & Rigby, P. (2011). Parents as transition experts? Qualitative findings from a pilot parent-led peer support group. *Child: care, health and development*, *37*(6), 833-840. **https://doi.org/10.1111/j.1365-2214.2011.01294.x**

Kingston, D., McDonald, S., Tough, S., Austin, M. P., Hegadoren, K., & Lasiuk, G. (2014). Public views of acceptability of perinatal mental health screening and treatment preference: a population based survey. *BMC pregnancy and childbirth*, *14*(1), 1-12. https://doi.org/10.1186/1471-2393-14-67

Kinloch, K., & Jaworska, S. (2021). 'Your mind is part of your body': Negotiating the maternal body in online stories of postnatal depression on Mumsnet. *Discourse, Context & Media*, *39*, 100456.https://doi.org/10.1016/j.dcm.2020.100456

Király, I., Csibra, G., & Gergely, G. (2013). Beyond rational imitation: Learning arbitrary means actions from communicative demonstrations. *Journal of experimental child psychology*, *116*(2), 471-486. https://doi.org/10.1016/j.jecp.2012.12.003

Kirk, J. & Miller, M. L. (1986). *Reliability and validity in qualitative research*. Sage. Qualitative Research Methods (Volume 1)

Kirkpatrick, C. E., & Lee, S. (2022). Comparisons to picture-perfect motherhood: How Instagram's idealized portrayals of motherhood affect new mothers' well-being. *Computers in Human Behavior*, 137, 107417. https://doi.org/10.1016/j.chb.2022.107417

Kitamura, T., Ohashi, Y., Kita, S., Haruna, M., & Kubo, R. (2013). Depressive mood, bonding failure, and abusive parenting among mothers with three-month-old babies in a Japanese community. *Open Journal of Psychiatry*, **3**, 1-7. http://doi.org/10.4236/ojpsych.2013.33A001

Koh, Y. W., Chui, C. Y., Tang, C. S. K., & Lee, A. M. (2014). The prevalence and risk factors of paternal depression from the antenatal to the postpartum period and the relationships between antenatal and postpartum depression among fathers in Hong Kong. *Depression research and treatment, 2014*. https://doi.org/10.1155/2014/127632

Kohn, R., Saxena, S., Levav, I., & Saraceno, B. (2004). The treatment gap in mental health care. *Bulletin of the World health Organization*, *82*(11), 858-866. PMID: 15640922; PMCID: PMC2623050

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: a critical review and meta-analysis of cyberbullying research among youth. *Psychological bulletin*, *140*(4), 1073-1137. http://doi.org/10.1037/a0035618

Kowlessar, O., Fox, J. R., & Wittkowski, A. (2015). First-time fathers' experiences of parenting during the first year. *Journal of Reproductive and Infant Psychology*, *33*(1), 4-14. https://doi.org/10.1080/02646838.2014.971404

Koyuncu, K., Alan, Y., Sakin, Ö., Aktaş, H. A., & Angın, A. D. (2020). Conditions affecting postpartum depression in the Covid-19 pandemic. *Medical Science and Discovery*, *7*(8), 611-616. https://doi.org/10.36472/msd.v7i8.413

Kristensen, I. H., Simonsen, M., Trillingsgaard, T., Pontoppidan, M., & Kronborg, H. (2018). First-time mothers' confidence mood and stress in the first months postpartum. A cohort study. *Sexual & Reproductive Healthcare*, 17, 43-49. https://doi.org/10.1016/j.srhc.2018.06.003

Kuss, D. J., D Griffiths, M., Karila, L., & Billieux, J. (2014). Internet addiction: A systematic review of epidemiological research for the last decade. *Current pharmaceutical design*, *20*(25), 4026-4052. http://doi.org/10.2174/13816128113199990617

Lakoff, R. (2003). Language, gender, and politics: Putting "women" and "power" in the same sentence. *The handbook of language and gender*, *161*, 78. http://doi.org/10.1002/9780470756942

Lamb, M. E. (2000). The history of research on father involvement: An overview. *Marriage & family review*, *29*(2-3), 23-42. https://doi.org/10.1300/J002v29n02_03

Lamb, M., Pleck, J.H., Charnov, E.L., and Levine, J.A (1987). A biosocial perspective on paternal behaviour and involvement. 111-142. In *Parenting across the life span: Biosocial dimensions*, 111–142.

Laney, E. K., Hall, M. E. L., Anderson, T. L., & Willingham, M. M. (2015). Becoming a mother: The influence of motherhood on women's identity development. *Identity*, 15(2), 126-145. https://doi.org/10.1080/15283488.2015.1023440

Larsson, M. (2009). A descriptive study of the use of the Internet by women seeking pregnancy-related information. *Midwifery*, *25*(1), 14-20. https://doi.org/10.1016/j.midw.2007.01.010

Le, H. N., Perry, D. F., & Sheng, X. (2009). Using the internet to screen for postpartum depression. *Maternal and Child Health Journal*, 13(2), 213-221. https://doi.org/10.1007/s10995-008-0322-8

Leahy Warren, P. (2005). First-time mothers: social support and confidence in infant care. *Journal of advanced nursing*, *50*(5), 479-488. **https://doi.org/10.1111/j.1365-2648.2005.03425.x**

Leahy-Warren, P., McCarthy, G., & Corcoran, P. (2011). Postnatal depression in first-time mothers: prevalence and relationships between functional and structural social support at 6 and 12 weeks postpartum. *Archives of psychiatric nursing*, *25*(3), 174-184. https://doi.org/10.1016/j.apnu.2010.08.005

Leahy-Warren, P., McCarthy, G., & Corcoran, P. (2012). First-time mothers: social support, maternal parental self-efficacy and postnatal depression. *Journal of Clinical Nursing*, 21(3-4), 388-397. **https://doi.org/10.1111/j.1365-2702.2011.03701.x**

Lebel, C., MacKinnon, A., Bagshawe, M., Tomfohr-Madsen, L., & Giesbrecht, G. (2020). Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. *Journal of affective disorders*, *277*, 5-13. https://doi.org/10.1016/j.jad.2020.07.126

Lee, S. Y. (2014). How do people compare themselves with others on social network sites?: The case of Facebook. *Computers in human behavior*, *32*, 253-260. https://doi.org/10.1016/j.chb.2013.12.009

Letourneau, N., Duffett-Leger, L., Dennis, C. L., Stewart, M., & Tryphonopoulos, P. D. (2011). Identifying the support needs of fathers affected by post-partum depression: a pilot

study. *Journal of psychiatric and mental health nursing*, *18*(1), 41-47. **https://doi.org/10.1111/j.1365-2850.2010.01627.x**

Letourneau, N., Duffett-Leger, L., Stewart, M., Hegadoren, K., Dennis, C.L., Rinaldi, C. M., Stoppard, J. (2007). Canadian Mothers' Perceived Support Needs During Postpartum Depression, *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 36(5), 441-449. https://doi.org/10.1111/j.1552-6909.2007.00174.x

Letourneau, N., Tryphonopoulos, P. D., Duffett-Leger, L., Stewart, M., Benzies, K., Dennis, C. L., & Joschko, J. (2012). Support intervention needs and preferences of fathers affected by postpartum depression. *The Journal of Perinatal & Neonatal Nursing*, *26*(1), 69-80. http://doi.org/10.1097/JPN.0b013e318241da87

Levis, B., Negeri, Z., Sun, Y., Benedetti, A., & Thombs, B. D. (2020). Accuracy of the Edinburgh Postnatal Depression Scale (EPDS) for screening to detect major depression among pregnant and postpartum women: systematic review and meta-analysis of individual participant data. *bmj*, *371*. https://doi.org/10.1136/bmj.m4022

Lewis, J., & West, A. (2009). 'Friending': London-based undergraduates' experience of Facebook. *New Media & Society*, 11(7), 1209-1229. https://doi.org/10.1177/1461444809342058

Li, T., Liu, Y., Li, M., Qian, X., & Dai, S. Y. (2020). Mask or no mask for COVID-19: A public health and market study. *PloS one*, *15*(8), e0237691. https://doi.org/10.1371/journal.pone.0237691

Lindquist, A., Knight, M., & Kurinczuk, J. J. (2013). Variation in severe maternal morbidity according to socioeconomic position: a UK national case–control study. *BMJ open*, *3*(6), e002742. http://dx.doi.org/10.1136/bmjopen-2013-002742

Lindsey, E. W. (2014). Physical activity play and preschool children's peer acceptance: Distinctions between rough-and-tumble and exercise play. *Early Education and Development*, *25*(3), 277-294. https://doi.org/10.1080/10409289.2014.890854

Liss, M., Schiffrin, H. H., & Rizzo, K. M. (2013). Maternal guilt and shame: The role of self-discrepancy and fear of negative evaluation. *Journal of Child and Family Studies*, *22*(8), 1112-1119. https://doi.org/10.1007/s10826-012-9673-2

Lloyd-Fox, S., Begus, K., Halliday, D., Pirazzoli, L., Blasi, A., Papademetriou, M., ... Elwell, C. E. (2017). Cortical specialisation to social stimuli from the first days to the second year of life: A rural Gambian cohort. *Developmental Cognitive Neuroscience*, 25, 92–104. https://doi.org/10.1016/j.dcn.2016.11.005

Logsdon, M. C., Bennett, G., Crutzen, R., Martin, L., Eckert, D., Robertson, A., ... & Lynch, T. (2014). Preferred health resources and use of social media to obtain health and depression information by adolescent mothers. *Journal of Child and Adolescent Psychiatric Nursing*, 27(4), 163-168. **https://doi.org/10.1111/jcap.12083**

Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical psychology review*, *20*(5), 561-592. https://doi.org/10.1016/S0272-7358(98)00100-7

Lovisotto, R., Caltabiano, N. J., & Hajhashemi, K. (2015). Parental stress, affective symptoms and marital satisfaction in parents of children with autism spectrum disorder. https://ssrn.com/abstract=2713487

Lupton, D. (2013). 'It'sa terrible thing when your children are sick': Motherhood and home healthcare work. *Health Sociology Review*, *22*(3), 234-242. https://doi.org/10.5172/hesr.2013.22.3.234

Lupton, D. (2016). The use and value of digital media for information about pregnancy and early motherhood: a focus group study. *BMC Pregnancy and Childbirth*, 16(1), 171-181. https://doi.org/10.1186/s12884-016-0971-3

Lupton, D., & Pedersen, S. (2016). An Australian survey of women's use of pregnancy and parenting apps. *Women and birth*, *29*(4), 368-375. https://doi.org/10.1016/j.wombi.2016.01.008

Madden, M., Cortesi, S., Gasser, U., Lenhart, A., & Duggan, M. (2012). Parents, Teens, and Online Privacy. *Pew internet & American life project*. Retrieved from http://pewinternet.org/Reports/2012/Teens-and-Privacy.aspx

Madden, M., Lenhart, A., Cortesi, S., Gasser, U., Duggan, M., Smith, A., & Beaton, M. (2013). Teens, social media, and privacy. *Pew Research Center*, *21*(1055), 2-86. Retrieved from http://www.pewinternet.org/files/2013/05/PIP_TeensSocialMediaandPrivacy_PDF.pdf

Madsen, S. A. (2011). Between autonomy and attachment: Psychotherapy for men with postnatal depression. In *An International Psychology of Men* (pp. 365-390). Routledge.

Maloni, J. A., Przeworski, A., & Damato, E. G. (2013). Web recruitment and internet use and preferences reported by women with postpartum depression after pregnancy complications. *Archives of psychiatric nursing*, *27*(2), 90-95. http://dx.doi.org/10.1016/j.apnu.2012.12.001.

Malphurs, J. E., Raag, T., Field, T., Pickens, J., & Pelaez-Nogueras, M. (1996). Touch by intrusive and withdrawn mothers with depressive symptoms. *Early Development and Parenting*, 5(2), 111-115. **https://doi.org/10.1002/(SICI)1099-0917(199606)5:2<111::AID-EDP122>3.0.CO;2-%23**

Manago, A. M., Taylor, T., & Greenfield, P. M. (2012). Me and my 400 friends: The anatomy of college students' Facebook networks, their communication patterns, and well-being. *Developmental Psychology*, *48*(2), 369–380. https://doi.org/10.1037/a0026338

Mao, Q., Zhu, L. X., & Su, X. Y. (2011). A comparison of postnatal depression and related factors between Chinese new mothers and fathers. *Journal of Clinical Nursing*, *20*(5-6), 645-652. **https://doi.org/10.1111/j.1365-2702.2010.03542.x**

Markanday, S., Brennan, S. L., Gould, H., & Pasco, J. A. (2013). Sex-differences in reasons for non-participation at recruitment: Geelong Osteoporosis Study. *BMC research notes*, *6*(1), 104. https://doi.org/10.1186/1756-0500-6-104

Martínez-Borba, V., Suso-Ribera, C., Osma, J., & Andreu-Pejó, L. (2020). Predicting postpartum depressive symptoms from pregnancy biopsychosocial factors: A longitudinal investigation using structural equation modeling. *International Journal of Environmental Research and Public Health*, *17*(22), 8445. **https://doi.org/10.3390/ijerph17228445**

Martin-Santos, R., Gelabert, E., Subirà, S., Gutierrez-Zotes, A., Langorh, K., Jover, M., ... & Sanjuan, J. (2012). Is neuroticism a risk factor for postpartum depression?. *Psychological medicine*, *42*(7), 1559-1565. https://doi.org/10.1017/S0033291712000712

Massoudi, P. (2013). Depression and distress in Swedish fathers in the postnatal period – prevalence, correlates, identification, and support. Retrieved from http://tinyurl.com/jjztvc3

Masur, E. F. (1998). Mothers' and infants' solicitations of imitation during play. *Infant Behavior and Development*, (21), 559. https://doi.org/10.1016/S0163-6383(98)91772-6

Mazzeschi, C., Pazzagli, C., Radi, G., Raspa, V., & Buratta, L. (2015). Antecedents of maternal parenting stress: the role of attachment style, prenatal attachment, and dyadic adjustment in first-time mothers. *Frontiers in psychology*, *6*, 1443. https://doi.org/10.3389/fpsyg.2015.01443

McCullagh, K. (2008). Blogging: self presentation and privacy. *Information & communications technology law*, *17*(1), 3-23. https://doi.org/10.1080/13600830801886984

McDaniel, B. T., & Coyne, S. M. (2016). "Technoference": The interference of technology in couple relationships and implications for women's personal and relational well-being. *Psychology of Popular Media Culture*, 5, 85-98. https://doi.org/10.1037/ppm0000065

McDaniel, B. T., Coyne, S. M., & Holmes, E. K. (2012). New mothers and media use: Associations between blogging, social networking, and maternal well-being. *Maternal and child health journal*, *16*(7), 1509-1517. https://doi.org/10.1007/s10995-011-0918-2

McDaniel, B. T., Drouin, M., & Cravens, J. D. (2017). Do you have anything to hide? Infidelity-related behaviors on social media sites and marital satisfaction. *Computers in Human Behavior*, 66, 88-95. https://doi.org/10.1016/j.chb.2016.09.031

McDougall, M. A., Walsh, M., Wattier, K., Knigge, R., Miller, L., Stevermer, M., & Fogas, B. S. (2016). The effect of social networking sites on the relationship between perceived social support and depression. *Psychiatry Research*, 246, 223-229. https://doi.org/10.1016/j.psychres.2016.09.018

McEnery, T., & Hardie, A. (2011). *Corpus linguistics: Method, theory and practice*. Cambridge University Press.

McLeish, J., & Redshaw, M. (2017). Mothers' accounts of the impact on emotional wellbeing of organised peer support in pregnancy and early parenthood: a qualitative study. *BMC pregnancy and childbirth*, *17*(1), 28. https://doi.org/10.1186/s12884-017-1220-0

McLeish, J., & Redshaw, M. (2019). "Being the best person that they can be and the best mum": a qualitative study of community volunteer doula support for disadvantaged mothers before and after birth in England. *BMC pregnancy and childbirth*, *19*(1), 1-11. https://doi.org/10.1186/s12884-018-2170-x

McLeish, J., Harvey, M., Redshaw, M., & Alderdice, F. (2021). A qualitative study of first time mothers' experiences of postnatal social support from health professionals in England. *Women and Birth*, *34*(5), e451-e460. https://doi.org/10.1016/j.wombi.2020.10.012

McLeish, J., & Redshaw, M. (2021). 'She come like a sister to me': a qualitative study of volunteer social support for disadvantaged women in the transition to motherhood in England. *Philosophical Transactions of the Royal Society B*, 376(1827), 20200023. https://doi.org/10.1098/rstb.2020.0023

McMahon, C. A., Boivin, J., Gibson, F. L., Hammarberg, K., Wynter, K., Saunders, D., & Fisher, J. (2011). Age at first birth, mode of conception and psychological wellbeing in pregnancy: findings from the parental age and transition to parenthood Australia (PATPA) study. *Human Reproduction*, *26*(6), 1389-1398. https://doi.org/10.1093/humrep/der076

Meins, E., Fernyhough, C., de Rosnay, M., Arnott, B., Leekam, S. R., & Turner, M. (2012). Mind-mindedness as a multidimensional construct: Appropriate and non-attuned mind-related comments independently predict infant-mother attachment in a socially diverse sample. Infancy, 17, 393–415. http://dx.doi.org/10.1111/j.1532-7078.2011.00087.x

Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*, *42*(5), 637-648. https://doi.org/10.1017/S0021963001007302

Mellon, J., & Prosser, C. (2017). Twitter and Facebook are not representative of the general population: Political attitudes and demographics of British social media users. *Research & Politics*, 4(3), 2053168017720008. http://doi.org/10.1177/2053168017720008

Menni, C., Valdes, A. M., Freidin, M. B., Sudre, C. H., Nguyen, L. H., Drew, D. A., ... & Spector, T. D. (2020). Real-time tracking of self-reported symptoms to predict potential COVID-19. *Nature medicine*, *26*(7), 1037-1040. https://doi.org/10.1038/s41591-020-0916-2

Merolli, M., Gray, K., & Martin-Sanchez, F. (2014). Therapeutic affordances of social media: emergent themes from a global online survey of people with chronic pain. *Journal of Medical Internet Research*, *16*(12), e3494. Doi: https://www.jmir.org/2014/12/e284/

Meyer, B., Berger, T., Caspar, F., Beevers, C., Andersson, G., & Weiss, M. (2009). Effectiveness of a novel integrative online treatment for depression (Deprexis): randomized controlled trial. *Journal of medical Internet research*, *11*(2), e1151. http://doi.org/10.2196/jmir.1151

Michels, A., Kruske, S., & Thompson, R. (2013). Women's postnatal psychological functioning: the role of satisfaction with intrapartum care and the birth experience. *Journal of Reproductive and Infant Psychology*, *31*(2), 172-182. https://doi.org/10.1080/02646838.2013.791921

Michikyan, M., Dennis, J., & Subrahmanyam, K. (2015). Can you guess who I am? Real, ideal, and false self-presentation on Facebook among emerging adults. *Emerging Adulthood*, *3*(1), 55-64. https://doi.org/10.1177/2167696814532442

Mihelic, M., Filus, A. & Morawaska, A. Correlates of Prenatal Parenting Expectations in new Mothers: Is Better Self-Efficacy a Potential Target for Preventing Postnatal Adjustment Difficulties?. *Prev Sci* 17, 949–959 (2016). https://doi.org/10.1007/s11121-016-0682-z

Milgrom, J., Gemmill, A. W., Bilszta, J. L., Hayes, B., Barnett, B., Brooks, J., ... & Buist, A. (2008). Antenatal risk factors for postnatal depression: a large prospective study. *Journal of affective disorders*, *108*(1-2), 147-157. https://doi.org/10.1016/j.jad.2007.10.014

Miller, E. J., Temple-Smith, M. J., & Bilardi, J. E. (2019). 'There was just no-one there to acknowledge that it happened to me as well': A qualitative study of male partner's experience of miscarriage. *PLoS One*, *14*(5), e0217395. https://doi.org/10.1371/journal.pone.0217395

Miller, T. (2007). "Is this what motherhood is all about?" Weaving experiences and discourse through transition to first-time motherhood. *Gender & Society*, *21*(3), 337-358. https://doi.org/10.1177/0891243207300561

Miller, T. (2011). Transition to first-time motherhood. *The practising midwife*, *14*(2), 12-15.

Mills, A., Schmied, V., Taylor, C., Dahlen, H., Shuiringa, W., & Hudson, M. E. (2013). Someone to talk to: Young mothers' experiences of participating in a young parents support programme. *Scandinavian journal of caring sciences*, *27*(3), 551-559. **https://doi.org/10.1111/j.1471-6712.2012.01065.x**

Missinne, S., & Bracke, P. (2012). Depressive symptoms among immigrants and ethnic minorities: a population based study in 23 European countries. *Social psychiatry and psychiatric epidemiology*, *47*(1), 97-109. https://doi.org/10.1007/s00127-010-0321-0

Mitchell-Box, K., & Braun, K. L. (2012). Fathers' thoughts on breastfeeding and implications for a theory-based intervention. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, *41*(6), E41-E50. https://doi.org/10.1111/j.1552-6909.2012.01399.x

Mo, P. K., Malik, S. H., & Coulson, N. S. (2009). Gender differences in computer-mediated communication: a systematic literature review of online health-related support groups. *Patient education and counseling*, *75*(1), 16-24. https://doi.org/10.1016/j.pec.2008.08.029

Moghaddam, F. M., Walker, B. R., & Harre, R. (2003). Cultural distance, levels of abstraction, and the advantages of mixed methods. *Handbook of mixed methods in social and behavioral research*, 111-134.

Molgora, S., & Accordini, M. (2020). Motherhood in the time of coronavirus: the impact of the pandemic emergency on expectant and postpartum women's psychological well-being. *Frontiers in Psychology*, *11*, 567155. https://doi.org/10.3389/fpsyg.2020.567155

Moore, D., & Ayers, S. (2011). A review of postnatal mental health websites: Help for healthcare professionals and patients. *Archives of Women's Mental Health*, 14(6), 443–452. https://doi.org/10.1007/s00737-011-0245-z

Moorhead, S. A., Hazlett, D. E., Harrison, L., Carroll, J. K., Irwin, A., & Hoving, C. (2013). A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication. *Journal of medical Internet research*, *15*(4), e1933. http://doi.org/10.2196/jmir.1933

Moreno, M. A., Christakis, D. A., Egan, K. G., Jelenchick, L. A., Cox, E., Young, H., ... & Becker, T. (2012). A pilot evaluation of associations between displayed depression references on Facebook and self-reported depression using a clinical scale. *The journal of behavioral health services & research*, *39*(3), 295-304. https://doi.org/10.1007/s11414-011-9258-7

Morris, M. R. (2014). Social networking site use by mothers of young children. In *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing*, 1272-1282. https://doi.org/10.1145/2531602.2531603

Moses-Kolko, E. L., Wisner, K. L., Price, J. C., Berga, S. L., Drevets, W. C., Hanusa, B. H., ... & Meltzer, C. C. (2008). Serotonin 1A receptor reductions in postpartum depression: a positron emission tomography study. *Fertility and sterility*, *89*(3), 685-692. https://doi.org/10.1016/j.fertnstert.2007.03.059

Moutsiana, C., Fearon, P., Murray, L., Cooper, P., Goodyer, I., Johnstone, T., & Halligan, S. (2014). Making an effort to feel positive: insecure attachment in infancy predicts the neural underpinnings of emotion regulation in adulthood. *Journal of Child Psychology and Psychiatry*, *55*(9), 999-1008. **https://doi.org/10.1111/jcpp.12198**

Murray, E., Burns, J., Tai, S. S., Lai, R., & Nazareth, I. (2004). Interactive Health Communication Applications for people with chronic disease. *Cochrane database of systematic reviews*, (4). **https://doi.org/10.1002/14651858.CD004274.pub4**

Murray, L., & Cooper, P. (1997). Postpartum depression and child development. Psychological Medicine, 27(2), 253-260. http://doi.org/10.1017/S0033291796004564

Murray, L., Arteche, A., Fearon, P., Halligan, S., Croudace, T., & Cooper, P. (2010). The effects of maternal postnatal depression and child sex on academic performance at age 16 years: a developmental approach. *Journal of child Psychology and Psychiatry*, *51*(10), 1150-1159. **https://doi.org/10.1111/j.1469-7610.2010.02259.x**

Musser, A. K., Ahmed, A. H., Foli, K. J., & Coddington, J. A. (2013). Paternal postpartum depression: what health care providers should know. *Journal of Pediatric Health Care*, *27*(6), 479-485. https://doi.org/10.1016/j.pedhc.2012.10.001

Musser, E. D., Ablow, J. C., & Measelle, J. R. (2012). Predicting maternal sensitivity: The roles of postnatal depressive symptoms and parasympathetic dysregulation. *Infant Mental Health Journal*, *33*(4), 350-359. **https://doi.org/10.1002/imhj.21310**

Naaman, M., Boase, J., & Lai, C. H. (2010). Is it really about me? Message content in social awareness streams. In *Proceedings of the 2010 ACM conference on Computer supported cooperative work*, 189-192. https://doi.org/10.1145/1718918.1718953

Negron, R., Martin, A., Almog, M., Balbierz, A., & Howell, E. A. (2013). Social support during the postpartum period: mothers' views on needs, expectations, and mobilization of support. *Maternal and child health journal*, *17*(4), 616-623. https://doi.org/10.1007/s10995-012-1037-4

Nelson, A. M. (2003). Transition to motherhood. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *32*(4), 465-477. **https://doi.org/10.1177/0884217503255199**

Nesi, J., & Prinstein, M. J. (2015). Using social media for social comparison and feedback-seeking: Gender and popularity moderate associations with depressive symptoms. *Journal of abnormal child psychology*, *43*(8), 1427-1438. https://doi.org/10.1007/s10802-015-0020-0

Nguyen, M., & Campbell, A. (2011). Online self-disclosure and the therapeutic relationship. *Journal of CyberTherapy and Rehabilitation*, *4*(2), 224-227. https://link.gale.com/apps/doc/A260138352/AONE?u=anon~7618c242&sid=googleScholar&xid=14cb331c

Niela-Vilén, H., Axelin, A., Salanterä, S., & Melender, H. L. (2014). Internet-based peer support for parents: A systematic integrative review. *International Journal of Nursing Studies*, 51(11), 1524-1537. https://doi.org/10.1016/j.ijnurstu.2014.06.009

Nolan, S., Hendricks, J., & Towell, A. (2015). Social networking sites (SNS); exploring their uses and associated value for adolescent mothers in Western Australia in terms of social support provision and building social capital. *Midwifery*, 31(9), 912-919. https://doi.org/10.1016/j.midw.2015.05.002

Norhayati, M. N., Hazlina, N. N., Asrenee, A. R., & Emilin, W. W. (2015). Magnitude and risk factors for postpartum symptoms: a literature review. *Journal of affective Disorders*, *175*, 34-52. https://doi.org/10.1016/j.jad.2014.12.041

Norman, H. (2017). Paternal involvement in childcare: How can it be classified and what are the key influences? *Families, Relationships and Societies*, **6**(1), 89–105. https://doi.org/10.1332/204674315x14364575729186

Nyström, K., & Öhrling, K. (2004). Parenthood experiences during the child's first year: literature review. *Journal of advanced nursing*, *46*(3), 319-330. **https://doi.org/10.1111/j.1365-2648.2004.02991.x**

O'brien, R., Hunt, K., & Hart, G. (2005). 'It's caveman stuff, but that is to a certain extent how guys still operate': men's accounts of masculinity and help seeking. *Social science & medicine*, *61*(3), 503-516. https://doi.org/10.1016/j.socscimed.2004.12.008

O'Brien, M. (2009). Fathers, parental leave policies, and infant quality of life: International perspectives and policy impact. *The Annals of the American Academy of Political and Social Science*, *624*(1), 190-213. https://doi.org/10.1177/0002716209334349

O'Brien, M. (2013), "Fitting fathers into work-family policies: international challenges in turbulent times", *International Journal of Sociology and Social Policy*, 33(9/10), 542-564. https://doi.org/10.1108/IJSSP-05-2013-0060

Odenweller, K. G., & Rittenour, C. E. (2017). Stereotypes of stay-at-home and working mothers. *Southern Communication Journal*, 82(2), 57-72. 82(2), 57-72. http://dx.doi.org/10.1080/1041794X.2017.1287214

O'Hara, M. W. (2009). Postpartum depression: what we know. *Journal of clinical psychology*, *65*(12), 1258-1269. **https://doi.org/10.1002/jclp.20644**

O'Hara, M. W., & McCabe, J. E. (2013). Postpartum depression: current status and future directions. *Annual Review of Clinical Psychology*, 9(1), 379-407. https://doi.org/10.1146/annurev-clinpsy-050212-185612

O'Keeffe, G. S., Clarke-Pearson, K., & Council on Communications and Media. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, *127*(4), 800-804. https://doi.org/10.1542/peds.2011-0054

Oliffe, J. L., & Phillips, M. J. (2008). Men, depression and masculinities: A review and recommendations. *The Journal of Men's Health*, 5, 194 – 202. http://dx.doi.org/10.1016/j.jomh.2008.03.016

Oliffe, J. L., Han, C. S., Ogrodniczuk, J. S., Phillips, J. C., Roy, P. (2011). Suicide from the perspectives of older men who experience depression: a gender analysis. *Am J Mens Health*. 5(5), 444-454. http://doi.org/10.1177/1557988311408410

O'Mahen, H. A., Woodford, J., McGinley, J., Warren, F. C., Richards, D. A., Lynch, T. R., & Taylor, R. S. (2013). Internet-based behavioral activation—Treatment for postnatal depression (Netmums): A randomized controlled trial. *Journal of affective disorders*, *150*(3), 814-822. https://doi.org/10.1016/j.jad.2013.03.005

Ong, S. F., Chan, W. C. S., Shorey, S., Chong, Y. S., Klainin-Yobas, P., & He, H. G. (2014). Postnatal experiences and support needs of first-time mothers in Singapore: a descriptive qualitative study. *Midwifery*, *30*(6), 772-778. https://doi.org/10.1016/j.midw.2013.09.004

Onozawa, K., Kumar, R. C., Adams, D., Dore, C., & Glover, V. (2003). High EPDS scores in women from ethnic minorities living in London. *Archives of Women's Mental Health*, *6*(2), s51-s55. https://doi.org/10.1007/s00737-003-0006-8

Osatuyi, B., & Turel, O. (2018). Tug of war between social self-regulation and habit: Explaining the experience of momentary social media addiction symptoms. *Computers in Human Behavior*, *85*, 95-105. https://doi.org/10.1016/j.chb.2018.03.037

Oscarsson, M. G., Medin, E., Holmström, I., & Lendahls, L. (2018). Using the Internet as source of information during pregnancy-a descriptive cross-sectional study among fathers-to-be in Sweden. *Midwifery*, *62*, 146-150. https://doi.org/10.1016/j.midw.2018.04.008

Ostacoli, L., Cosma, S., Bevilacqua, F., Berchialla, P., Bovetti, M., Carosso, A. R., ... & Benedetto, C. (2020). Psychosocial factors associated with postpartum psychological distress during the Covid-19 pandemic: a cross-sectional study. *BMC pregnancy and childbirth*, *20*(1), 1-8. https://doi.org/10.1186/s12884-020-03399-5

Palm, G. (2014). Attachment theory and fathers: Moving from "being there" to "being with". *Journal of Family Theory & Review*, *6*(4), 282-297. **https://doi.org/10.1111/jftr.12045**

Pantea, S., & Martens, B. (2013). Has the digital divide been reversed? Evidence from five EU countries. JRC Technical Reports, Institute for Prospective Technological Studies. http://dx.doi.org/10.2139/ssrn.2265274

Panter-Brick, C., Burgess, A., Eggerman, M., McAllister, F., Pruett, K., & Leckman, J. F. (2014). Practitioner review: engaging fathers–recommendations for a game change in parenting interventions based on a systematic review of the global evidence. *Journal of child psychology and psychiatry*, *55*(11), 1187-1212. **https://doi.org/10.1111/jcpp.12280**

Pao, C., Guintivano, J., Santos, H., & Meltzer-Brody, S. (2019). Postpartum depression and social support in a racially and ethnically diverse population of women. *Archives of women's mental health*, *22*(1), 105-114. https://doi.org/10.1007/s00737-018-0882-6

Pariente, G., Wissotzky Broder, O., Sheiner, E., Lanxner Battat, T., Mazor, E., Yaniv Salem, S., ... & Wainstock, T. (2020). Risk for probable post-partum depression among women during the COVID-19 pandemic. *Archives of Women's Mental Health*, *23*(6), 767-773. https://doi.org/10.1007/s00737-020-01075-3

Park, E. H. M., & Dimigen, G. (1995). A cross-cultural comparison: postnatal depression in Korean and Scottish mothers. *Psychologia: An International Journal of Psychology in the Orient*.

Park, E., Kim, H., & Steinhoff, A. (2016). Health-related internet use by informal caregivers of children and adolescents: an integrative literature review. *Journal of Medical Internet Research, 18*(3), e4124. http://www.jmir.org/2016/3/e57/

Park, J. H., Karmaus, W., & Zhang, H. (2015). Prevalence of and risk factors for depressive symptoms in Korean women throughout pregnancy and in postpartum period. *Asian nursing research, 9*(3), 219-225. https://doi.org/10.1016/j.anr.2015.03.004

Park, M., Cha, C., & Cha, M. (2012). Depressive moods of users portrayed in Twitter. In *Proceedings of the 18th ACM International Conference on Knowledge Discovery and Data Mining, SIGKDD 2012,* 1-8.

Park, N., & Lee, H. (2014). Nature of youth smartphone addiction in Korea. Media Information Research, *51(*1), 100-132. https://hdl.handle.net/10371/92844

Patel, S. R., & Wisner, K. L. (2011). Decision making for depression treatment during pregnancy and the postpartum period. *Depression and Anxiety*, 28(7), 589–595. **https://doi.org/10.1002/da.20844**

Paulson, J. F., & Bazemore, S. D. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression: a meta-analysis. *Jama, 303*(19), 1961-1969. http://doi.org/10.1001/jama.2010.605

Paulson, J. F., Bazemore, S. D., Goodman, J. H., & Leiferman, J. A. (2016). The course and interrelationship of maternal and paternal perinatal depression. *Archives of women's mental health, 19*(4), 655-663. https://doi.org/10.1007/s00737-016-0598-4

Paulson, J. F., Dauber, S., & Leiferman, J. A. (2006). Individual and combined effects of postpartum depression in mothers and fathers on parenting behavior. *Pediatrics, 118*(2), 659-668. https://doi.org/10.1542/peds.2005-2948

Paulson, J. F., Keefe, H. A., & Leiferman, J. A. (2009). Early parental depression and child language development. *Journal of Child Psychology and Psychiatry, 50*(3), 254-262. **https://doi.org/10.1111/j.1469-7610.2008.01973.x**

Pawlby, S., Fernyhough, C., Meins, E., Pariante, C., Seneviratne, G., & Bentall, R. (2010). Mind-mindedness and maternal responsiveness in infant–mother interactions in mothers with severe

mental illness. *Psychological Medicine*, 40(11), 1861-1869. https://doi.org/10.1017/S0033291709992340

Pedersen, S. (2016). The good, the bad and the 'good enough' mother on the UK parenting forum Mumsnet. In *Women's studies international forum* 59, 32-38. Pergamon. https://doi.org/10.1016/j.wsif.2016.09.004

Pedersen, S., & Lupton, D. (2018). 'What are you feeling right now?'communities of maternal feeling on Mumsnet. *Emotion, space and society*, *26*, 57-63. https://doi.org/10.1016/j.emospa.2016.05.001

Pedersen, S., & Smithson, J. (2013). Mothers with attitude—How the Mumsnet parenting forum offers space for new forms of femininity to emerge online. In *Women's studies international forum*, 38, 97-106. https://doi.org/10.1016/j.wsif.2013.03.004

Perra, O., Phillips, R., Fyfield, R., Waters, C., & Hay, D. F. (2015). Does mothers' postnatal depression influence the development of imitation?. *Journal of Child Psychology and Psychiatry*, *56*(11), 1231-1238. **https://doi.org/10.1111/jcpp.12413**

Persson, E. K., & Dykes, A. K. (2002). Parents' experience of early discharge from hospital after birth in Sweden. *Midwifery*, *18*(1), 53-60. https://doi.org/10.1054/midw.2002.0291

Pestvenidze, E., & Bohrer, M. (2007). Finally, daddies in the delivery room: Parents' education in Georgia. *Global Public Health*, *2*(2), 169-183. https://doi.org/10.1080/17441690601054330

Peyton, T., Poole, E., Reddy, M., Kraschnewski, J., & Chuang, C. (2014). " Every pregnancy is different" designing mHealth for the pregnancy ecology. In *Proceedings of the 2014 conference on Designing interactive systems*, 577-586. https://doi.org/10.1145/2598510.2598572

Philpott, L. F. (2016). Paternal postnatal depression: How midwives can support families. *British Journal of Midwifery*, *24*(7), 470-476. https://doi.org/10.12968/bjom.2016.24.7.470

Philpott, L., & Corcoran, P. (2014). Paternal Postnatal Depression (PPND): Prevalence and Associated Factors. *MPh thesis, University College Cork, Cork.*

Pinto-Foltz, M. D., & Logsdon, M. C. (2008). Stigma towards mental illness: A concept analysis using postpartum depression as an exemplar. *Issues in Mental Health Nursing*, *29*(1), 21-36. https://doi.org/10.1080/01612840701748698

Plano Clark, V. L., Huddleston-Casas, C. A., Churchill, S. L., O'Neil Green, D., & Garrett, A. L. (2008). Mixed methods approaches in family science research. *Journal of Family Issues*, *29*(11), 1543-1566. https://doi.org/10.1177/0192513X08318251

Plantin, L., & Daneback, K. (2009). Parenthood, information and support on the internet. A literature review of research on parents and professionals online. *BMC Family Practice*, 10(1), 34. https://doi.org/10.1186/1471-2296-10-34

Plewis, I., & Mason, P. (2005). What works and why: Combining quantitative and qualitative approaches in large-scale evaluations. *International Journal of Social Research Methodology:Theory & Practice*, 8, 185–194. https://doi.org/10.1080/13645570500154659

Pollard, J. (2007). Working with men via the internet. *Hazardous waist: tackling male weight problems. Oxford, UK: Radcliffe Publishing*, 186-197.

Porter, N., & Ispa, J. M. (2013). Mothers' online message board questions about parenting infants and toddlers. *Journal of advanced nursing*, *69*(3), 559-568. **https://doi.org/10.1111/j.1365-2648.2012.06030.x**

Powell, R. (2010). Good mothers, bad mothers and mommy bloggers: Rhetorical resistance and fluid subjectivities. *MP: An Online Feminist Journal*, *2*(5), 37-50.

Premberg, Å., Carlsson, G., Hellström, A. L., & Berg, M. (2011). First-time fathers' experiences of childbirth—A phenomenological study. *Midwifery*, *27*(6), 848-853. https://doi.org/10.1016/j.midw.2010.09.002

Primack, B. A., Shensa, A., Escobar-Viera, C. G., Barrett, E. L., Sidani, J. E., Colditz, J. B., & James, A. E. (2017). Use of multiple social media platforms and symptoms of depression and anxiety: A nationally-representative study among US young adults. *Computers in human Behaviour*, *69*, 1-9. https://doi.org/10.1016/j.chb.2016.11.013

Prinds, C., Hvidt, N. C., Mogensen, O., & Buus, N. (2014). Making existential meaning in transition to motherhood—a scoping review. *Midwifery*, *30*(6), 733-741. Prinds, C., Hvidt, N. C., Mogensen, O., & Buus, N. (2014). Making existential meaning in transition to motherhood—a scoping review. *Midwifery*, *30*(6), 733-741. https://doi.org/10.1016/j.midw.2013.06.021

Psouni, E., Di Folco, S., & Zavattini, G. C. (2015). Scripted secure base knowledge and its relation to perceived social acceptance and competence in early middle childhood. *Scandinavian Journal of Psychology*, 56, 341–348. http://dx.doi.org/10.1111/sjop.12208

Quevedo, L., da Silva, R. A., Coelho, F., Pinheiro, K. A. T., Horta, B. L., Kapczinski, F., & Pinheiro, R. T. (2011). Risk of suicide and mixed episode in men in the postpartum period. *Journal of affective disorders*, *132*(1-2), 243-246. https://doi.org/10.1016/j.jad.2011.01.004

Radesky, J. S., Zuckerman, B., Silverstein, M., Rivara, F. P., Barr, M., Taylor, J. A., ... & Barr, R. G. (2013). Inconsolable infant crying and maternal postpartum depressive symptoms. *Pediatrics*, *131*(6), e1857-e1864. https://doi.org/10.1542/peds.2012-3316

Radin, P. (2006). "To me, it's my life": medical communication, trust, and activism in cyberspace. *Social science & medicine*, *62 3*, 591-601. Http://doi.org/10.1016/j.socscimed.2005.06.022

Rahman, A., Hafeez, A., Bilal, R., Sikander, S., Malik, A., Minhas, F., ... & Creed, F. (2016). The impact of perinatal depression on exclusive breastfeeding: a cohort study. *Maternal & child nutrition*, *12*(3), 452-462. **https://doi.org/10.1111/mcn.12170**

Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. *Kathmandu: Kathmandu School of Law*, *5*.

Ramchandani, P. G., Domoney, J., Sethna, V., Psychogiou, L., Vlachos, H., & Murray, L. (2013). Do early father–infant interactions predict the onset of externalising behaviours in young children? Findings from a longitudinal cohort study. *Journal of child psychology and psychiatry*, *54*(1), 56-64. **https://doi.org/10.1111/j.1469-7610.2012.02583.x**

Ramchandani, P. G., Psychogiou, L., Vlachos, H., Iles, J., Sethna, V., Netsi, E., & Lodder, A. (2011). Paternal depression: an examination of its links with father, child and family functioning in the postnatal period. *Depression and anxiety*, *28*(6), 471-477. **https://doi.org/10.1002/da.20814**

Ramchandani, P. G., Stein, A., O'CONNOR, T. G., Heron, J. O. N., Murray, L., & Evans, J. (2008). Depression in men in the postnatal period and later child psychopathology: a population cohort study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *47*(4), 390-398. https://doi.org/10.1097/CHI.0b013e31816429c2

Ramchandani, P., Stein, A., Evans, J., O'Connor, T. G., & ALSPAC Study Team. (2005). Paternal depression in the postnatal period and child development: a prospective population study. *The Lancet*, *365*(9478), 2201-2205. https://doi.org/10.1016/S0140-6736(05)66778-5

Ramirez, J. L., & Badger, T. A. (2014). Men navigating inward and outward through depression. *Archives of psychiatric nursing*, *28*(1), 21-28. https://doi.org/10.1016/j.apnu.2013.10.001

Ransom, D. C., La Guardia, J. G., Woody, E. Z., & Boyd, J. L. (2010). Interpersonal interactions on online forums addressing eating concerns. *International Journal of Eating Disorders*, *43*(2), 161-170. **https://doi.org/10.1002/eat.20629**

Rashley, L. H. (2005). " Work it out with your wife": Gendered Expectations and Parenting Rhetoric Online. *NWSA Journal*, 17(1), 58-92. https://www.jstor.org/stable/4317102

Raspovic, A. M., Prichard, I., Yager, Z., & Hart, L. M. (2020). Mothers' experiences of the relationship between body image and exercise, 0–5 years postpartum: a qualitative study. *Body Image*, 35, 41-52. https://doi.org/10.1016/j.bodyim.2020.08.003

Razurel, C., Kaiser, B., Sellenet, C., & Epiney, M. (2013). Relation between perceived stress, social support, and coping strategies and maternal well-being: a review of the literature. *Women & health*, *53*(1), 74-99. https://doi.org/10.1080/03630242.2012.732681

Reck, C., Noe, D., Stefenelli, U., Fuchs, T., Cenciotti, F., Stehle, E., et al. (2011). Interactive coordination of currently depressed inpatient mothers and their infants during the postpartum period. *Infant Mental Health Journal*, 32(5), 542–562. http://dx.doi.org/10.1002/imhj.20312

Redshaw, M., & Henderson, J. (2013). Fathers' engagement in pregnancy and childbirth: evidence from a national survey. *BMC pregnancy and childbirth*, *13*(1), 1-15. https://doi.org/10.1186/1471-2393-13-70

Rehel, E. M. (2014). When dad stays home too: Paternity leave, gender, and parenting. *Gender & Society*, *28*(1), 110-132. https://doi.org/10.1177/0891243213503900

Reupert, A., & Maybery, D. (2011). Programmes for parents with a mental illness. *Journal of psychiatric and mental health nursing*, *18*(3), 257-264. **https://doi.org/10.1111/j.1365-2850.2010.01660.x**

Reuters. (2013). Twitter Incorporated company profile. Retrieved from http://www.reuters.com/finance/stocks/companyProfile?symbol=TWTR.K

Rice, S. M., Goodall, J., Hetrick, S. E., Parker, A. G., Gilbertson, T., Amminger, G. P., ... & Alvarez-Jimenez, M. (2014). Online and social networking interventions for the treatment of depression in young people: a systematic review. *Journal of Medical Internet Research*, 16(9), 1-1. https://www.jmir.org/2014/9/e206/

Ride, J., & Lancsar, E. (2016). Women's preferences for treatment of perinatal depression and anxiety: a discrete choice experiment. *PloS one*, *11*(6), e0156629. https://doi.org/10.1371/journal.pone.0156629

Ridge, D., Emslie, C., & White, A. (2011). Understanding how men experience, express and cope with mental distress: where next?. *Sociology of health & illness*, *33*(1), 145-159. **https://doi.org/10.1111/j.1467-9566.2010.01266.x**

Righetti-Veltema, M., Conne-Perréard, E., Bousquet, A., & Manzano, J. (2002). Postpartum depression and mother–infant relationship at 3 months old. *Journal of affective disorders*, *70*(3), 291-306. https://doi.org/10.1016/S0165-0327(01)00367-6

Riva Crugnola, C., Ierardi, E., Ferro, V., Gallucci, M., Parodi, C., & Astengo, M. (2016). Mother-infant emotion regulation at three months: The role of maternal anxiety, depression and parenting stress. Psychopathology, 49(4), 285–294. http://dx.doi.org/10.1159/000446811

River, J., & Flood, M. (2021). Masculinities, emotions and men's suicide. *Sociology of Health & Illness*, *43*(4), 910-927. **https://doi.org/10.1111/1467-9566.13257**

Robertson, E., Grace, S., Wallington, T., & Stewart, D. E. (2004). Antenatal risk factors for postpartum depression: A synthesis of recent literature. *General Hospital Psychiatry*, 26(4), 289–295. https://doi.org/10.1016/j.genhosppsych.2004.02.006

Robertson, S., & Williams, R. (2009). Men, public health and health promotion: towards a critically structural and embodied understanding. *Men, masculinities and health*, 48-66. http://doi.org/10.1007/978-1-137-08076-9_4

Robertson, S., Bagnall, A., & Walker, M. (2015). Evidence for a gender-based approach to mental health programmes: Identifying the key considerations associated with "being male".

Robins, R. W., & Trzesniewski, K. H. (2005). Self-Esteem Development Across the Lifespan. Current Directions in Psychological Science, 14(3), 158–162. http://doi.org/10.1111/j.0963-7214.2005.00353.x

Robinson, A., Bonnette, A., Howard, K., Ceballos, N., Dailey, S., Lu, Y., & Grimes, T. (2019). Social comparisons, social media addiction, and social interaction: An examination of specific social media behaviors related to major depressive disorder in a millennial

population. *Journal of Applied Biobehavioral Research*, *24*(1), e12158. **https://doi.org/10.1111/jabr.12158**

Robinson, R. S. (2014). Purposive sampling. *Encyclopedia of quality of life and well-being research*, *6*, 5243-5245.

Rodriguez, A. J., Holleran, S. E., & Mehl, M. R. (2010). Reading between the lines: The lay assessment of subclinical depression from written self-descriptions. *Journal of personality*, *78*(2), 575-598. **https://doi.org/10.1111/j.1467-6494.2010.00627.x**

Rose, S. A., Feldman, J. F., Jankowski, J. J., & Van Rossem, R. (2011). The structure of memory in infants and toddlers: An SEM study with full-terms and preterms. *Developmental Science*, *14*(1), 83-91. **https://doi.org/10.1111/j.1467-7687.2010.00959.x**

Ross, L. E., Sellers, E. M., Gilbert Evans, S. E., & Romach, M. K. (2004). Mood changes during pregnancy and the postpartum period: development of a biopsychosocial model. *Acta Psychiatrica Scandinavica*, 109(6), 457-466. http://doi.org/10.1111/j.1600-0047.2004.00296.x

Ross, L. E., & Toner, B. (2004). Applying a biopsychosocial model to research on maternal health. Journal of the Motherhood Initiative for Research and Community Involvement.

Rude, S., Gortner, E. M., & Pennebaker, J. (2004). Language use of depressed and depression-vulnerable college students. *Cognition & Emotion*, 18(8), 1121-1133. https://doi.org/10.1080/02699930441000030

Rui, J. R., & Stefanone, M. A. (2013). Strategic image management online: Self-presentation, self-esteem and social network perspectives. *Information, Communication & Society*, 16(8), 1286-1305. https://doi.org/10.1080/1369118X.2013.763834

Rüsch, N., Evans-Lacko, S. E., Henderson, C., Flach, C., & Thornicroft, G. (2011). Knowledge and attitudes as predictors of intentions to seek help for and disclose a mental illness. *Psychiatric Services*, *62*(6), 675-678. http://doi.org/10.1176/ps.62.6.pss6206_0675

Ryba, T. V., Wiltshire, G., North, J., & Ronkainen, N. J. (2022). Developing mixed methods research in sport and exercise psychology: Potential contributions of a critical realist

perspective. *International Journal of Sport and Exercise Psychology*, *20*(1), 147-167. https://doi.org/10.1080/1612197X.2020.1827002

Sade, S., Sheiner, E., Wainstock, T., Hermon, N., Yaniv Salem, S., Kosef, T., ... & Pariente, G. (2020). Risk for depressive symptoms among hospitalized women in high-risk pregnancy units during the COVID-19 pandemic. *Journal of clinical medicine*, *9*(8), 2449. **https://doi.org/10.3390/jcm9082449**

Sagami, A., Kayama, M., & Senoo, E. (2004). The relationship between postpartum depression and abusive parenting behavior of Japanese mothers: a survey of mothers with a child less than one year old. *Bulletin of the Menninger Clinic*, *68*(2), 174-187. http://doi.org/abs101521bumc68217435951

Saligheh, M., McNamara, B., & Rooney, R. (2016). Perceived barriers and enablers of physical activity in postpartum women: a qualitative approach. *BMC pregnancy and childbirth*, *16*(1), 1-8. https://doi.org/10.1186/s12884-016-0908-x

Salzmann-Erikson, M. (2017). Work life and family life collide: Online support for new fathers. *Workplace Health & Safety*, *65*(6), 248-252. https://doi.org/10.1177/2165079916666546

Salzmann-Erikson, M., & Eriksson, H. (2013). Fathers sharing about early parental support in health-care-virtual discussions on an Internet forum. *Health & social care in the community*, *21*(4), 381-390. **https://doi.org/10.1111/hsc.12028**

Saunders, S., & Bowersox, N. (2007). The process of seeking treatment for mental health problems. *Mental Health and Learning Disabilities Research and Practice*, *4*(2), 99-123. http://doi.org/10.5920/mhldrp.2007.4299

Savci, M., & Aysan, F. (2016). Relationship between impulsivity, social media usage and loneliness. *Educational Process: International Journal*, *5*(2), 106-115. http://doi.org/10.12973/edupij.2016.52.2

Saxbe, D., Rossin-Slater, M., & Goldenberg, D. (2018). The transition to parenthood as a critical window for adult health. *American Psychologist*, *73*(9), 1190-1200. https://doi.org/10.1037/amp0000376

Scheibling, C. (2020)a. The culture of fatherhood 2.0: exploring the "tiny public" of dad bloggers in North America. *Feminist Media Studies*, *20*(6), 813-830. https://doi.org/10.1080/14680777.2019.1617764

Scheibling, C. (2020)b. Doing fatherhood online: Men's parental identities, experiences, and ideologies on social media. *Symbolic interaction*, *43*(3), 472-492. **https://doi.org/10.1002/symb.459**

Scheibling, C. (2020)c. "Real heroes care": How dad bloggers are reconstructing fatherhood and masculinities. *Men and Masculinities*, *23*(1), 3-19. https://doi.org/10.1177/1097184X18816506

Schetter, C. D., & Tanner, L. (2012). Anxiety, depression and stress in pregnancy: implications for mothers, children, research, and practice. *Current opinion in psychiatry*, *25*(2), 141. http://doi.org/10.1097/YCO.0b013e3283503680

Schoenebeck, S. (2013). The secret life of online moms: Anonymity and disinhibition on youbemom.com. In *Proceedings of the International AAAI Conference on Web and Social Media*, 7(1) 555-562. https://ojs.aaai.org/index.php/ICWSM/article/view/14379

Schoppe-Sullivan, S. J., Yavorsky, J. E., Bartholomew, M. K., Sullivan, J. M., Lee, M. A., Dush, C. M. K., & Glassman, M. (2017). Doing gender online: new mothers' psychological characteristics, Facebook use, and depressive symptoms. *Sex Roles*, *76*(5-6), 276-289. https://doi.org/10.1007/s11199-016-0640-z

Scrandis, D. A. (2005). Normalizing postpartum depressive symptoms with social support. *Journal of the American Psychiatric Nurses Association*, *11*(4), 223-230. https://doi.org/10.1177/1078390305280940

Seabrook, E. M., Kern, M. L., & Rickard, N. S. (2016). Social networking sites, depression, and anxiety: a systematic review. *JMIR mental health*, *3*(4), e5842. http://doi.org/10.2196/mental.5842

Seidler, Z. E., Dawes, A. J., Rice, S. M., Oliffe, J. L., & Dhillon, H. M. (2016). The role of masculinity in men's help-seeking for depression: a systematic review. *Clinical psychology review*, *49*, 106-118. https://doi.org/10.1016/j.cpr.2016.09.002

Séjourné, N., Sanchez-Rodriguez, R., Leboullenger, A., & Callahan, S. (2018). Maternal burn-out: an exploratory study. *Journal of reproductive and infant psychology*, 36(3), 276-288. https://doi.org/10.1080/02646838.2018.1437896

Sensis. (2016). Yellow Social Media Report: How Australian people and businesses are using social media. Retrieved from Sensis Website Retrieved https://www.sensis.com.au/asset/PDFdirectory/Sensis_Social_Media_Report_2016.PDF.

Sethna, V., Murray, L., Netsi, E., Psychogiou, L., & Ramchandani, P. G. (2015). Paternal depression in the postnatal period and early father–infant interactions. *Parenting*, *15*(1), 1-8. https://doi.org/10.1080/15295192.2015.992732

Seymour-Smith, M., Cruwys, T., Haslam, S. A., & Brodribb, W. (2017). Loss of group memberships predicts depression in postpartum mothers. *Social psychiatry and psychiatric epidemiology*, 52, 201-210. https://doi.org/10.1007/s00127-016-1315-3

Sharkey, K. M., Iko, I. N., Machan, J. T., Thompson-Westra, J., & Pearlstein, T. B. (2016). Infant sleep and feeding patterns are associated with maternal sleep, stress, and depressed mood in women with a history of major depressive disorder (MDD). *Archives of women's mental health*, 19, 209-218. https://doi.org/10.1007/s00737-015-0557-5

Sharp, P., Bottorff, J. L., Rice, S., Oliffe, J. L., Schulenkorf, N., Impellizzeri, F., & Caperchione, C. M. (2022). "People say men don't talk, well that's bullshit": A focus group study exploring challenges and opportunities for men's mental health promotion. *Plos one*, *17*(1), e0261997. https://doi.org/10.1371/journal.pone.0261997

Shensa, A., Sidani, J. E., Bowman, N. D., & Primack, B. A. (2016). Social media use and perceived emotional support among US young adults. *Journal of community health*, *41*(3), 541-549. https://doi.org/10.1007/s10900-015-0128-8

Sherriff, N., & Hall, V. (2011). Engaging and supporting fathers to promote breastfeeding: a new role for Health Visitors?. *Scandinavian Journal of Caring Sciences*, *25*(3), 467-475. **https://doi.org/10.1111/j.1471-6712.2010.00850.x**

Sherriff, N., Hall, V., & Panton, C. (2014). Engaging and supporting fathers to promote breast feeding: A concept analysis. *Midwifery*, *30*(6), 667-677. https://doi.org/10.1016/j.midw.2013.07.014

Shorey, S., Chan, S. W. C., Chong, Y. S., & He, H. G. (2015). Perceptions of primiparas on a postnatal psychoeducation programme: the process evaluation. *Midwifery*, *31*(1), 155-163. https://doi.org/10.1016/j.midw.2014.08.001

Shorey, S., Dennis, C. L., Bridge, S., Chong, Y. S., Holroyd, E., & He, H. G. (2017). First-time fathers' postnatal experiences and support needs: A descriptive qualitative study. *Journal of Advanced Nursing*, *73*(12), 2987-2996. **https://doi.org/10.1111/jan.13349**

Siegel, J. A., & Sawyer, K. B. (2020). "We don't talk about feelings or struggles like that": White men's experiences of eating disorders in the workplace. *Psychology of Men & Masculinities*, *21*(4), 533–544. https://doi.org/10.1037/men0000253

Sinai, D., & Tikotzky, L. (2012). Infant sleep, parental sleep and parenting stress in families of mothers on maternity leave and in families of working mothers. *Infant Behavior and Development*, *35*(2), 179-186. https://doi.org/10.1016/j.infbeh.2012.01.006

Siwik, E., Larose, S., Peres, D., Jackson, K. T., Burke, S. M., & Mantler, T. (2022). Experiences of At-Risk Women in Accessing Breastfeeding Social Support During the Covid-19 Pandemic. *Journal of Human Lactation*, 08903344221091808. https://doi.org/10.1177/08903344221091808

Skalkidou, A., Hellgren, C., Comasco, E., Sylvén, S., & Poromaa, I. S. (2012). Biological aspects of postpartum depression. *Women's health*, *8*(6), 659-672. https://doi.org/10.2217/WHE.12.55

Śliwerski, A., Kossakowska, K., Jarecka, K., Świtalska, J., & Bielawska-Batorowicz, E. (2020). The effect of maternal depression on infant attachment: A systematic review. *International journal of environmental research and public health*, *17*(8), 2675. **https://doi.org/10.3390/ijerph17082675**

Smith, A. R., Hames, J. L., & Joiner Jr, T. E. (2013). Status update: Maladaptive Facebook usage predicts increases in body dissatisfaction and bulimic symptoms. *Journal of affective disorders*, *149*(1-3), 235-240. https://doi.org/10.1016/j.jad.2013.01.032

Smith, J. A., Wilde, M. H., & Brasch, J. (2012). Internet recruitment and retention for a 6 months' longitudinal study. *Journal of Nursing Scholarship*, 44(2), 165–170. **https://doi.org/10.1111/j.1547-5069.2012.01446.x**

Sockol, L. E., Epperson, C. N., & Barber, J. P. (2011). A meta-analysis of treatments for perinatal depression. *Clinical psychology review*, *31*(5), 839-849. http://dx.doi.org/10.1016/j.cpr.2011.03.009

Sockol, L. E., Epperson, C. N., & Barber, J. P. (2013). Preventing postpartum depression: a meta-analytic review. *Clinical Psychology Review*, 33(8), 1205-1217. https://doi.org/10.1016/j.cpr.2013.10.004

Sockol, L. E., Epperson, C. N., & Barber, J. P. (2014). The relationship between maternal attitudes and symptoms of depression and anxiety among pregnant and postpartum first-time mothers. *Archives of women's mental health*, *17*(3), 199-212. https://doi.org/10.1007/s00737-014-0424-9

Spinola, O., Liotti, M., Speranza, A. M., & Tambelli, R. (2020). Effects of COVID-19 epidemic lockdown on postpartum depressive symptoms in a sample of Italian mothers. *Frontiers in psychiatry*, *11*, 589916. https://doi.org/10.3389/fpsyt.2020.589916

Staneva, A. A., Bogossian, F., & Wittkowski, A. (2015). The experience of psychological distress, depression, and anxiety during pregnancy: A meta-synthesis of qualitative research. *Midwifery*, *31*(6), 563-573. https://doi.org/10.1016/j.midw.2015.03.015

Staneva, A., & Wittkowski, A. (2013). Exploring beliefs and expectations about motherhood in Bulgarian mothers: a qualitative study. *Midwifery*, *29*(3), 260-267. https://doi.org/10.1016/j.midw.2012.01.008

Stansfeld, S. A., Marmot, M., & Wilkinson, R. (2006). Social support and social cohesion. *Social determinants of health*, *2*, 148-71.

Steen, M., Downe, S., Bamford, N., & Edozien, L. (2012). Not-patient and not-visitor: a metasynthesis fathers' encounters with pregnancy, birth and maternity care. *Midwifery*, *28*(4), 422-431. https://doi.org/10.1016/j.midw.2011.06.009

Stein, A., Craske, M. G., Lehtonen, A., Harvey, A., Savage-McGlynn, E., Davies, B., ... & Counsell, N. (2012). Maternal cognitions and mother–infant interaction in postnatal depression and

generalized anxiety disorder. *Journal of abnormal psychology*, *121*(4), 795-809. https://doi.org/10.1037/a0026847

Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., ... Pariante, C. M. (2014). Effects of perinatal mental disorders on the fetus and child. *Lancet*, 384(9956), 1800–1819. https://doi.org/10.1016/S0140-6736(14)61277-0

Sueki, H. (2015). The effect of suicide-related internet use on users' mental health. *Crisis*, 34(5), 348-353. https://doi.org/10.1027/0227-5910/a000201

Sutherland, J. A. (2010). Mothering, guilt and shame. *Sociology Compass*, *4*(5), 310-321. **https://doi.org/10.1111/j.1751-9020.2010.00283.x**

Sweeney, S., & MacBeth, A. (2016). The effects of paternal depression on child and adolescent outcomes: a systematic review. *Journal of Affective Disorders*, *205*, 44-59. https://doi.org/10.1016/j.jad.2016.05.073

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in science education*, *48*(6), 1273-1296. https://doi.org/10.1007/s11165-016-9602-2

Tadesse, K., Zelenko, O., Mulugeta, A., & Gallegos, D. (2018). Effectiveness of breastfeeding interventions delivered to fathers in low-and middle-income countries: A systematic review. *Maternal & child nutrition*, *14*(4), e12612. **https://doi.org/10.1111/mcn.12612**

Tajfel, H. (1974). Social identity and intergroup behaviour. *Social science information*, 13(2), 65-93. https://doi.org/10.1177/053901847401300204

Talbot, J., Charron, V., & Konkle, A. T. (2021). Feeling the void: lack of support for isolation and sleep difficulties in pregnant women during the COVID-19 pandemic revealed by twitter data analysis. *International journal of environmental research and public health*, *18*(2), 393. **https://doi.org/10.3390/ijerph18020393**

Talbot, M. (2003). Gender Stereotypes: Reproduction and Challenge. *InJ. Holmes & M. Meyerhoff* (Eds.), The handbook of language and gender (pp. 468-487).

Tani, F., & Castagna, V. (2017). Maternal social support, quality of birth experience, and post-partum depression in primiparous women. *The Journal of Maternal-Fetal & Neonatal Medicine*, *30*(6), 689-692. https://doi.org/10.1080/14767058.2016.1182980

Tanis, M. (2008). Health-related on-line forums: what's the big attraction?. *Journal of health communication*, *13*(7), 698-714. https://doi.org/10.1080/10810730802415316

Tashakkori, A., & Teddlie, C. (2010). Handbook of mixed methods in social and behavioral research (2nd Edition)

Teppers, E., Luyckx, K., Klimstra, T. A., & Goossens, L. (2014). Loneliness and Facebook motives in adolescence: A longitudinal inquiry into directionality of effect. *Journal of adolescence*, *37*(5), 691-699. https://doi.org/10.1016/j.adolescence.2013.11.003

Timmer, S. G., Ho, L. K., Urquiza, A. J., Zebell, N. M., Fernandez, Y. G. E., & Boys, D. (2011). The effectiveness of parent-child interaction therapy with depressive mothers: The changing relationship as the agent of individual change. Child Psychiatry and Human Development, 42(4), 406–423. https://doi.org/10.1007/s10578-011-0226-5

Tohotoa, J., Maycock, B., Hauck, Y. L., Howat, P., Burns, S., & Binns, C. W. (2009). Dads make a difference: an exploratory study of paternal support for breastfeeding in Perth, Western Australia. *International breastfeeding journal*, *4*(1), 1-9. https://doi.org/10.1186/1746-4358-4-15

Tong, S., & Walther, J. B. (2011). Relational maintenance and CMC. *Computer-mediated communication in personal relationships*, *53*(9), 1689-1699.

Top, E. D., Cetisli, N. E., Guclu, S., & Zengin, E. B. (2016). Paternal depression rates in prenatal and postpartum periods and affecting factors. *Archives of psychiatric nursing*, *30*(6), 747-752. https://doi.org/10.1016/j.apnu.2016.07.005

Tronick, E., & Reck, C. (2009). Infants of depressed mothers. *Harvard review of psychiatry*, *17*(2), 147-156. http://doi.org/10.1080/10673220902899714

Tully, L. A., Piotrowska, P. J., Collins, D. A., Mairet, K. S., Black, N., Kimonis, E. R., ... & Dadds, M. R. (2017). Optimising child outcomes from parenting interventions: fathers' experiences, preferences and barriers to participation. *BMC public health*, *17*(1), 1-14. https://doi.org/10.1186/s12889-017-4426-1

Tuominen, M., Junttila, N., Ahonen, P., & Rautava, P. (2016). The effect of relational continuity of care in maternity and child health clinics on parenting self-efficacy of mothers and fathers with loneliness and depressive symptoms. *Scandinavian Journal of Psychology*, *57*(3), 193-200. **https://doi.org/10.1111/sjop.12284**

Turel, O., Cavagnaro, D. R., & Meshi, D. (2018). Short abstinence from online social networking sites reduces perceived stress, especially in excessive users. *Psychiatry research*, *270*, 947-953. https://doi.org/10.1016/j.psychres.2018.11.017

Turner D.W. (2010) Qualitative interview design: a practical guide for novice researcher. *The Qualitative Report* **15(**3), 754– 760. https://doi.org/10.46743/2160-3715/2010.1178

Twenge, J. M., Campbell, W. K., & Foster, C. A. (2003). Parenthood and marital satisfaction: a meta-analytic review. *Journal of marriage and family*, *65*(3), 574-583. **https://doi.org/10.1111/j.1741-3737.2003.00574.x**

Ugarriza, D. N. (2002). Postpartum depressed women's explanation of depression. *Journal of Nursing Scholarship*, 34(3), 227-233. https://doi.org/10.1111/j.1547-5069.2002.00227.x

Umberson, D., Liu, H., Mirowsky, J., & Reczek, C. (2011). Parenthood and trajectories of change in body weight over the life course. *Social science & medicine*, *73*(9), 1323-1331. https://doi.org/10.1016/j.socscimed.2011.08.014

Van Deursen, A. J., Van Dijk, J. A., & Peter, M. (2015). Increasing inequalities in what we do online: A longitudinal cross sectional analysis of Internet activities among the Dutch population (2010 to 2013) over gender, age, education, and income. *Telematics and informatics*, *32*(2), 259-272. https://doi.org/10.1016/j.tele.2014.09.003

Vayreda, A., & Antaki, C. (2009). Social support and unsolicited advice in a bipolar disorder online forum. *Qualitative health research*, *19*(7), 931-942. https://doi.org/10.1177/1049732309338952

Veskrna, L. (2010). Peripartum depression–does it occur in fathers and does it matter?. *Journal of Men's Health*, *7*(4), 420-430. https://doi.org/10.1016/j.jomh.2010.10.004

Viaux, S., Maurice, P., Cohen, D., & Jouannic, J. M. (2020). Giving birth under lockdown during the COVID-19 epidemic. *Journal of Gynecology Obstetrics and Human Reproduction*, *49*(6), 101785. https://doi.org/10.1016/j.jogoh.2020.101785

Vik, K. (2011). P02-515-Postnatal depression, mother-infant interaction and video interaction guidance. *European Psychiatry*, *26*, 1111. https://doi.org/10.1016/S0924-9338(11)72816-4

Vik, T., Grote, V., Escribano, J., Socha, J., Verduci, E., Fritsch, M., ... & European Childhood Obesity Trial Study Group. (2009). Infantile colic, prolonged crying and maternal postnatal

depression. *Acta paediatrica*, *98*(8), 1344-1348. **https://doi.org/10.1111/j.1651-2227.2009.01317.x**

Vogel, E. A., & Rose, J. P. (2016). Self-reflection and interpersonal connection: Making the most of self-presentation on social media. *Translational Issues in Psychological Science*, 2(3), 294-302. https://doi.org/10.1037/tps0000076

Vogel, E. A., Rose, J. P., Okdie, B. M., Eckles, K., & Franz, B. (2015). Who compares and despairs? The effect of social comparison orientation on social media use and its outcomes. *Personality and Individual Differences*, *86*, 249-256. https://doi.org/10.1016/j.paid.2015.06.026

Vogl, S. (2013). Telephone versus face-to-face interviews: Mode effect on semi-structured interviews with children. *Sociological Methodology*, *43*(1), 133-177. https://doi.org/10.1177/0081175012465967

Walker, S. B., Rossi, D. M., & Sander, T. M. (2019). Women's successful transition to motherhood during the early postnatal period: A qualitative systematic review of postnatal and midwifery home care literature. *Midwifery*, *79*, 102552. https://doi.org/10.1016/j.midw.2019.102552

Wall, G., & Arnold, S. (2007). How involved is involved fathering? An exploration of the contemporary culture of fatherhood. *Gender & society*, *21*(4), 508-527. https://doi.org/10.1177/0891243207304973

Wall, K., & Escobedo, A. (2013). Parental leave policies, gender equity and family well-being in Europe: A comparative perspective. In *Family well-being*, 103-129. Springer, Dordrecht. http://doi.org/10.1007/978-94-007-4354-0_6

Ward, K., Gott, M., & Hoare, K. (2015). Participants' views of telephone interviews within a grounded theory study. *Journal of advanced nursing*, *71*(12), 2775-2785. **https://doi.org/10.1111/jan.12748**

Ward, S. T., Kanu, F. A., & Robb, S. W. (2017). Prevalence of stressful life events during pregnancy and its association with postpartum depressive symptoms. *Archives of women's mental health*, 20(1), 161-171. https://doi.org/10.1007/s00737-016-0689-2

Wardrop, A. A., & Popadiuk, N. E. (2013). Women's Experiences with Postpartum Anxiety: Expectations, Relationships, and Sociocultural Influences. *The Qualitative Report*, *18*(3), 1-24. https://doi.org/10.46743/2160-3715/2013.1564

Warfa, N., Harper, M., Nicolais, G., & Bhui, K. (2014). Adult attachment style as a risk factor for maternal postnatal depression: a systematic review. *BMC psychology*, *2*(1), 1-11. https://doi.org/10.1186/s40359-014-0056-x

Warmerdam, L., Smit, F., van Straten, A., Riper, H., & Cuijpers, P. (2010). Cost-utility and cost-effectiveness of internet-based treatment for adults with depressive symptoms: randomized trial. *Journal of medical Internet research*, *12*(5), e1436. http://doi.org/10.2196/jmir.1436

Wee, K. Y., Skouteris, H., Pier, C., Richardson, B., & Milgrom, J. (2011). Correlates of ante-and postnatal depression in fathers: a systematic review. *Journal of affective disorders*, *130*(3), 358-377. https://doi.org/10.1016/j.jad.2010.06.019

Whisman, M. A., Davila, J., & Goodman, S. H. (2011). Relationship adjustment, depression, and anxiety during pregnancy and the postpartum period. *Journal of Family Psychology*, *25*(3), 375–383. https://doi.org/10.1037/a0023790

White, B. K., Giglia, R. C., Scott, J. A., & Burns, S. K. (2018). How new and expecting fathers engage with an app-based online forum: qualitative analysis. *JMIR mHealth and uHealth*, *6*(6), e9999. http://doi.org/10.2196/mhealth.9999

Whitehead, K. (2016). Motherhood as a gendered entitlement: intentionality,"othering," and homosociality in the online infertility community. *Canadian Review of Sociology/Revue canadienne de sociologie*, *53*(1), 94-122. **https://doi.org/10.1111/cars.12093**

Whitelock, A. (2016). Why do health visitors screen mothers and not fathers for depression in the postnatal period?. *Journal of Health Visiting*, *4*(6), 312-321. https://doi.org/10.12968/johv.2016.4.6.312

Whitlock, J. L., Powers, J. L., & Eckenrode, J. (2006). The virtual cutting edge: the internet and adolescent self-injury. *Developmental psychology*, *42*(3), 407. http://doi.org/10.1037/0012-1649.42.3.407

Widarsson, M., Engström, G., Tydén, T., Lundberg, P., & Hammar, L. M. (2015). 'Paddling upstream': Fathers' involvement during pregnancy as described by expectant fathers and mothers. *Journal of clinical nursing*, *24*(7-8), 1059-1068. **https://doi.org/10.1111/jocn.12784**

Wigginton, B., & Lee, C. (2013). A story of stigma: Australian women's accounts of smoking during pregnancy. *Critical Public Health*, *23*(4), 466-481. https://doi.org/10.1080/09581596.2012.753408

Wilkins, C. (2006). A qualitative study exploring the support needs of first-time mothers on their journey towards intuitive parenting. *Midwifery*, 22(2), 169-180. https://doi.org/10.1016/j.midw.2005.07.001

Wilson, S., & Durbin, C. E. (2010). Effects of paternal depression on fathers' parenting behaviors: A meta-analytic review. *Clinical psychology review*, *30*(2), 167-180. https://doi.org/10.1016/j.cpr.2009.10.007

Wiltshire, G. (2018). A case for critical realism in the pursuit of interdisciplinarity and impact. *Qualitative Research in Sport, Exercise and Health*, *10*(5), 525-542. https://doi.org/10.1080/2159676X.2018.1467482

Wisner, K. L., Logsdon, M. C., & Shanahan, B. R. (2008). Web based education for postpartum depression: Conceptual development and impact. *Archives of Women's Mental Health*, 11(5–6), 377–385. https://doi.org/10.1007/s00737-008-0030-9

Wisner, K. L., Parry, B. L., & Piontek, C. M. (2002). Postpartum depression. *New England journal of medicine*, *347*(3), 194-199. http://doi.org/10.1056/NEJMcp011542

Wittenborn, A. K., Culpepper, B., & Liu, T. (2012). Treating depression in men: The role of emotionally focused couple therapy. *Contemporary Family Therapy*, *34*(1), 89-103. https://doi.org/10.1007/s10591-012-9176-8

Wojcik, S., & Hughes, A. (2019). Sizing up Twitter users. PEW research center, 24, 1-23.

Wonch, K. E., Steiner, M., De Medeiros, C., Barrett, J. A., Fleming, A. S., & Hall, G. B. (2012). The neural correlates of maternal responsiveness to infant cues in mothers with and without postpartum depression. In *Biological Psychiatry* 71 (8), 310S-311S.

Woods, H. C., & Scott, H. (2016). # Sleepyteens: Social media use in adolescence is associated with poor sleep quality, anxiety, depression and low self-esteem. *Journal of adolescence*, *51*, 41-49. https://doi.org/10.1016/j.adolescence.2016.05.008

Woody, C. A., Ferrari, A. J., Siskind, D. J., Whiteford, H. A., & Harris, M. G. (2017). A systematic review and meta-regression of the prevalence and incidence of perinatal depression. *Journal of affective disorders*, *219*, 86-92. https://doi.org/10.1016/j.jad.2017.05.003

Woolhouse, H., Brown, S., Krastev, A., Perlen, S., & Gunn, J. (2009). Seeking help for anxiety and depression after childbirth: results of the Maternal Health Study. *Archives of women's mental health*, *12*(2), 75-83. https://doi.org/10.1007/s00737-009-0049-6

Wray, M., Colen, C., & Pescosolido, B. (2011). The sociology of suicide. *Annual Review of Sociology*, *37*, 505-528. http://doi.org/10.1146/annurev-soc-081309-150058

Xie, R. H., He, G., Koszycki, D., Walker, M., & Wen, S. W. (2009). Prenatal social support, postnatal social support, and postpartum depression. *Annals of epidemiology*, *19*(9), 637-643. https://doi.org/10.1016/j.annepidem.2009.03.008

Yesilcinar, I., Yavan, T., Karasahin, K. E., & Yenen, M. C. (2017). The identification of the relationship between the perceived social support, fatigue levels and maternal attachment during the postpartum period. *The Journal of Maternal-Fetal & Neonatal Medicine*, *30*(10), 1213-1220. https://doi.org/10.1080/14767058.2016.1209649

Yim, I. S., Tanner Stapleton, L. R., Guardino, C. M., Hahn-Holbrook, J., & Dunkel Schetter, C. (2015). Biological and psychosocial predictors of postpartum depression: systematic review and call for integration. *Annual review of clinical psychology*, *11*, 99-137. https://doi.org/10.1146/annurev-clinpsy-101414-020426

Yonkers, K. A., Ramin, S. M., Rush, A. J., Navarrete, C. A., Carmody, T., March, D., ... & Leveno, K. J. (2001). Onset and persistence of postpartum depression in an inner-city maternal health clinic system. *American Journal of Psychiatry*, 158(11), 1856-1863. https://doi.org/10.1176/appi.ajp.158.11.1856

Young, K. (2011). Social ties, social networks and the Facebook experience. *International Journal of Emerging Technologies and Society*, *9*(1), 20. http://hdl.handle.net/10453/18969

Zaidi, F., Nigam, A., Anjum, R., & Agarwalla, R. (2017). Postpartum depression in women: a risk factor analysis. *Journal of Clinical and Diagnostic Research: JCDR*, *11*(8), QC13. http://doi.org/10.7860/JCDR/2017/25480.10479

Zande, D., & Sebre, S. (2014). Longitudinal associations between symptoms of parental perinatal depression, social support and infant temperament. *Baltic Journal of Psychology*, *15*(1), 2.

Zhang, Y. P., Zhang, L. L., Wei, H. H., Zhang, Y., Zhang, C. L., & Porr, C. (2016). Post partum depression and the psychosocial predictors in first-time fathers from northwestern China. *Midwifery*, *35*, 47-52. https://doi.org/10.1016/j.midw.2016.01.005

Zickuhr, K., & Smith, A. (2012). *Digital differences*. http://pewinternet.org/Reports/2012/Digital-differences.aspx.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30-41. https://doi.org/10.1207/s15327752jpa5201_2

Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S., & Berkoff, K. A. (1990). Psychometric characteristics of the multidimensional scale of perceived social support. *Journal of personality assessment*, *55*(3-4), 610-617.

Appendices

Appendix A- Consent Form Study 1 and Study 3

Use of social media during the postnatal period

Researcher:

Supervisor:

I, the undersigned, confirm that (please tick box as appropriate):

1. I have read and understood the information about the project, as provided in the Information Sheet.

☐

2. I have been given the opportunity to ask questions about the project and my participation.

☐

3. I voluntarily agree to participate in the project.

☐

4. I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.

☐

5. The procedures regarding confidentiality have been clearly explained (e.g. use of names, pseudonyms, anonymisation of data, etc.) to me.

6. The use of the data in research, publications, sharing and archiving has been explained to me.

7. I understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I have specified in this form.

8. I agree to sign and date this informed consent form.

Participant:

Signature Date

Appendix B- Consent Form Study 2 and Study 4

Use of social media during the postnatal period

Researcher: Iris-Anda Ilies

Supervisor: Dr Emily Coyne-Umfreville

I have been given and have understood an explanation of this research project. I have had an opportunity to ask questions about the project and have them answered. I know that my participation in this project is entirely voluntary.

I understand that I can withdraw from the interview at any point, and that I am under no obligation to answer any particular questions. I also understand that I may withdraw any or all of the information I provide at any time up to 1 month from interview date without giving a reason.

- ☐ I agree to take part in this research
- ☐ I agree for the interview to be recorded
- ☐ I agree that the researcher may keep the interview material for use in future research and publications not strictly within the scope of the current project
- ☐ I agree that the interview will be transcribed.

Signed: .....

Date: .....…

Appendix C- Participant Information Sheet Study 1

Use of social media during the postnatal period

I would like to invite you to take part in a research study. Before you decide if you want to take part, you need to understand the purpose of the research and what it would involve for you. Please take your time to read the following statements carefully. Do not hesitate to ask any questions if you need more information or further clarification.

What is the purpose of the study?

The research study is part of my PhD project at Birmingham City University. The aim of the research is to explore thoughts, attitudes and experiences of mothers during the postpartum period and to provide information on the use of social media as a support platform.

Why have I been invited?

You have been invited to take part in the research as a mother who has at least one child who is under 1 year old and was born at at least 35 weeks gestation.

Do I have to take part?

Participation in the study is entirely voluntary. It is up to you to decide if you want to take part in the study and you can withdraw at any time without having to give any reasons.

What will happen to me if I take part?

You will be asked to complete a series of questionnaires consisting of some sociodemographic information about yourself, as well as your thoughts and feelings related to the postnatal period, your role as a mother, the support received and social media usage. The completion of the scales is estimated to take you about 35 minutes. There will not be any open questions involved.

What are the possible disadvantages or risks of taking part?

The disadvantages and risks of taking part in the study are minimal. You might experience a slight discomfort due to the emotional nature of some of the statements found in the questionnaires.

In the case of this happening, please take advantage of the available support.

National Childbirth Trust (0300 330 0700) - practical and emotional support in all areas of pregnancy, birth and early parenthood;

Mind (0300 123 3393) - information on a range of mental health topics;

Samaritans (116 123) - charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide;

NHS direct (111) - helpline service for urgent medical concerns

What are the possible benefits of taking part?

If you decide to take part in the study you might gain some valuable knowledge about the experience of participating in a PhD research study. The information that we get from the study will also help increase the understanding of the postnatal period, in terms of its emotional factors, challenges or ways of getting support, as well as the implication of social media in the parenting context.

What if there is a problem?

If you have any complaints or concerns about the study, you can contact the researcher and they will try to give you as much support as possible.

These are some contact details that you might find useful:

Principal Investigator: Iris-Anda Ilies

Email: Iris-Anda.Ilies@mail.bcu.ac.uk ; Telephone number: 07467781325

Supervisor: Dr Emily Coyne-Umfreville

Email: Emily.Coyne-Umfreville@bcu.ac.uk ; Telephone number: 01213315516

Will my participation in the study remain confidential?

All the information given during the study will be kept strictly confidential. Your identity will not be disclosed and the data collected will be stored in an online data base that will be password protected and will only be accessed by the researcher and supervisor.

What will happen to the results of the research study?

The results will be used as part of the PhD project and they might get published in the future. You will not be identified in any report or publication. You will have the opportunity to leave

your email address at the end of the study if you are interested in receiving further updates about the outcomes of the project.

Who has ethically reviewed the research?

This research has been ethically approved by the Ethics Committee of the British Psychology Society.

Appendix D- Participant Information Sheet Study 2

Use of social media during the postnatal period

I would like to invite you to take part in a research study. Before you decide if you want to take part, you need to understand the purpose of the research and what it would involve for you. Please take your time to read the following statements carefully. Do not hesitate to ask any questions if you need more information or further clarification.

What is the purpose of the study?

The research study is part of my PhD project at Birmingham City University. The aim of the research is to explore thoughts, attitudes and experiences of mothers regarding the postnatal period and to provide information on the use of social media as a support platform.

Why have I been invited?

You have been invited to take part in the research as a mother who has at least one child who is under 1 year old and was born at least 35 weeks gestation.

Do I have to take part?

Participation in the study is entirely voluntary. It is up to you to decide if you want to take part in the study and you can withdraw at any time without having to give any reasons.

What will happen to me if I take part?

I will conduct an interview which would take place either face-to-face at a location which is more convenient for you, or over the telephone or Skype. The interview will last for as long as you are willing or able to talk and you will be able to receive a copy of the interview schedule beforehand if you are interested in that. The interview will be recorded and transcribed with your consent.

What are the possible disadvantages or risks of taking part?

The disadvantages and risks of taking part in the study are minimal. You might experience a slight discomfort due to the emotional nature of some of the statements or questions used in the interview. It will be possible to take a break or stop at any time during the interview.

In case of distress, please take advantage of the available support.

National Childbirth Trust (0300 330 0700) - practical and emotional support in all areas of pregnancy, birth and early parenthood;

Mind (0300 123 3393) - information on a range of mental health topics;

Samaritans (116 123) - charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide;

NHS direct (111) - helpline service for urgent medical concerns

What are the possible benefits of taking part?

If you decide to take part in the study you might gain some valuable knowledge about the experience of participating in a PhD research study. The information that we get from the study will also help increase the understanding of paternal experiences within the postnatal period, as well as the digital behaviours and online support needed for fathers.

What if there is a problem?

If you have any complaints or concerns about the study, you can contact the researcher and they will try to give you as much support as possible.

These are some contact details that you might find useful:

Principal Investigator: Iris-Anda Ilies

Email: Iris-Anda.Ilies@mail.bcu.ac.uk

Supervisor: Dr Emily Coyne-Umfreville

Email: Emily.Coyne-Umfreville@bcu.ac.uk

Will my participation in the study remain confidential?

All the information given during the study will be kept strictly confidential. Your identity will not be disclosed and the data collected will be stored in an online data base that will be password protected and will only be accessed by the researcher and supervisor.

What will happen to the results of the research study?

The results will be used as part of the PhD project and they might get published in the future. You will not be identified in any report or publication. You will have the opportunity to leave your email address at the end of the study if you are interested in receiving further updates about the outcomes of the project.

Who has ethically reviewed the research?

This research has been ethically approved by the Ethics Committee of the British Psychology Society.

Contact details: blssethics@bcu.ac.uk

Appendix E- Participant Information Sheet Study 3

Use of social media in the postnatal period among fathers

I would like to invite you to take part in a research study. Before you decide if you want to take part, you need to understand the purpose of the research and what it would involve for you. Please take your time to read the following statements carefully. Do not hesitate to ask any questions if you need more information or further clarification.

What is the purpose of the study?

The research study is part of my PhD project at Birmingham City University. The aim of the research is to explore thoughts, attitudes and experiences of fathers during the postpartum period and to provide information on the use of social media as a support platform.

Why have I been invited?

You have been invited to take part in the research as a father who is a user of the internet/social media sites and has at least one child who is under 1 year old.

Do I have to take part?

Participation in the study is entirely voluntary. It is up to you to decide if you want to take part in the study and you can withdraw at any time without having to give any reasons.

What will happen to me if I take part?

You will be asked to complete a series of questionnaires consisting of some sociodemographic information about yourself, as well as your thoughts and feelings related to the postnatal period, the support received and social media usage. The completion of the scales is estimated to take you about 15-20 minutes. There will not be any open questions involved.

What are the possible disadvantages or risks of taking part?

The disadvantages and risks of taking part in the study are minimal. You might experience a slight discomfort due to the emotional nature of some of the statements found in the questionnaires.

In the case of this happening, please take advantage of the available support.

National Childbirth Trust (0300 330 0700) - practical and emotional support in all areas of pregnancy, birth and early parenthood;

Mind (0300 123 3393) - information on a range of mental health topics;

Samaritans (116 123) - charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide;

NHS direct (111) - helpline service for urgent medical concerns.

What are the possible benefits of taking part?

If you decide to take part in the study you might gain some valuable knowledge about the experience of participating in a PhD research study. The information that we get from the study will also help increase the understanding of paternal experiences within the postnatal period, as well as the digital behaviours and online support needed for fathers.

What if there is a problem?

If you have any complaints or concerns about the study, you can contact the researcher and they will try to give you as much support as possible.

These are some contact details that you might find useful:

Principal Investigator: Iris-Anda Ilies

Email: Iris-Anda.Ilies@mail.bcu.ac.uk

Supervisor: Dr Emily Coyne-Umfreville

Email: Emily.Coyne-Umfreville@bcu.ac.uk

Will my participation in the study remain confidential?

All the information given during the study will be kept strictly confidential. Your identity will not be disclosed and the data collected will be stored in an online data base that will be password protected and will only be accessed by the researcher and supervisor.

What will happen to the results of the research study?

The results will be used as part of the PhD project and they might get published in the future. You will not be identified in any report or publication. You will have the opportunity to leave your email address at the end of the study if you are interested in receiving further updates about the outcomes of the project.

Who has ethically reviewed the research?

This research has been ethically approved by the Ethics Committee of the British Psychology Society.

Contact details: blssethics@bcu.ac.uk

Appendix F- Participant Information Sheet Study 4

Use of social media during the postnatal period

I would like to invite you to take part in a research study. Before you decide if you want to take part, you need to understand the purpose of the research and what it would

involve for you. Please take your time to read the following statements carefully. Do not hesitate to ask any questions if you need more information or further clarification.

What is the purpose of the study?

The research study is part of my PhD project at Birmingham City University. The aim of the research is to explore thoughts, attitudes and experiences of fathers regarding the postnatal period and to provide information on the use of social media as a support platform.

Why have I been invited?

You have been invited to take part in the research as a father who is a user of the internet/social media sites and has at least one child who is under 1 year old.

Do I have to take part?

Participation in the study is entirely voluntary. It is up to you to decide if you want to take part in the study and you can withdraw at any time without having to give any reasons.

What will happen to me if I take part?

I will conduct an interview which would take place either face-to-face at a location which is more convenient for you, or over the telephone or Skype. The interview will last for as long as you are willing or able to talk and you will be able to receive a copy of the interview schedule beforehand if you are interested in that. The interview will be recorded and transcribed with your consent.

What are the possible disadvantages or risks of taking part?

The disadvantages and risks of taking part in the study are minimal. You might experience a slight discomfort due to the emotional nature of some of the statements or questions used in the interview. It will be possible to take a break or stop at any time during the interview.

In case of distress, please take advantage of the available support.

National Childbirth Trust (0300 330 0700) - practical and emotional support in all areas of pregnancy, birth and early parenthood;

Mind (0300 123 3393) - information on a range of mental health topics;

Samaritans (116 123) - charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide;

NHS direct (111) - helpline service for urgent medical concerns

What are the possible benefits of taking part?

If you decide to take part in the study you might gain some valuable knowledge about the experience of participating in a PhD research study and you will have the opportunity to openly talk about your experiences.

The information that we get from the study will also help increase the understanding of paternal experiences within the postnatal period, as well as the digital behaviours and online support needed for fathers.

What if there is a problem?

If you have any complaints or concerns about the study, you can contact the researcher or supervisor and they will try to give you as much support as possible.

These are some contact details that you might find useful:

Principal Investigator: Iris-Anda Ilies

Email: Iris-Anda.Ilies@mail.bcu.ac.uk

Supervisor: Dr Emily Coyne-Umfreville

Email: Emily.Coyne-Umfreville@bcu.ac.uk ; Telephone number: 01213315516

Will my participation in the study remain confidential?

All the information given during the study will be kept strictly confidential. Your identity will not be disclosed, and the data collected will be stored in an online data base that will be password protected and will only be accessed by the researcher and supervisor. The information collected will be deleted after it has been recorded and transcribed.

What will happen to the results of the research study?

The results will be used as part of the PhD project and they might get published in the future. You will not be identified in any report or publication, as you will receive a false name and

any specific information that might disclose your identity will be removed. You will have the opportunity to receive further updates about the outcomes of the project if that is something you are interested in.

Who has ethically reviewed the research?

This research has been ethically approved by the Ethics Committee of the British Psychology Society.

Contact details: blssethics@bcu.ac.uk

Appendix G- Debriefing Information Study 1

This research study aimed to investigate whether there are any group differences between mothers who suffer from postnatal depression (PND) and controls who do not meet the clinical cut-off in terms of their online behaviours, as well as other aspects, such as levels of parental stress and perceived social support.

It is expected that participants who scored higher on the Edinburgh Postnatal Depression scale would display higher levels of social media use, compared to non-depressed participants. It is also anticipated that mothers who did not show significant depressive symptoms to indicate a lower parental stress score and higher perceived social support coming from family, friends and significant other. In comparison, participants suffering from PND may present elevated parental stress levels and increased scores of perceived social support received from the online community, rather than family and friends.

Please contact the researcher if you have any questions regarding the study.

Thank you for taking part in the project!

Please leave your email address if you are interested in receiving further updates about the outcomes of the study ……..

Please leave your email address if you are interested in receiving information regarding the second part of the study which will include one-to-one (face to face or telephone/ Skype) interviews and if you might possibly want to take part …….

Useful contact details:

Principal Investigator: Iris-Anda Ilies

Email: Iris-Anda.Ilies@mail.bcu.ac.uk

Supervisor: Dr Emily Coyne-Umfreville

Email: emily.coyne-umfreville@bcu.ac.uk

Appendix H – Debriefing Information Study 3

Although mental health conditions associated with the postnatal period have generally been linked to mothers, recent research has indicated that fathers can be negatively impacted as well, suggesting the existence of paternal postnatal depression (PPND). Studies have

shown that around 5-10% of fathers struggle with PPND (e.g. Cameron et al., 2016), the symptoms including low mood, guilt, fatigue, anger, inability of bonding with the infant or feelings of helplessness due to perceived inability in providing support for the partner (Letourneau et al., 2011). There is a need of further exploration of paternal experiences in the postnatal period, in terms of thoughts, feelings and attitudes of fathers regarding their parenting role, as well as the offline and online support available for them.

This research study aimed to investigate whether there are any group differences in terms online behaviours and perceived social support between fathers who display symptoms of postnatal depression (PND) and controls who do not meet the clinical cut-off.

It is expected that participants who scored higher on the Edinburgh Postnatal Depression scale would display higher levels of social media use, compared to non-depressed participants. It is also anticipated that fathers who did not show significant depressive symptoms to indicate a higher perceived social support coming from family, friends and significant other. In comparison, participants suffering from PND symptoms may present reduced levels of perceived social support coming from family and friends and an increased preference in support received from the online community.

Please contact the researcher if you have any questions regarding the study.

Thank you for taking part in the project!

Please leave your email address if you are interested in receiving further updates about the outcomes of the study ……..

Please leave your email address if you are interested in receiving information regarding the second part of the study which will include one-to-one (face to face or telephone/ Skype) interviews and if you might possibly want to take part ……

Useful contact details:

Principal Investigator: Iris-Anda Ilies

Email: Iris-Anda.Ilies@mail.bcu.ac.uk

Supervisor: Dr Emily Coyne-Umfreville

Email: emily.coyne-umfreville@bcu.ac.uk

Please take advantage of the following support contacts in case you are struggling with any of the issues mentioned previously.

National Childbirth Trust (0300 330 0700) - practical and emotional support in all areas of pregnancy, birth and early parenthood;

Mind (0300 123 3393) - information on a range of mental health topics;

Samaritans (116 123) - charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide;

NHS direct (111) - helpline service for urgent medical concerns.

Appendix I- Recruitment poster Study 1

MOTHERS NEEDED FOR RESEARCH STUDY

Hello! My name is Iris Ilies, I am a PhD researcher at Birmingham City University in Birmingham UK and I am looking for participants to take part in my study.

Exploring THOUGHTS, PERSPECTIVES and CHALLENGES of mothers during the FIRST-YEAR period after giving birth and providing information on the use of SOCIAL MEDIA as a support platform.

IF you have at least one child who is UNDER 1 year old and was born at least 35 weeks gestation, please do take part! It would be much appreciated.

The study is formed of a series of short questionnaires which will take around 20-30 minutes to complete and the data is confidential and anonymous.

Please use the link attached or scan the QR code to take part in the study. THANK YOU!
https://blss.eu.qualtrics.com/jfe/form/SV_1GPqsTza8clHSdL

Contact: Iris-Anda Ilies
Birmingham City University
Email: iris-anda.ilies@mail.bcu.ac.uk

Appendix J- Ethical Approval letters

BIRMINGHAM CITY University

Faculty of Business, Law & Social Sciences Research Office

Birmingham City University
Curzon Building
4 Cardigan Street
Birmingham
B4 7BD
BLSSethics@bcu.ac.uk

26th March 2018

Iris-Anda Ilies
Iris-Anda.Ilies@mail.bcu.ac.uk

Dear Iris-Anda,

Re: Ilies #013.18 – "Social Support Network: Use of Social Media in Postnatal Depression"

Thank you for your application and documentation regarding the above activity. I am pleased to take Chair's Action and approve the activity which means you may begin.

I can also confirm that any person participating in the project is covered under the University's insurance arrangements.

Please note that ethics approval only covers your activity as it has been detailed in your ethics application. If you wish to make any changes to the activity, then you must submit an Amendment application for approval of the proposed changes.

Examples of changes include (but are not limited to) adding a new study site, a new method of participant recruitment, adding a new method of data collection and/or change of Project Lead.

Please also note that the Committee should be notified of any serious adverse effects arising as a result of this activity.

If for any reason the Committee feels that the activity is no longer ethically sound, it reserves the right to withdraw its approval. In the unlikely event of issues arising which would lead to this, you will be consulted.

Keep a copy of this letter along with the corresponding application for your records as evidence of approval.

If you have any queries, please contact BLSSethics@bcu.ac.uk

I wish you every success with your activity.

Yours Sincerely,

Kyle Brown

On behalf of the Faculty Academic Ethics Committee
Business, Law & Social Sciences

Faculty of Business, Law & Social Sciences Research Office
Curzon Building, 4 Cardigan Street
Birmingham
B4 7BD

BLSSethics@bcu.ac.uk;

06/Mar/2020

Miss Iris-Anda Ilies

iris-anda.ilies@mail.bcu.ac.uk

Dear Iris-Anda ,

Re: Ilies /4899 /R(A) /2020 /Feb /BLSS FAEC - Gender differences in postnatal depression on social media: A corpus linguistic analysis

Thank you for your application and documentation regarding the above activity. I am pleased to take Chair's Action and approve this activity.

Provided that you are granted Permission of Access by relevant parties (meeting requirements as laid out by them), you may begin your activity.

I can also confirm that any person participating in the project is covered under the University's insurance arrangements.

Please note that ethics approval only covers your activity as it has been detailed in your ethics application. If you wish to make any changes to the activity, then you must submit an Amendment application for approval of the proposed changes.

Examples of changes include (but are not limited to) adding a new study site, a new method of participant recruitment, adding a new method of data collection and/or change of Project Lead.

Please also note that the Business, Law and Social Sciences Faculty Academic Ethics Committee should be notified of any serious adverse effects arising as a result of this activity.

If for any reason the Committee feels that the activity is no longer ethically sound, it reserves the right to withdraw its approval. In the unlikely event of issues arising which would lead to this, you will be consulted.

Keep a copy of this letter along with the corresponding application for your records as evidence of approval.

If you have any queries, please contact BLSSethics@bcu.ac.uk;

I wish you every success with your activity.

Yours Sincerely,

Dr Stefania Paladini

On behalf of the Business, Law and Social Sciences Faculty Academic Ethics Committee

Appendix K- Questionnaires Study 1

DEMOGRAPHICS

1. **What is your age?**

…..

2. **What is your ethnicity?**

- White/White British
- Asian/Asian British
- Black/Black British
- Mixed
- Other…

3. **Current marital status**

- Married
- Divorced/ Separated
- Widow/er
- Single
- Other…

4. **Highest level of education**

- Primary school or less
- Some high school
- Completed high school
- Technical college qualification
- University degree
- Postgraduate degree

5. **Employment status**

- Working full time
- Working part time

- Not working
- Other…..

6. **Approximate household income……..**

7. **What is your occupation? ……**

8. **Number of children**

   ……

9. **Age of the youngest child**

   ……

10. **Gender of the youngest child**

    …..

11. **Have you been diagnosed with a psychological illness (e.g. depression, anxiety) in the past?**

- Yes
- No

12. **Have you been diagnosed with depression since you last gave birth?**

- Yes
- No

Edinburgh Postnatal Depression Scale (EPDS)

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry*, 150(6), 782-786. https://doi.org/10.1192/bjp.150.6.782

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:

- ☐ Yes, all the time
- ☒ Yes, most of the time
- ☐ No, not very often
- ☐ No, not at all

This would mean: "I have felt happy most of the time" during the past week. Please complete the other questions in the same way.

In the past 7 days:

1. **I have been able to laugh and see the funny side of things**
   - ☐ As much as I always could
   - ☐ Not quite so much now
   - ☐ Definitely not so much now
   - ☐ Not at all

2. **I have looked forward with enjoyment to things**
   - ☐ As much as I ever did
   - ☐ Rather less than I used to
   - ☐ Definitely less than I used to
   - ☐ Hardly at all

*3. **I have blamed myself unnecessarily when things went wrong**
   - ☐ Yes, most of the time
   - ☐ Yes, some of the time

- ☐ Not very often
- ☐ No, never

4. **I have been anxious or worried for no good reason**

- ☐ No, not at all
- ☐ Hardly ever
- ☐ Yes, sometimes
- ☐ Yes, very often

***5. I have felt scared or panicky for no very good reason**

- ☐ Yes, quite a lot
- ☐ Yes, sometimes
- ☐ No, not much
- ☐ No, not at all

*6. **Things have been getting on top of me**

- ☐ Yes, most of the time I haven't been able to cope at all
- ☐ Yes, sometimes I haven't been coping as well as usual
- ☐ No, most of the time I have coped quite well
- ☐ No, I have been coping as well as ever

*7. **I have been so unhappy that I have had difficulty sleeping**

- ☐ Yes, most of the time
- ☐ Yes, sometimes
- ☐ Not very often
- ☐ No, not at all

*8. **I have felt sad or miserable**

- ☐ Yes, most of the time
- ☐ Yes, quite often
- ☐ Not very often
- ☐ No, not at all

*9. **I have been so unhappy that I have been crying**

- ☐ Yes, most of the time
- ☐ Yes, quite often
- ☐ Only occasionally
- ☐ No, never

*10. **The thought of harming myself has occurred to me**

- ☐ Yes, quite often
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

The multidimensial scale of perceived social support (MSPSS)

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30-41. https://doi.org/10.1207/s15327752jpa5201_2

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the “1” if you Very Strongly Disagree
Circle the “2” if you Strongly Disagree
Circle the “3” if you Mildly Disagree
Circle the “4” if you are Neutral
Circle the “5” if you Mildly Agree
Circle the “6” if you Strongly Agree
Circle the “7” if you Very Strongly Agree

1. There is a special person who is around when I am in need. 1 2 3 4 5 6 7
2. There is a special person with whom I can share my joys and sorrows. 1 2 3 4 5 6 7
3. My family really tries to help me. 1 2 3 4 5 6 7
4. I get the emotional help and support I need from my family. 1 2 3 4 5 6 7
5. I have a special person who is a real source of comfort to me. 1 2 3 4 5 6 7
6. My friends really try to help me. 1 2 3 4 5 6 7
7. I can count on my friends when things go wrong. 1 2 3 4 5 6 7
8. I can talk about my problems with my family. 1 2 3 4 5 6 7
9. I have friends with whom I can share my joys and sorrows. 1 2 3 4 5 6 7
10. There is a special person in my life who cares about my feelings. 1 2 3 4 5 6 7
11. My family is willing to help me make decisions. 1 2 3 4 5 6 7
12. I can talk about my problems with my friends. 1 2 3 4 5 6 7

The Parental Stress Scale

Berry, J. O., & Jones, W. H. (1995). The parental stress scale: Initial psychometric evidence. *Journal of Social and Personal Relationships*, 12(3), 463-472. https://doi.org/10.1177/0265407595123009

The following statements describe feelings and perceptions about the experience of being a parent. Think of each of the items in terms of how your relationship with your child or children typically is. Please indicate the degree to which you agree or disagree with the following items by placing the appropriate number in the space provided.

1 = Strongly disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly agree

1 I am happy in my role as a parent. ☐

2 There is little or nothing I wouldn't do for my child(ren) if it was necessary. ☐

3 Caring for my child(ren) sometimes takes more time and energy than I have to give. ☐

4 I sometimes worry whether I am doing enough for my child(ren). ☐

5 I feel close to my child(ren). ☐

6 I enjoy spending time with my child(ren). ☐

7 My child(ren) is an important source of affection for me. ☐

8 . Having child(ren) gives me a more certain and optimistic view for the future. ☐

9 The major source of stress in my life is my child(ren). ☐

10 Having child(ren) leaves little time and flexibility in my life. ☐

11 Having child(ren) has been a financial burden. ☐

12 . It is difficult to balance different responsibilities because of my child(ren). ☐

13 The behaviour of my child(ren) is often embarrassing or stressful to me. ☐

14 . If I had it to do over again, I might decide not to have child(ren). ☐

15 I feel overwhelmed by the responsibility of being a parent. ☐

16 Having child(ren) has meant having too few choices and too little control over my life. ☐

17 I am satisfied as a parent. ☐

18 I find my child(ren) enjoyable. ☐

Social Media Use Integration Scale (SMUIS)

Jenkins-Guarnieri, M. A., Wright, S. L., & Johnson, B. (2013). Development and validation of a social media use integration scale. *Psychology of Popular Media Culture*, 2(1), 38-50. https://doi.org/10.1037/a0030277

Please indicate how much you agree or disagree with the following statements.

1- Strongly disagree
2- Somewhat disagree
3- Disagree
4- Agree
5- Somewhat agree
6- Strongly agree

1 I feel disconnected from friends when I have not logged into social media 1 2 3 4 5 6
2 I would like it if everyone used social media to communicate. 1 2 3 4 5 6
3 I would be disappointed if I could not use social media at all. 1 2 3 4 5 6
4 I get upset when I can't log on to social media. 1 2 3 4 5 6
5 I prefer to communicate with others mainly through social media. 1 2 3 4 5 6
6 Social media plays an important role in my social relationships. 1 2 3 4 5 6
7 I enjoy checking my social media accounts. 1 2 3 4 5 6
8 I don't like to use social media. 1 2 3 4 5 6
9 Using social media is part of my everyday routine. 1 2 3 4 5 6
10 I respond to content that others share using social media. 1 2 3 4 5 6

Social comparisons

"I compare myself to other parents that I have seen on social networking sites"

1- Strongly disagree
2- Disagree
3- Neither agree not disagree
4- Agree
5- Strongly agree

Online social support (based on MSPSS)

- I gain a lot of support from friends and others online
  1- Strongly disagree
  2- Disagree
  3- Neither disagree nor agree
  4- Agree
  5- Strongly agree
- When facing difficult situations I am likely to talk about it (to friends) online
- My online friends and communities genuinely care about me or try to help me
- When facing difficult situations I am more likely to talk about it online than with others face-to-face

- **Frequency of social media use**

  How often do you engage in social media activity?

  1- Weekly
  2- Once a day
  3- Several times a day

Appendix L- Questionnaires Study 3

Demographics

1.What is your age?

….

2.What is your ethnicity?

- White
- Black
- Asian
- Mixed
- Other

3.Current marital status

- Married
- Divorced/ Separated
- Widow/er
- Single
- Other…

4. Highest level of education

- Primary school or less
- Some high school
- Completed high school
- Technical college qualification
- University degree
- Postgraduate degree

5. Employment status

- Working full time
- Working part time
- Not working
- Paternity leave ?

7. Number of children

- 1
- 2-3
- More than 3

8. Age of youngest child

- Under 3 months
- 3-6 months
- 6-12 months

9. Gender of youngest child

- Male
- Female

10. Have you been diagnosed with depression since your partner last gave birth?

- Yes
- No

11. Has your partner been diagnosed with depression since she last gave birth?

- Yes
- No
- I don’t know

12. Have you suffered from any psychological issues (e.g. depression, anxiety etc.) in the past?

- Yes
- No

13. Have you ever used social media (e.g. Facebook, Instagram, Twitter, Youtube, forums etc.) as a source for parenting support, information or advice?

- Yes
- No (end the questionnaire)

14. Please select the social media source(s) that you have mostly used for parenting support, information or advice. (SM_Platform)

- Facebook
- Instagram
- Twitter
- Parenting websites
- Parenting blogs
- Parenting forums
- YouTube
- Others:

15. Please select the main reasons for using social media as a source for parenting support, information or advice. (Rationale_SM)

1. Search for specific parenting information. (R_SpecificInfo)
2. Get general parenting advice. (R_GeneralAdvice)
3. Get recommendations about other things. (R_Recommendations)
4. Get ideas about how to handle different behaviours. (R_IdeasBehaviours)
5. Opportunity to share positive experiences (R_SharePositiveExperiences)
6. Opportunity to vent/share difficulties (R_ShareDifficulties)
7. Makes me feel connected (R_Connection)
8. Buy certain items (R_BuyingItems)
9. Social support and encouragement (R_SupportEncouragement)
10. Links to other sites for reliable information (R_LinksOtherSites)
11. Get recommendation on where to get help (R_RecommendationsHelp)

12. It’s enjoyable (R_Enjoyment)
13. I enjoy talking to other adults during the day (R_Communication)
14. It makes me feel more confident about parenting (R_ParentalConfidence)
15. It makes me feel good about myself (R_SelfConfidence)
16. Distraction from daily responsibilities (R_Distraction)
17. Helps to keep an eye on children and their friends (R_CheckChildren)
18. Others: (R_Others)

Edinburgh Postnatal Depression Scale (EPDS)

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry*, 150(6), 782-786. https://doi.org/10.1192/bjp.150.6.782

As your partner has recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:

- ☐ Yes, all the time
- ☒ Yes, most of the time
- ☐ No, not very often
- ☐ No, not at all

This would mean: “I have felt happy most of the time” during the past week. Please complete the other questions in the same way.

In the past 7 days:

1. I have been able to laugh and see the funny side of things

- ☐ As much as I always could
- ☐ Not quite so much now
- ☐ Definitely not so much now
- ☐ Not at all

2. I have looked forward with enjoyment to things

- ☐ As much as I ever did
- ☐ Rather less than I used to
- ☐ Definitely less than I used to
- ☐ Hardly at all

*3. I have blamed myself unnecessarily when things went wrong

- ☐ Yes, most of the time
- ☐ Yes, some of the time
- ☐ Not very often
- ☐ No, never

4. I have been anxious or worried for no good reason

- ☐ No, not at all
- ☐ Hardly ever
- ☐ Yes, sometimes
- ☐ Yes, very often

*5. I have felt scared or panicky for no very good reason

- ☐ Yes, quite a lot
- ☐ Yes, sometimes
- ☐ No, not much
- ☐ No, not at all

*6. Things have been getting on top of me

- ☐ Yes, most of the time I haven't been able to cope at all
- ☐ Yes, sometimes I haven't been coping as well as usual
- ☐ No, most of the time I have coped quite well
- ☐ No, I have been coping as well as ever

*7. I have been so unhappy that I have had difficulty sleeping

- ☐ Yes, most of the time
- ☐ Yes, sometimes
- ☐ Not very often
- ☐ No, not at all

*8. I have felt sad or miserable

- ☐ Yes, most of the time
- ☐ Yes, quite often
- ☐ Not very often
- ☐ No, not at all

*9. I have been so unhappy that I have been crying

- ☐ Yes, most of the time
- ☐ Yes, quite often
- ☐ Only occasionally
- ☐ No, never

*10. The thought of harming myself has occurred to me

- ☐ Yes, quite often
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

Social Media Use Integration Scale (SMUIS)

Jenkins-Guarnieri, M. A., Wright, S. L., & Johnson, B. (2013). Development and validation of a social media use integration scale. *Psychology of Popular Media Culture*, 2(1), 38-50. https://doi.org/10.1037/a0030277

Please indicate how much you agree or disagree with the following statements.

7- Strongly disagree
8- Somewhat disagree
9- Disagree
10- Agree
11- Somewhat agree
12- Strongly agree

1 I feel disconnected from friends when I have not logged into social media 1 2 3 4 5 6
2 I would like it if everyone used social media to communicate. 1 2 3 4 5 6
3 I would be disappointed if I could not use social media at all. 1 2 3 4 5 6
4 I get upset when I can't log on to social media. 1 2 3 4 5 6
5 I prefer to communicate with others mainly through social media. 1 2 3 4 5 6
6 Social media plays an important role in my social relationships. 1 2 3 4 5 6
7 I enjoy checking my social media accounts. 1 2 3 4 5 6
8 I don't like to use social media. 1 2 3 4 5 6
9 Using social media is part of my everyday routine. 1 2 3 4 5 6
10 I respond to content that others share using social media. 1 2 3 4 5 6

The Multidimensional Scale of Perceived Social Support (MSPSS)

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30-41. https://doi.org/10.1207/s15327752jpa5201_2

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the “1” if you Very Strongly Disagree
Circle the “2” if you Strongly Disagree
Circle the “3” if you Mildly Disagree
Circle the “4” if you are Neutral
Circle the “5” if you Mildly Agree
Circle the “6” if you Strongly Agree
Circle the “7” if you Very Strongly Agree

1. There is a special person who is around when I am in need. 1 2 3 4 5 6 7
2. There is a special person with whom I can share my joys and sorrows. 1 2 3 4 5 6 7
3. My family really tries to help me. 1 2 3 4 5 6 7
4. I get the emotional help and support I need from my family. 1 2 3 4 5 6 7
5. I have a special person who is a real source of comfort to me. 1 2 3 4 5 6 7
6. My friends really try to help me. 1 2 3 4 5 6 7
7. I can count on my friends when things go wrong. 1 2 3 4 5 6 7
8. I can talk about my problems with my family. 1 2 3 4 5 6 7
9. I have friends with whom I can share my joys and sorrows. 1 2 3 4 5 6 7
10. There is a special person in my life who cares about my feelings. 1 2 3 4 5 6 7
11. My family is willing to help me make decisions. 1 2 3 4 5 6 7
12. I can talk about my problems with my friends. 1 2 3 4 5 6 7

- Online social support (based on MSPSS)
    - I gain a lot of support from friends and others online
    - When facing difficult situations I am likely to talk about it (to friends) online
    - My online friends and communities genuinely care about me or try to help me
    - When facing difficult situations I am more likely to talk about it online than with others face-to-face

Appendix M- Interview Schedule Study 2

1. How have you been feeling since giving birth?
    a. Thoughts, feelings, happy/difficult moments

   b. Ways of coping with the difficult moments
   c. Has having a baby influenced your life/ relationships in any way? How?
   d. Explore relationship with baby/ partner/ family & friends
2. Types of support received
   a. Who was there to support you during/after childbirth?
   b. Do you find yourself looking for support online?
   c. Do you prefer asking for support from health professionals, family, friends or online community? Why?
3. Use of social media/ the internet
   a. What platforms (e.g. social networking sites- Facebook, Instagram etc., blogs, forums, parenting websites etc)
   b. Frequency
   c. Reasons for using social media (e.g. support/ advice, parenting information, entertainment/relaxation, keeping in touch with family &friends)
4. Positive/ negative thoughts regarding social media use
   a. How do you feel about the online support for parents?
   b. How do you feel after using social media? (anonymity; sense of competition; "bad" vs" good" mother; social comparisons)
5. Is there anything that you feel would improve your online experience in terms of parenting support?

Appendix N- Interview Schedule Study 4

Use of social media in the postnatal period among fathers

1. Information about yourself: how old are you, how many children you have and their age, living situation (living with partner, baby?)
2. How has it been for you since you've had the baby?
    a. Thoughts, feelings, happy/difficult moments/challenges, first reaction to having a baby (describe your feelings and thoughts)
    b. Expectations? Worries? Things you were looking forward to?
    c. Ways of coping with difficult moments
    d. Difference between feelings right after childbirth and now
    e. What changes happened after having a baby, if any? How prepared did you feel for this?
3. Has the relationship between you and your partner changed since the baby? How?
4. Have you ever compared yours and your partner's parenting abilities/knowledge? If yes, in what way?
5. How do you feel about your abilities and knowledge as a father?
6. Relationship between you and baby/ bonding/ did you feel that you were supposed to feel in a certain way?
7. How do you feel about your involvement as a father? (you do enough, you could do more,,,)
8. Do you think there's any specific expectations for fathers compared to mothers? (working- financial responsibility, staying "strong" etc.)
9. Did becoming a father make any changes on you as a person? (views on gender roles etc). Examples
10. What do you think about the support and information provided for fathers? (support from family/ health professionals) (some fathers feel neglected ..)
11. Do you find yourself looking for information or support online?
    a. What platforms
    b. When, how often, for how long
    c. Reasons for using internet for parenting info/advice
    d. Ways of interacting online (do you communicate with other dads/parents? Asking questions? How-practical advice, reassurance, encourage to seek professional help? level of engagement, active/passive participation, etc.; posting pictures of baby/family)
12. Do you prefer asking for support from health professionals, family, friends or the internet? Why?

13. Any moments when you'd rather go online to seek support rather than ask someone else like family/health professional?...
14. Positive/negative thoughts regarding social media use
    a. Advantages and disadvantages of using social media/the internet
    b. Does using social media/the internet have an impact on your mood/confidence as a father etc?
    c. Have you ever felt pressured to do something in a certain way because of what you saw on social media? (Pressure to present a certain image on social media)
    d. Why wouldn't people post about the more difficult aspects of parenthood online?
    e. Have you ever compared yourself with other parents online?
    f. Have you ever posted something on social media that was different to how you were actually feeling? Example?
    g. Has the way in which you use social media/the internet changed from when you've just had the baby to now?
    h. How do you feel about the online support available for fathers? Anything missing?
15. Is there anything that you feel would improve your online experience in terms of parenting support?
16. We've covered everything, is there anything else you'd like to add?

Appendix O- SPSS Output Study 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	206	18	43	31.38	5.306
Valid N (listwise)	206				

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White/White British	190	92.2	92.2	92.2
	Asian/Asian British	3	1.5	1.5	93.7
	Black/Black British	1	.5	.5	94.2
	Mixed	4	1.9	1.9	96.1
	Other	8	3.9	3.9	100.0
	Total	206	100.0	100.0	

MaritalStatus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	150	72.8	72.8	72.8
	Divorced/ Separated	6	2.9	2.9	75.7
	Single	18	8.7	8.7	84.5
	Other	32	15.5	15.5	100.0
	Total	206	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some high school	3	1.5	1.5	1.5
	Completed high school	32	15.5	15.5	17.0
	Technical college qualification	18	8.7	8.7	25.7
	University degree	80	38.8	38.8	64.6
	Postgraduate degree	73	35.4	35.4	100.0
	Total	206	100.0	100.0	

Employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Working full time	103	50.0	50.0	50.0
	Working part time	47	22.8	22.8	72.8
	Not working	41	19.9	19.9	92.7
	Other	15	7.3	7.3	100.0
	Total	206	100.0	100.0	

NumberChildren

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One	134	65.0	65.0	65.0
	Two-Three	70	34.0	34.0	99.0
	More than three	2	1.0	1.0	100.0
	Total	206	100.0	100.0	

Age youngest child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under three months	37	18.0	18.0	18.0
	Three-six months	91	44.2	44.2	62.1
	Seven-twelve months	78	37.9	37.9	100.0
	Total	206	100.0	100.0	

Past Illness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	92	44.7	44.7	44.7
	No	114	55.3	55.3	100.0
	Total	206	100.0	100.0	

Current PND diagnosis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	33	16.0	16.0	16.0
	No	173	84.0	84.0	100.0
	Total	206	100.0	100.0	

PND Risk level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	106	51.5	51.5	51.5
	2.00	100	48.5	48.5	100.0

Total	206	100.0	100.0	

Descriptives

	PNDRiskUpdated			Statistic	Std. Error
COMPARISON1	<=9	Mean		3.17	.103
		95% Confidence Interval for Mean	Lower Bound	2.96	
			Upper Bound	3.37	
		5% Trimmed Mean		3.19	
		Median		3.00	
		Variance		1.133	
		Std. Deviation		1.064	
		Minimum		1	
		Maximum		5	
		Range		4	
		Interquartile Range		2	
		Skewness		-.395	.235
		Kurtosis		-.803	.465
	10+	Mean		3.52	.125
		95% Confidence Interval for Mean	Lower Bound	3.27	
			Upper Bound	3.77	
		5% Trimmed Mean		3.58	
		Median		4.00	
		Variance		1.565	
		Std. Deviation		1.251	
		Minimum		1	
		Maximum		5	

		Range		4	
		Interquartile Range		3	
		Skewness		-.473	.241
		Kurtosis		-.876	.478
FREQUENCY	<=9	Mean		2.73	.055
		95% Confidence Interval for Mean	Lower Bound	2.62	
			Upper Bound	2.83	
		5% Trimmed Mean		2.81	
		Median		3.00	
		Variance		.315	
		Std. Deviation		.561	
		Minimum		1	
		Maximum		3	
		Range		2	
		Interquartile Range		0	
		Skewness		-1.960	.235
		Kurtosis		2.861	.465
	10+	Mean		2.77	.049
		95% Confidence Interval for Mean	Lower Bound	2.67	
			Upper Bound	2.87	
		5% Trimmed Mean		2.83	
		Median		3.00	
		Variance		.239	
		Std. Deviation		.489	
		Minimum		1	
		Maximum		3	
		Range		2	
		Interquartile Range		0	

		Skewness		-2.060	.241
		Kurtosis		3.576	.478
EPDSTotal	<=9	Mean		5.3679	.22958
		95% Confidence Interval for Mean	Lower Bound	4.9127	
			Upper Bound	5.8231	
		5% Trimmed Mean		5.4057	
		Median		5.0000	
		Variance		5.587	
		Std. Deviation		2.36372	
		Minimum		1.00	
		Maximum		9.00	
		Range		8.00	
		Interquartile Range		4.00	
		Skewness		-.054	.235
		Kurtosis		-1.036	.465
	10+	Mean		15.0000	.38951
		95% Confidence Interval for Mean	Lower Bound	14.2271	
			Upper Bound	15.7729	
		5% Trimmed Mean		14.7222	
		Median		14.0000	
		Variance		15.172	
		Std. Deviation		3.89509	
		Minimum		10.00	
		Maximum		26.00	
		Range		16.00	
		Interquartile Range		5.00	
		Skewness		.951	.241
		Kurtosis		.387	.478

MSPSSTotal	<=9	Mean		5.9654	.06895
		95% Confidence Interval for Mean	Lower Bound	5.8287	
			Upper Bound	6.1021	
		5% Trimmed Mean		6.0100	
		Median		6.1250	
		Variance		.504	
		Std. Deviation		.70989	
		Minimum		3.67	
		Maximum		7.00	
		Range		3.33	
		Interquartile Range		.85	
		Skewness		-.983	.235
		Kurtosis		.956	.465
	10+	Mean		5.1375	.11792
		95% Confidence Interval for Mean	Lower Bound	4.9035	
			Upper Bound	5.3715	
		5% Trimmed Mean		5.2009	
		Median		5.3750	
		Variance		1.391	
		Std. Deviation		1.17925	
		Minimum		1.00	
		Maximum		7.00	
		Range		6.00	
		Interquartile Range		1.67	
		Skewness		-.863	.241
		Kurtosis		.795	.478
PSSTotal	<=9	Mean		38.1792	.71686

		95% Confidence Interval for Mean	Lower Bound	36.7578	
			Upper Bound	39.6006	
		5% Trimmed Mean		38.1122	
		Median		39.0000	
		Variance		54.472	
		Std. Deviation		7.38054	
		Minimum		19.00	
		Maximum		59.00	
		Range		40.00	
		Interquartile Range		10.00	
		Skewness		.084	.235
		Kurtosis		.022	.465
	10+	Mean		46.9600	1.02306
		95% Confidence Interval for Mean	Lower Bound	44.9300	
			Upper Bound	48.9900	
		5% Trimmed Mean		47.0111	
		Median		47.5000	
		Variance		104.665	
		Std. Deviation		10.23059	
		Minimum		22.00	
		Maximum		70.00	
		Range		48.00	
		Interquartile Range		14.75	
		Skewness		.032	.241
		Kurtosis		-.291	.478
SMUISTotal	<=9	Mean		38.3774	.77939
		95% Confidence Interval for Mean	Lower Bound	36.8320	

			Upper Bound	39.9227	
		5% Trimmed Mean		38.2631	
		Median		38.0000	
		Variance		64.390	
		Std. Deviation		8.02431	
		Minimum		19.00	
		Maximum		57.00	
		Range		38.00	
		Interquartile Range		8.50	
		Skewness		.197	.235
		Kurtosis		-.088	.465
	10+	Mean		39.9600	.95451
		95% Confidence Interval for Mean	Lower Bound	38.0660	
			Upper Bound	41.8540	
		5% Trimmed Mean		40.2444	
		Median		41.0000	
		Variance		91.109	
		Std. Deviation		9.54513	
		Minimum		12.00	
		Maximum		60.00	
		Range		48.00	
		Interquartile Range		9.75	
		Skewness		-.469	.241
		Kurtosis		.720	.478
MSPSSOnlineTotal	<=9	Mean		2.9693	.09665
		95% Confidence Interval for Mean	Lower Bound	2.7777	
			Upper Bound	3.1610	

		5% Trimmed Mean		2.9625	
		Median		3.0000	
		Variance		.990	
		Std. Deviation		.99505	
		Minimum		1.00	
		Maximum		5.00	
		Range		4.00	
		Interquartile Range		1.50	
		Skewness		.164	.235
		Kurtosis		-.542	.465
	10+	Mean		2.9125	.09977
		95% Confidence Interval for Mean	Lower Bound	2.7145	
			Upper Bound	3.1105	
		5% Trimmed Mean		2.9139	
		Median		3.0000	
		Variance		.995	
		Std. Deviation		.99771	
		Minimum		1.00	
		Maximum		5.00	
		Range		4.00	
		Interquartile Range		1.50	
		Skewness		-.197	.241
		Kurtosis		-.531	.478

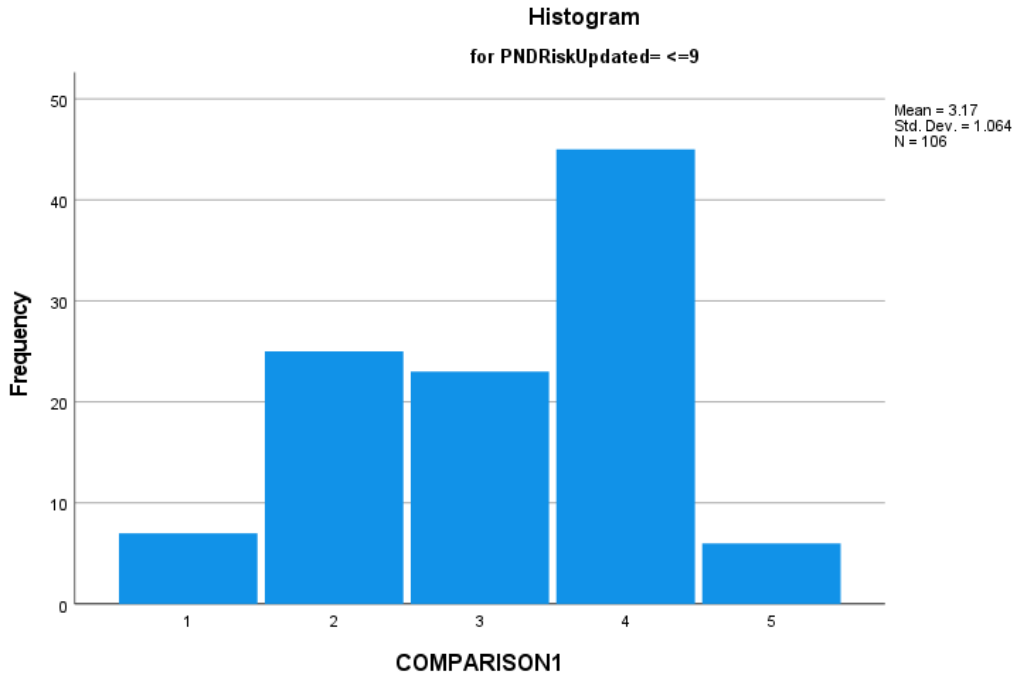
Tests of Normality

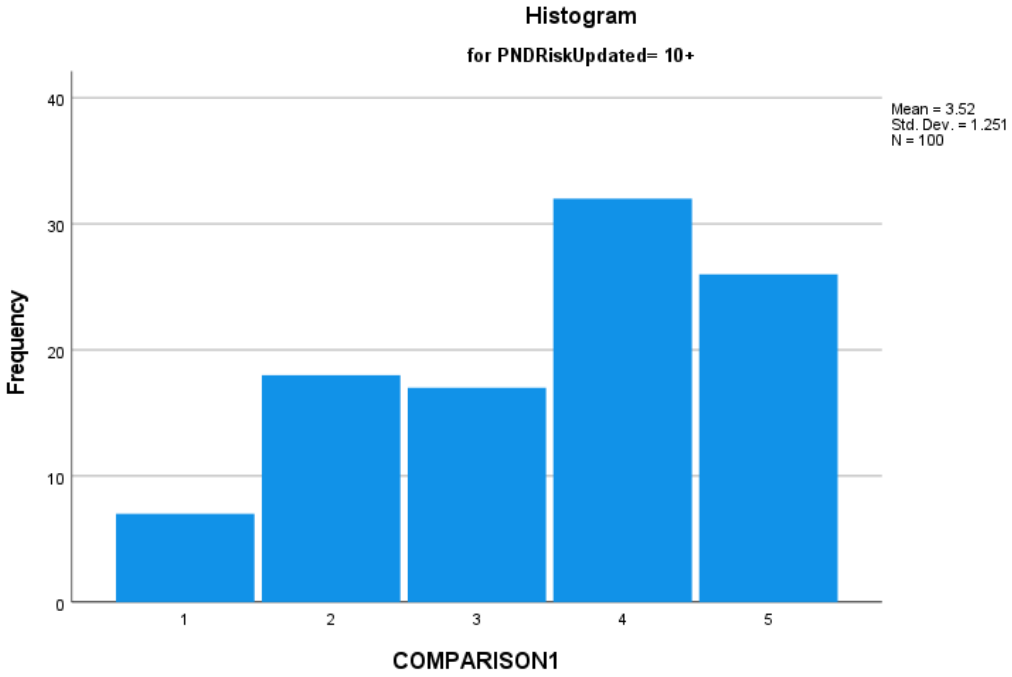
	PNDRiskUpdated	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
COMPARISON1	<=9	.263	106	<.001	.873	106	<.001

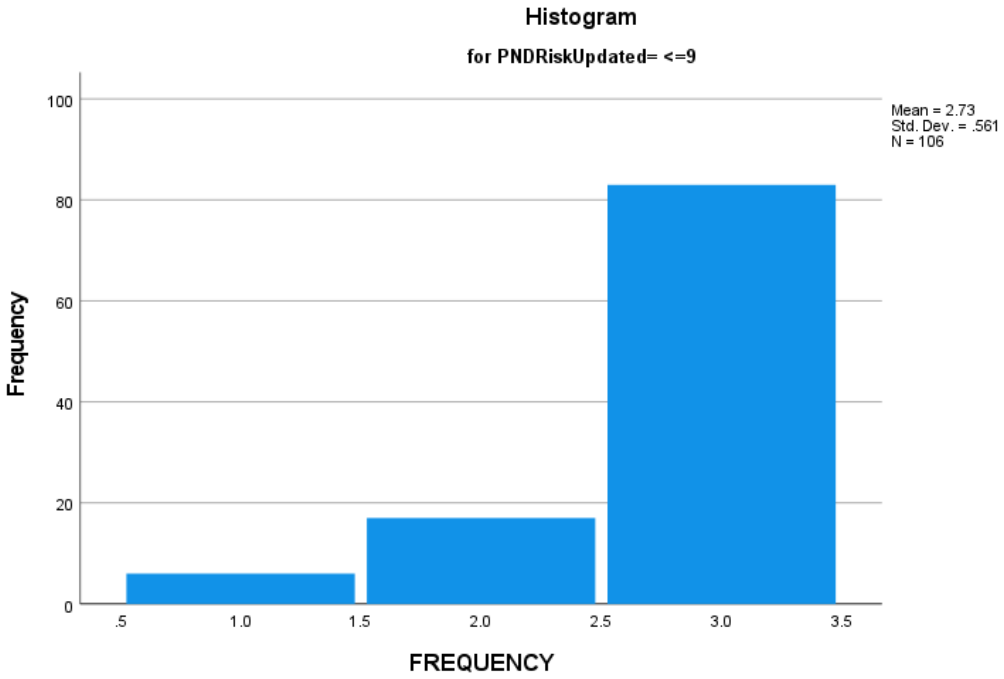
	10+	.229	100	<.001	.879	100	<.001
FREQUENCY	<=9	.470	106	<.001	.533	106	<.001
	10+	.481	100	<.001	.512	100	<.001
EPDSTotal	<=9	.122	106	<.001	.943	106	<.001
	10+	.166	100	<.001	.913	100	<.001
MSPSSTotal	<=9	.133	106	<.001	.933	106	<.001
	10+	.120	100	.001	.951	100	<.001
PSSTotal	<=9	.068	106	.200*	.992	106	.785
	10+	.076	100	.165	.990	100	.650
SMUISTotal	<=9	.081	106	.087	.986	106	.346
	10+	.100	100	.015	.971	100	.026
MSPSSOnlineTotal	<=9	.125	106	<.001	.973	106	.032
	10+	.080	100	.119	.972	100	.034

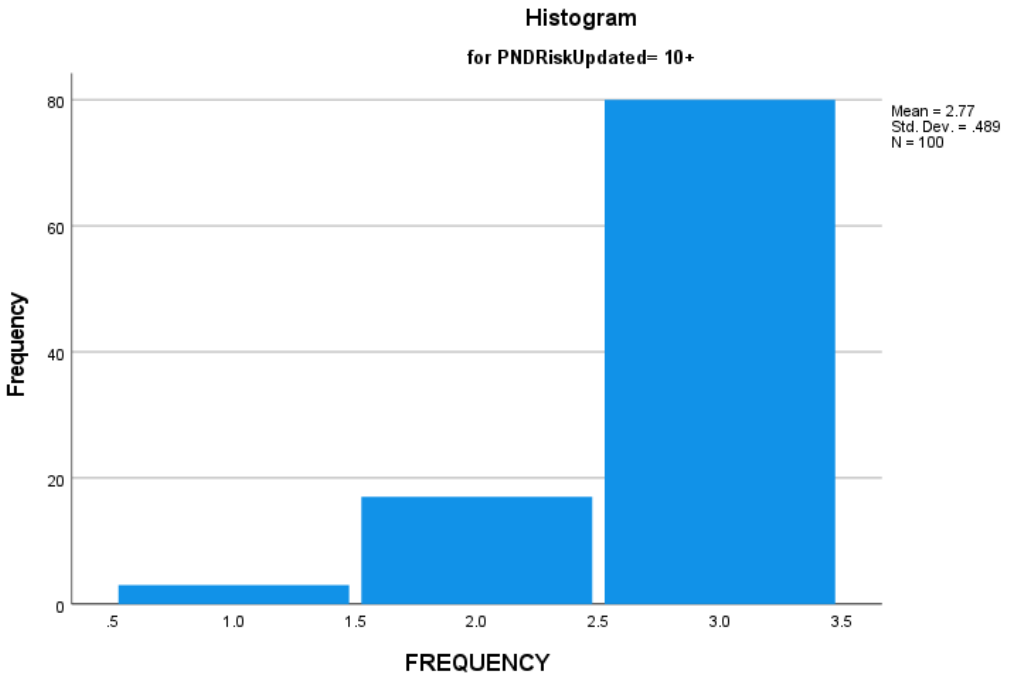
*. This is a lower bound of the true significance.

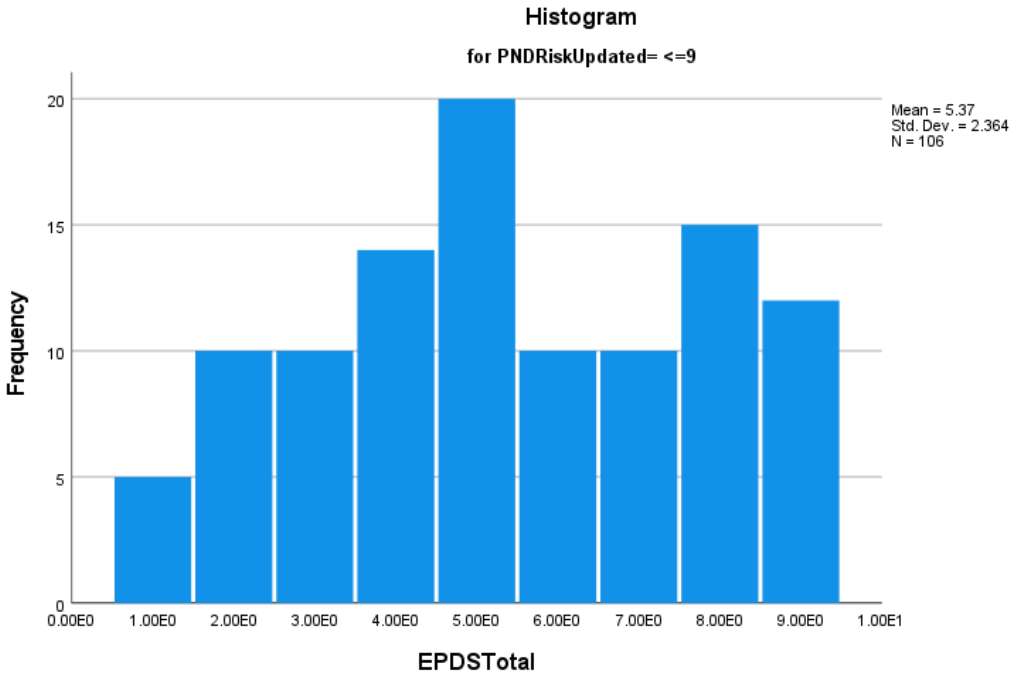
a. Lilliefors Significance Correction

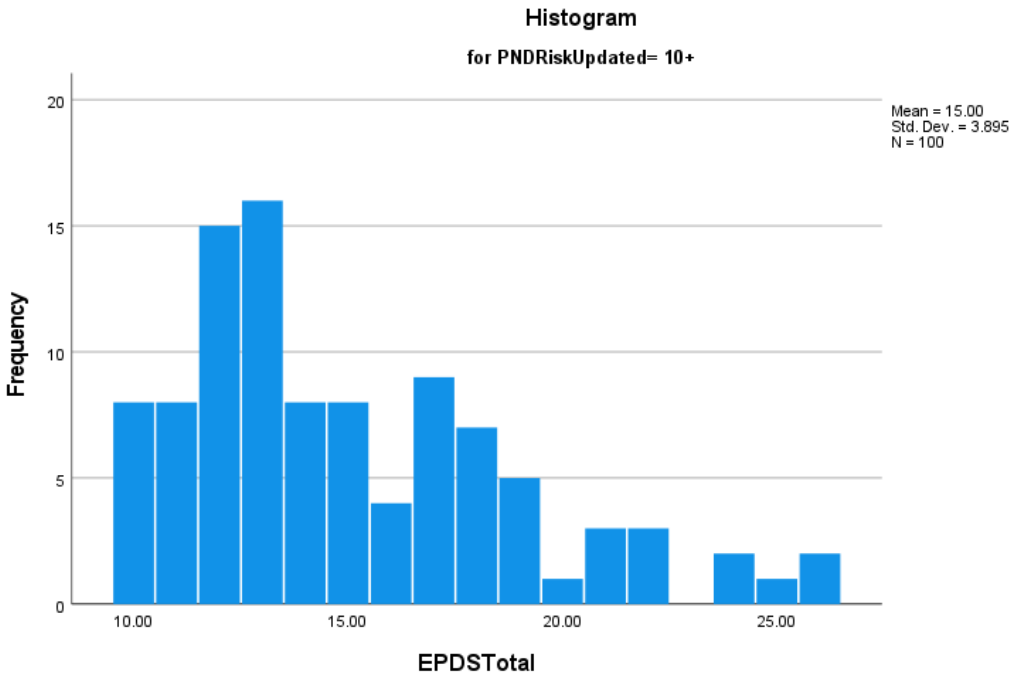


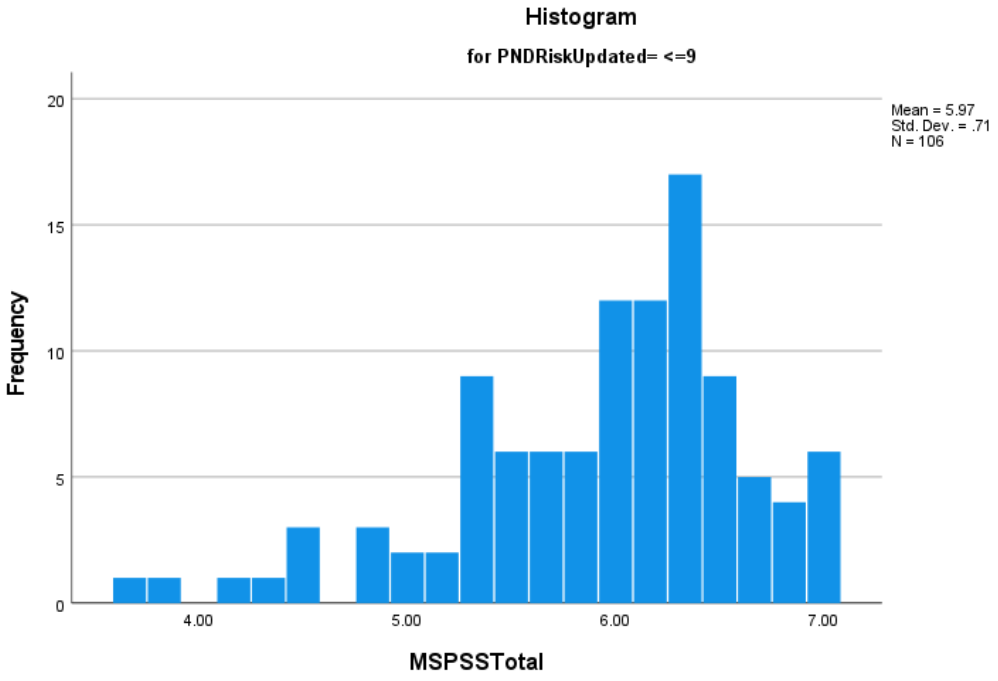

Histogram
for PNDRiskUpdated= 10+
Mean = 3.52
Std. Dev. = 1.251
N = 100
Frequency
40
30
20
10
0
1
2
3
4
5
COMPARISON1

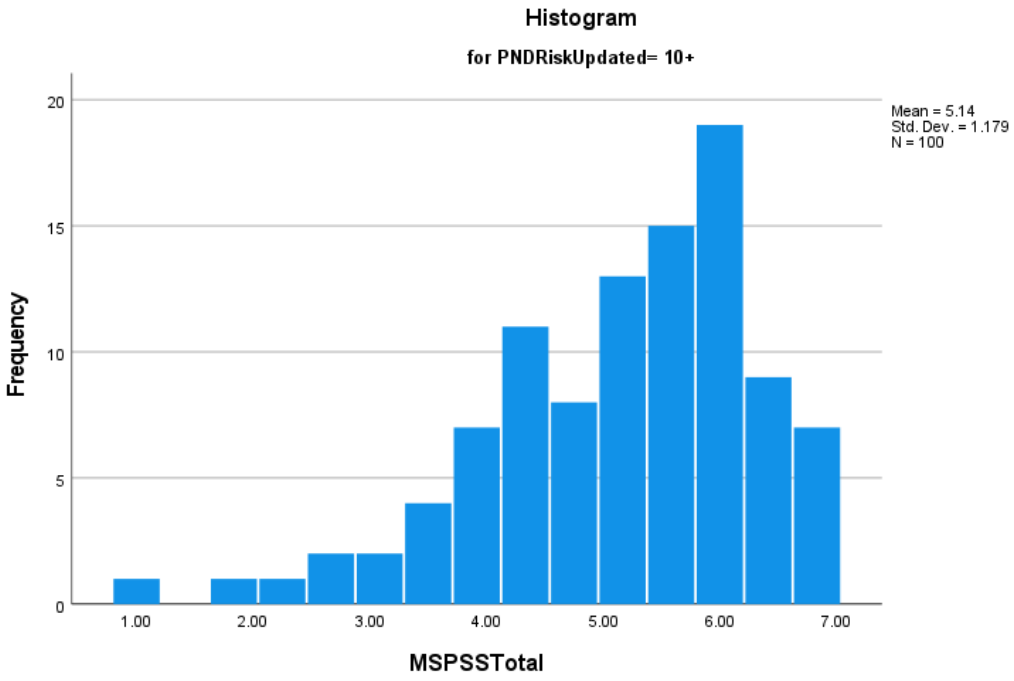

Histogram
for PNDRiskUpdated= <=9
Mean = 2.73
Std. Dev. = .561
N = 106
Frequency
100
80
60
40
20
0
.5
1.0
1.5
2.0
2.5
3.0
3.5
FREQUENCY

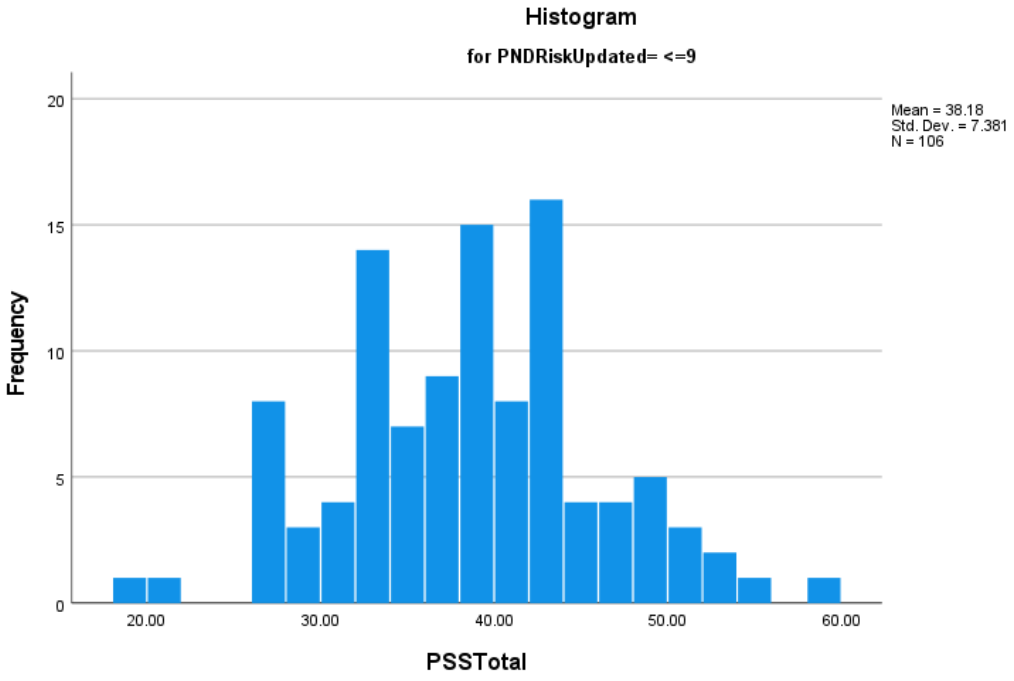

Histogram
for PNDRiskUpdated= 10+
Mean = 2.77
Std. Dev. = .489
N = 100
Frequency
80
60
40
20
0
.5
1.0
1.5
2.0
2.5
3.0
3.5
FREQUENCY

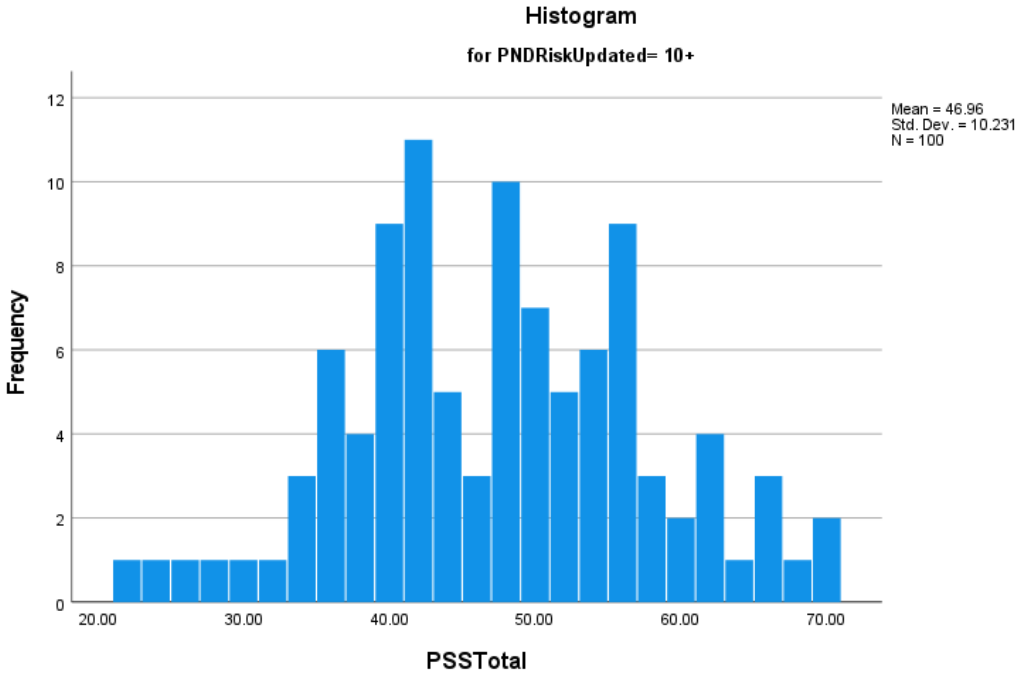

Histogram
for PNDRiskUpdated= <=9
Mean = 5.37
Std. Dev. = 2.364
N = 106
Frequency
20
15
10
5
0
0.00E0
1.00E0
2.00E0
3.00E0
4.00E0
5.00E0
6.00E0
7.00E0
8.00E0
9.00E0
1.00E1
EPDSTotal

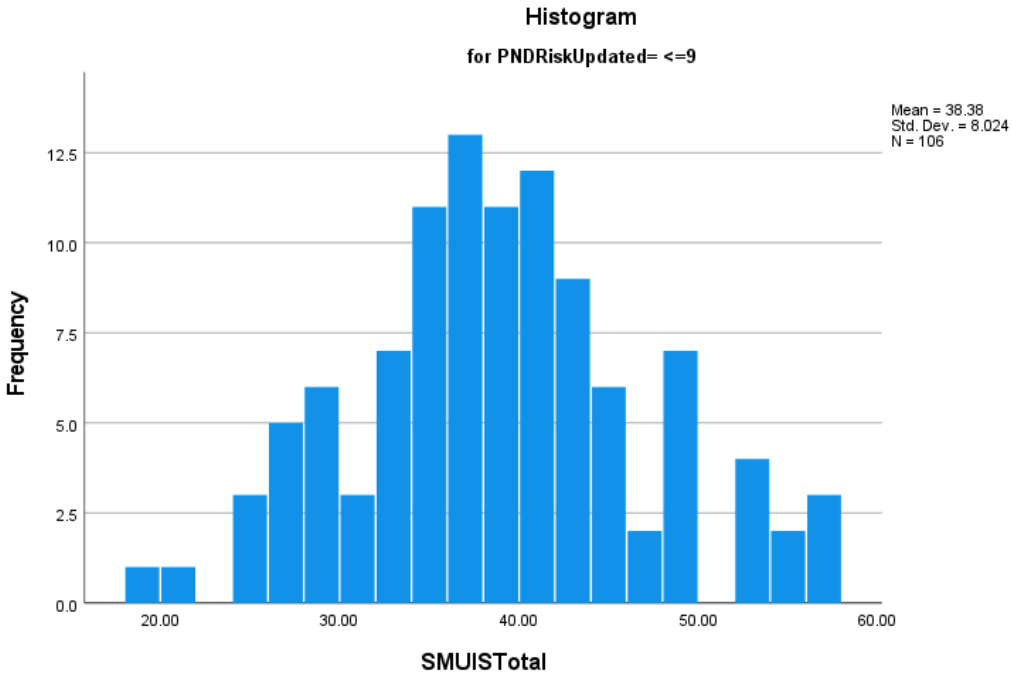

Histogram
for PNDRiskUpdated= 10+
Mean = 15.00
Std. Dev. = 3.895
N = 100
Frequency
20
15
10
5
0
10.00
15.00
20.00
25.00
EPDSTotal

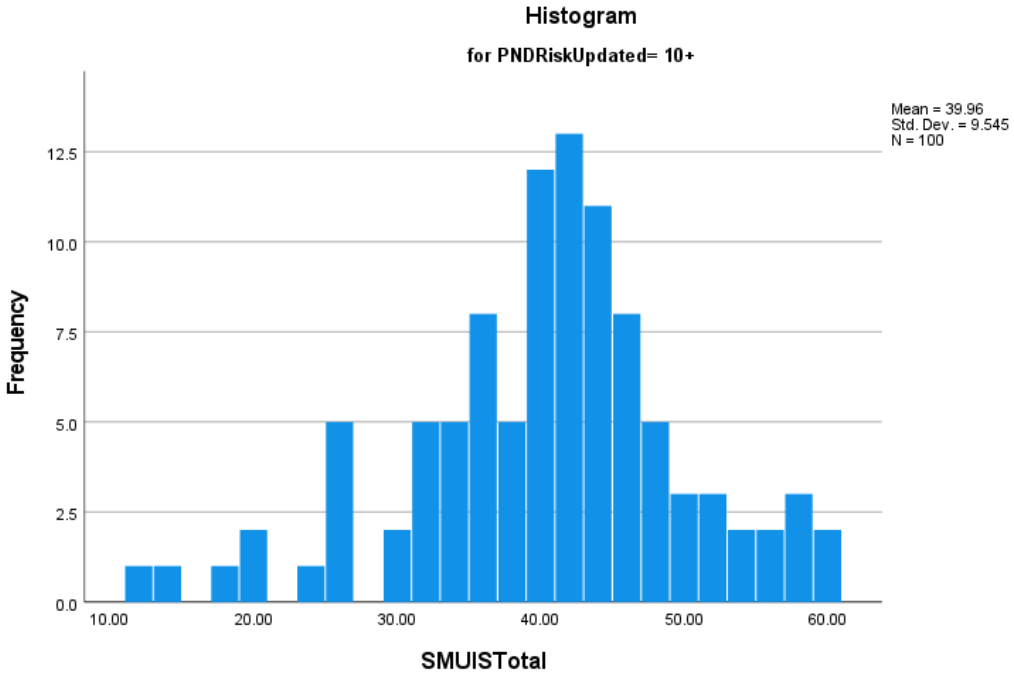

Histogram
for PNDRiskUpdated= <=9
Mean = 5.97
Std. Dev. = .71
N = 106
Frequency
20
15
10
5
0
4.00
5.00
6.00
7.00
MSPSSTotal

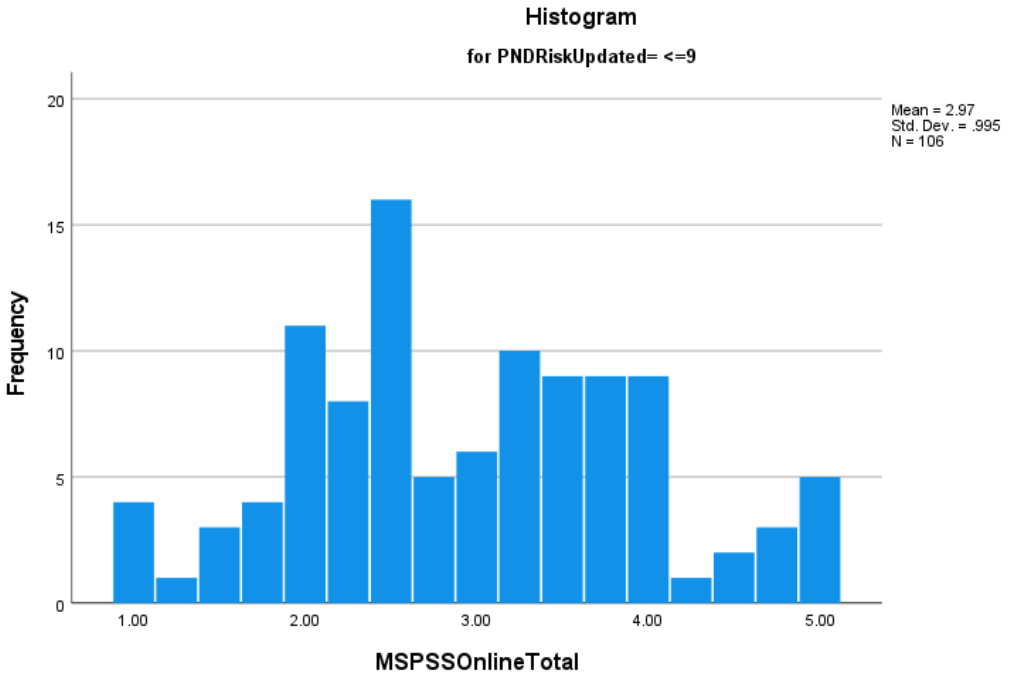

Histogram
for PNDRiskUpdated= 10+
Mean = 5.14
Std. Dev. = 1.179
N = 100
Frequency
MSPSSTotal
0
5
10
15
20
1.00
2.00
3.00
4.00
5.00
6.00
7.00

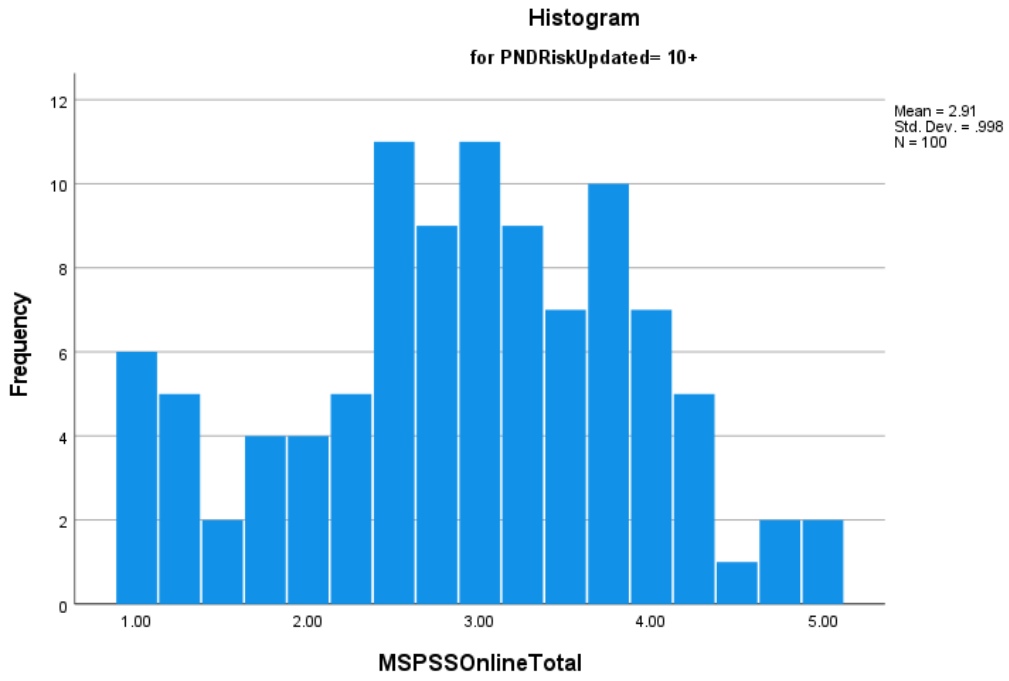

Histogram
for PNDRiskUpdated= <=9
Mean = 38.18
Std. Dev. = 7.381
N = 106
Frequency
PSSTotal
0
5
10
15
20
20.00
30.00
40.00
50.00
60.00

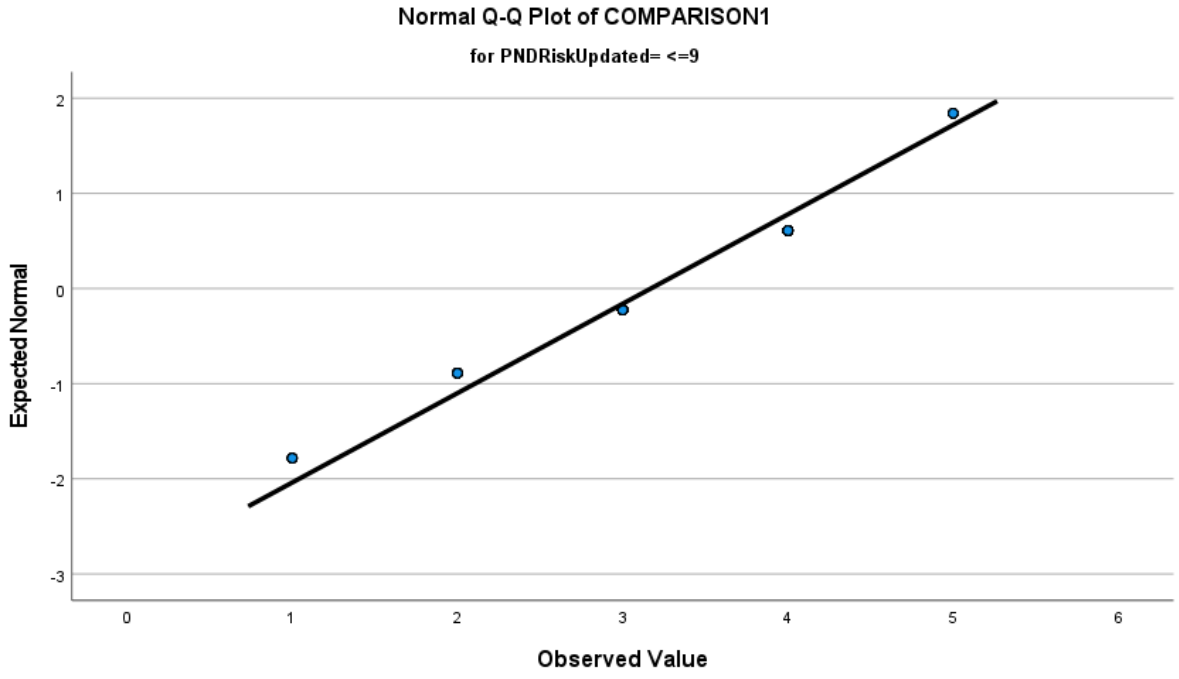

Histogram
for PNDRiskUpdated= 10+
Mean = 46.96
Std. Dev. = 10.231
N = 100
Frequency
PSSTotal

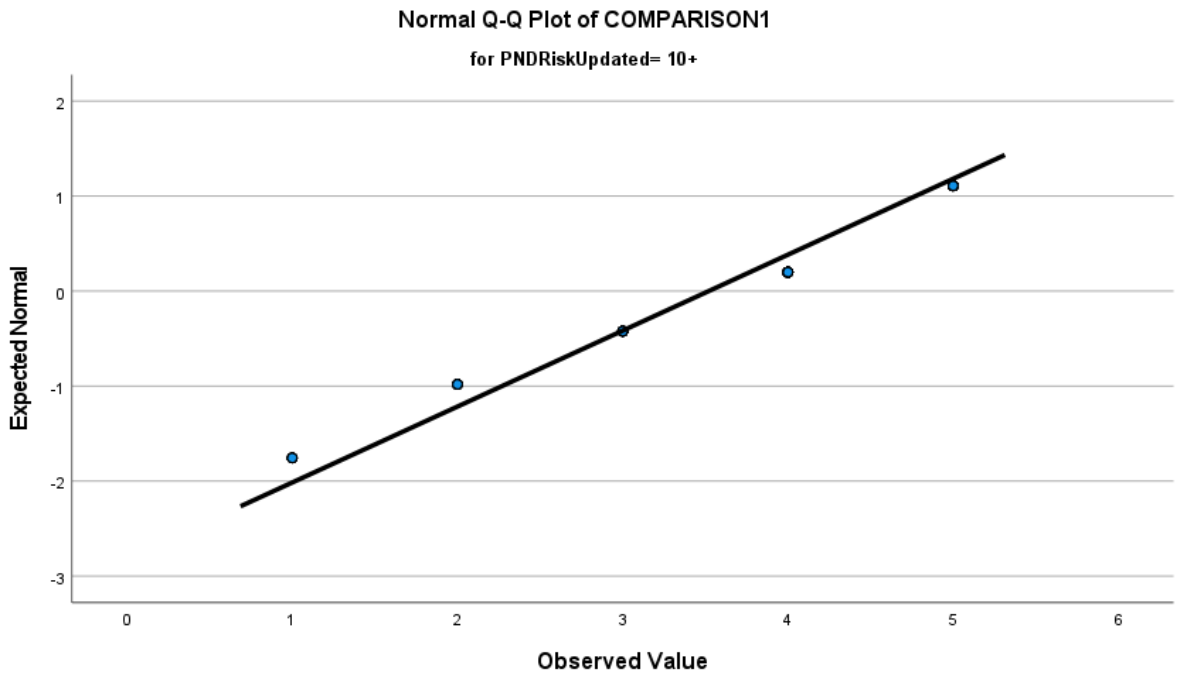

Histogram
for PNDRiskUpdated= <=9
Mean = 38.38
Std. Dev. = 8.024
N = 106
Frequency
SMUISTotal

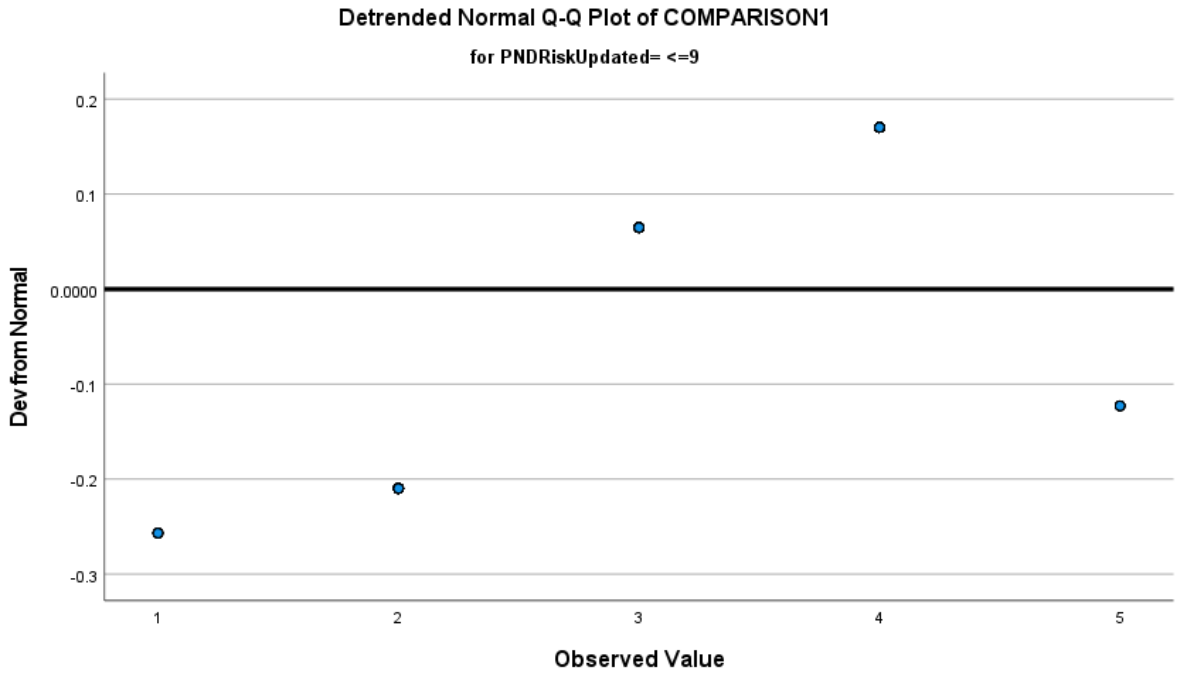

Histogram
for PNDRiskUpdated= 10+
Mean = 39.96
Std. Dev. = 9.545
N = 100
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
10.00
20.00
30.00
40.00
50.00
60.00
SMUISTotal

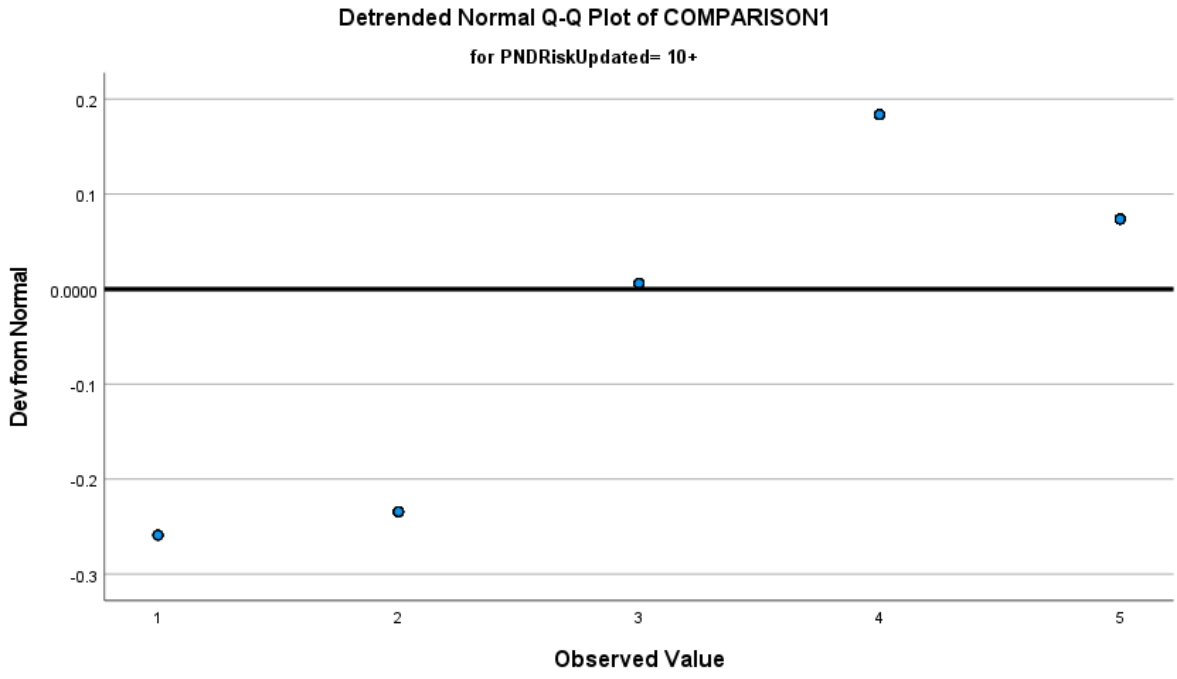

Histogram
for PNDRiskUpdated= <=9
Mean = 2.97
Std. Dev. = .995
N = 106
Frequency
20
15
10
5
0
1.00
2.00
3.00
4.00
5.00
MSPSSOnlineTotal

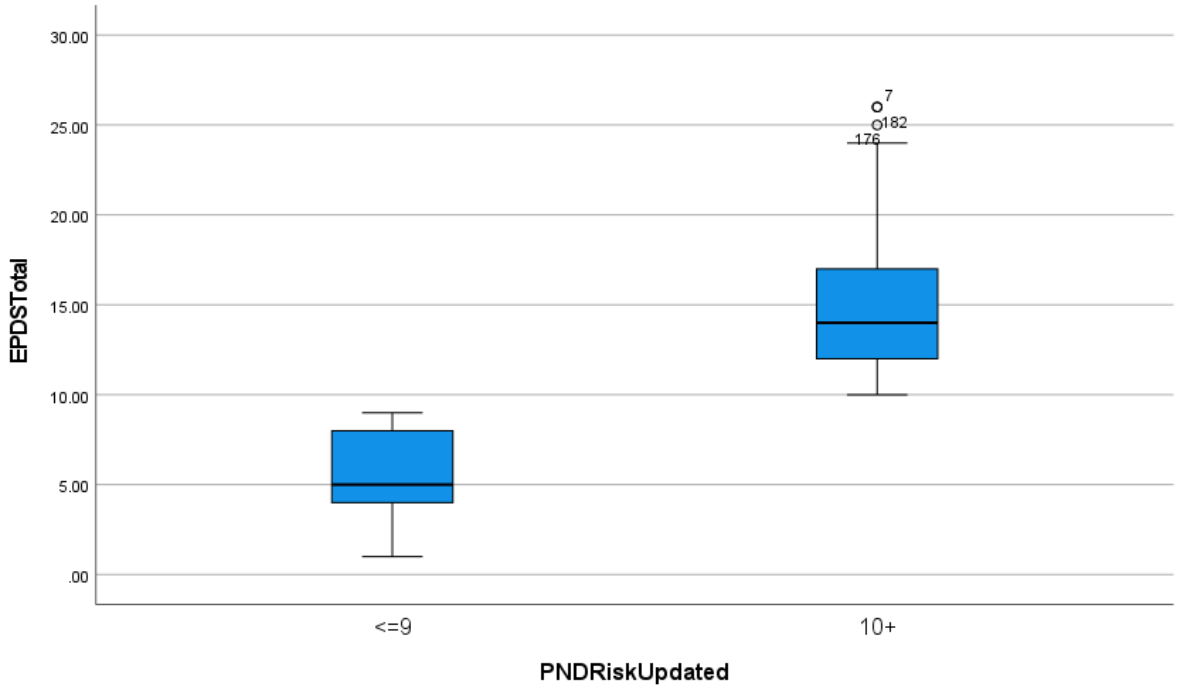

Histogram
for PNDRiskUpdated= 10+
Mean = 2.91
Std. Dev. = .998
N = 100
Frequency
MSPSSOnlineTotal


Normal Q-Q Plot of COMPARISON1
for PNDRiskUpdated= <=9
Expected Normal
Observed Value


Normal Q-Q Plot of COMPARISON1
for PNDRiskUpdated= 10+
Expected Normal
2
1
0
-1
-2
-3
0
1
2
3
4
5
6
Observed Value


Detrended Normal Q-Q Plot of COMPARISON1
for PNDRiskUpdated= <=9
Dev from Normal
0.2
0.1
0.0000
-0.1
-0.2
-0.3
1
2
3
4
5
Observed Value


Detrended Normal Q-Q Plot of COMPARISON1
for PNDRiskUpdated= 10+
Dev from Normal
0.2
0.1
0.0000
-0.1
-0.2
-0.3
1
2
3
4
5
Observed Value


EPDSTotal
30.00
25.00
20.00
15.00
10.00
5.00
.00
7
182
176
<=9
10+
PNDRiskUpdated

Scale Reliability

EPDS

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.901	.904	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.04	33.476	5.786	10

MSPSS

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.918	.920	12

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
66.76	158.650	12.596	12

PSS

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.882	.894	18

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
42.44	97.799	9.889	18

SMUIS

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.872	.872	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
39.15	77.608	8.810	10

T-Tests

Group Statistics

	Risk of PND	N	Mean	Std. Deviation	Std. Error Mean
PSSTotal	<=9	106	38.1792	7.38054	.71686
	10+	100	46.9600	10.23059	1.02306
SMUISTotal	<=9	106	38.3774	8.02431	.77939
	10+	100	39.9600	9.54513	.95451
MSPSSOnlineTotal	<=9	106	2.9693	.99505	.09665
	10+	100	2.9125	.99771	.09977
COMPARISON1	<=9	106	3.17	1.064	.103
	10+	100	3.52	1.251	.125

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
						Significance				95% Confidence Interval of the Difference
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
PSSTotal	Equal variances assumed	11.705	<.001	-7.094	204	<.001	<.001	-8.78075	1.23774	-11.22115	-6.34036
	Equal variances not assumed			-7.029	179.322	<.001	<.001	-8.78075	1.24922	-11.24581	-6.31570
SMUISTotal	Equal variances assumed	1.134	.288	-1.291	204	.099	.198	-1.58264	1.22611	-4.00011	.83483

	Equal variances not assumed			-1.284	193.795	.100	.201	-1.58264	1.23229	-4.01307	.84778
MSPSSOnlineTotal	Equal variances assumed	.092	.762	.409	204	.341	.683	.05684	.13890	-.21702	.33069
	Equal variances not assumed			.409	203.238	.341	.683	.05684	.13891	-.21704	.33072
COMPARISON1	Equal variances assumed	4.082	.045	-2.168	204	.016	.031	-.350	.162	-.669	-.032
	Equal variances not assumed			-2.158	194.742	.016	.032	-.350	.162	-.670	-.030

Non-Parametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of MSPSSTotal is the same across categories of Risk of PND.	Independent-Samples Mann-Whitney U Test	<.001	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Independent-Samples Mann-Whitney U Test Summary

Total N	206

Mann-Whitney U	2897.000
Wilcoxon W	7947.000
Test Statistic	2897.000
Standard Error	427.335
Standardized Test Statistic	-5.623
Asymptotic Sig.(2-sided test)	<.001

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of FREQUENCY is the same across categories of Risk of PND.	Independent-Samples Mann-Whitney U Test	.702	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Independent-Samples Mann-Whitney U Test Summary

Total N	206
Mann-Whitney U	5415.500
Wilcoxon W	10465.500
Test Statistic	5415.500
Standard Error	302.374
Standardized Test Statistic	.382
Asymptotic Sig.(2-sided test)	.702

Regressions- PND scores as Dependent Variable

Descriptive Statistics

	Mean	Std. Deviation	N
PND scores	10.0437	5.78586	206
FREQUENCY	2.75	.527	206
SMUISTotal	39.1456	8.80954	206
MSPSSTotal	5.5635	1.04964	206
Online Comparison scores	3.34	1.169	206
PSSTotal	42.4417	9.88934	206
MSPSSOnlineTotal	2.9417	.99432	206

Correlations

		PND scores	FREQUENCY	SMUIS Total	MSPSS Total	Online Comparison scores	PSSTotal	MSPSSOnlineTotal
Pearson Correlation	PND scores	1.000	.068	.092	-.464	.252	.533	.017
	FREQUENCY	.068	1.000	.422	-.036	.077	.005	.258
	SMUISTotal	.092	.422	1.000	-.051	.286	.065	.526
	MSPSSTotal	-.464	-.036	-.051	1.000	-.048	-.341	.031
	Online Comparison scores	.252	.077	.286	-.048	1.000	.233	.203
	PSSTotal	.533	.005	.065	-.341	.233	1.000	-.060
	MSPSSOnlineTotal	.017	.258	.526	.031	.203	-.060	1.000
Sig. (1-tailed)	PND scores	.	.167	.095	<.001	<.001	<.001	.402

	FREQUENCY	.167	.	.000	.306	.137	.474	.000
	SMUISTotal	.095	.000	.	.235	.000	.175	.000
	MSPSSTotal	.000	.306	.235	.	.244	.000	.329
	Online Comparison scores	.000	.137	.000	.244	.	.000	.002
	PSSTotal	.000	.474	.175	.000	.000	.	.195
	MSPSSOnlineTotal	.402	.000	.000	.329	.002	.195	.
N	PND scores	206	206	206	206	206	206	206
	FREQUENCY	206	206	206	206	206	206	206
	SMUISTotal	206	206	206	206	206	206	206
	MSPSSTotal	206	206	206	206	206	206	206
	Online Comparison scores	206	206	206	206	206	206	206
	PSSTotal	206	206	206	206	206	206	206
	MSPSSOnlineTotal	206	206	206	206	206	206	206

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.630[a]	.397	.379	4.56031

a. Predictors: (Constant), MSPSSOnlineTotal, MSPSSTotal, Online Comparison scores, FREQUENCY, PSSTotal, SMUISTotal

b. Dependent Variable: PND scores

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2724.124	6	454.021	21.832	<.001[b]
	Residual	4138.483	199	20.796		
	Total	6862.607	205			

a. Dependent Variable: PND scores

b. Predictors: (Constant), MSPSSOnlineTotal, MSPSSTotal, Online Comparison scores, FREQUENCY, PSSTotal, SMUISTotal

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VI
1	(Constant)	6.646	3.297		2.016	.045	.144	13.148					
	FREQUENCY	.522	.669	.047	.780	.437	-.798	1.841	.068	.055	.043	.817	1.224
	SMUISTotal	-.015	.047	-.023	-.328	.743	-.107	.077	.092	-.023	-.018	.602	1.662
	MSPSSTotal	-1.784	.323	-.324	-5.515	<.001	-2.422	-1.146	-.464	-.364	-.304	.880	1.136
	Online Comparison scores	.712	.294	.144	2.426	.016	.133	1.291	.252	.170	.134	.861	1.162
	PSSTotal	.229	.035	.392	6.472	<.001	.159	.299	.533	.417	.356	.826	1.211

	MSPSSOnlineTotal	.127	.381	.022	.334	.739	-.624	.879	.017	.024	.018	.706	1.46

a. Dependent Variable: PND scores

Regression- SMUIS scores as Dependant Variable

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.631[a]	.399	.381	6.93334

a. Predictors: (Constant), PND scores, MSPSSOnlineTotal, FREQUENCY, Online Comparison scores, MSPSSTotal, PSSTotal

b. Dependent Variable: SMUISTotal

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6343.456	6	1057.243	21.993	<.001[b]
	Residual	9566.175	199	48.071		
	Total	15909.631	205			

a. Dependent Variable: SMUISTotal

b. Predictors: (Constant), PND scores, MSPSSOnlineTotal, FREQUENCY, Online Comparison scores, MSPSSTotal, PSSTotal

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VI
1	(Constant)	10.446	5.010		2.085	.038	.568	20.325					
	FREQUENCY	5.037	.954	.301	5.280	<.001	3.156	6.919	.422	.351	.290	.929	1.07
	MSPSSTotal	-.326	.528	-.039	-.618	.537	-1.366	.714	-.051	-.044	-.034	.765	1.37
	Online Comparison scores	1.291	.444	.171	2.911	.004	.417	2.166	.286	.202	.160	.872	1.17
	PSSTotal	.043	.059	.048	.729	.467	-.074	.160	.065	.052	.040	.684	1.42
	MSPSSOnlineTotal	3.700	.517	.418	7.158	<.001	2.680	4.719	.526	.452	.393	.888	1.16
	PND scores	-.035	.108	-.023	-.328	.743	-.248	.177	.092	-.023	-.018	.603	1.67

a. Dependent Variable: SMUISTotal

Chi-Square – Frequency of social media use and Risk of PND

Risk of PND * FREQUENCY Crosstabulation

			FREQUENCY			
			Weekly	Once a day	Several times a day	Total
Risk of PND	<=9	Count	6	17	83	106
		Expected Count	4.6	17.5	83.9	106.0
		% within Risk of PND	5.7%	16.0%	78.3%	100.0%
		% within FREQUENCY	66.7%	50.0%	50.9%	51.5%
		% of Total	2.9%	8.3%	40.3%	51.5%
	10+	Count	3	17	80	100
		Expected Count	4.4	16.5	79.1	100.0
		% within Risk of PND	3.0%	17.0%	80.0%	100.0%
		% within FREQUENCY	33.3%	50.0%	49.1%	48.5%
		% of Total	1.5%	8.3%	38.8%	48.5%
Total		Count	9	34	163	206
		Expected Count	9.0	34.0	163.0	206.0
		% within Risk of PND	4.4%	16.5%	79.1%	100.0%
		% within FREQUENCY	100.0%	100.0%	100.0%	100.0%
		% of Total	4.4%	16.5%	79.1%	100.0%

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.881[a]	2	.644
Likelihood Ratio	.900	2	.638
Linear-by-Linear Association	.352	1	.553
N of Valid Cases	206		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 4.37.

Appendix P- SPSS Output Study 3

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	92	86.8	86.8	86.8
	Asian	7	6.6	6.6	93.4
	Mixed	5	4.7	4.7	98.1
	Other	2	1.9	1.9	100.0
	Total	106	100.0	100.0	

Marital_Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	91	85.8	85.8	85.8
	Divorced/ Separated	2	1.9	1.9	87.7
	Widower	1	.9	.9	88.7
	Single	6	5.7	5.7	94.3
	Other	6	5.7	5.7	100.0
	Total	106	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary school or less	1	.9	.9	.9
	Some high school	3	2.8	2.8	3.8

	Completed high school	15	14.2	14.2	17.9
	Technical college qualification	9	8.5	8.5	26.4
	University degree	48	45.3	45.3	71.7
	Postgraduate degree	30	28.3	28.3	100.0
	Total	106	100.0	100.0	

Employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Working full-time	91	85.8	85.8	85.8
	Working part-time	7	6.6	6.6	92.5
	Not working	3	2.8	2.8	95.3
	Other	5	4.7	4.7	100.0
	Total	106	100.0	100.0	

Number_Children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	54	50.9	50.9	50.9
	2-3	47	44.3	44.3	95.3
	More than 3	5	4.7	4.7	100.0
	Total	106	100.0	100.0	

Age_youngest_child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 3 months	32	30.2	30.2	30.2
	3-6 months	19	17.9	17.9	48.1
	6-12 months	55	51.9	51.9	100.0
	Total	106	100.0	100.0	

Gender_youngest_child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	59	55.7	55.7	55.7
	Female	47	44.3	44.3	100.0
	Total	106	100.0	100.0	

Diagnosed_PND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	8.5	8.5	8.5
	No	97	91.5	91.5	100.0
	Total	106	100.0	100.0	

Partner_diagnosed_PND

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	15	14.2	14.2	14.2
	No	89	84.0	84.0	98.1
	I don't know	2	1.9	1.9	100.0

	Total	106	100.0	100.0	

Previous_MH issues

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	45	42.5	42.5	42.5
	No	52	49.1	49.1	91.5
	I don't know	9	8.5	8.5	100.0
	Total	106	100.0	100.0	

SM use_parenting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	58	54.7	54.7	54.7
	No	48	45.3	45.3	100.0
	Total	106	100.0	100.0	

Scale Reliability

EPDS

Reliability Statistics

Cronbach's Alpha	N of Items
.902	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items

10.70	36.143	6.012	10

MSPSS

Reliability Statistics

Cronbach's Alpha	N of Items
.919	12

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
61.93	225.668	15.022	12

SMUIS

Reliability Statistics

Cronbach's Alpha	N of Items
.887	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
36.00	94.667	9.730	10

MSPSS Online Support

Reliability Statistics

Cronbach's Alpha	N of Items

.866	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.09	12.862	3.586	4

Descriptives

	Risk of PPND			Statistic	Std. Error
SMUISTotal	<= 10	Mean		35.7059	1.75735
		95% Confidence Interval for Mean	Lower Bound	32.1305	
			Upper Bound	39.2812	
		5% Trimmed Mean		35.6046	
		Median		33.5000	
		Variance		105.002	
		Std. Deviation		10.24704	
		Minimum		15.00	
		Maximum		57.00	
		Range		42.00	
		Interquartile Range		13.00	
		Skewness		.334	.403
		Kurtosis		-.419	.788
	11+	Mean		36.4762	1.97559
		95% Confidence Interval for Mean	Lower Bound	32.3552	

			Upper Bound	40.5972	
		5% Trimmed Mean		36.8122	
		Median		39.0000	
		Variance		81.962	
		Std. Deviation		9.05328	
		Minimum		16.00	
		Maximum		51.00	
		Range		35.00	
		Interquartile Range		10.50	
		Skewness		-.858	.501
		Kurtosis		.536	.972
MSPSSTotal	<= 10	Mean		5.8095	.14126
		95% Confidence Interval for Mean	Lower Bound	5.5225	
			Upper Bound	6.0966	
		5% Trimmed Mean		5.8466	
		Median		6.0000	
		Variance		.698	
		Std. Deviation		.83568	
		Minimum		4.00	
		Maximum		6.92	
		Range		2.92	
		Interquartile Range		1.17	
		Skewness		-.787	.398
		Kurtosis		-.366	.778
	11+	Mean		4.0794	.23482
		95% Confidence Interval for Mean	Lower Bound	3.5895	
			Upper Bound	4.5692	

		5% Trimmed Mean		4.0699	
		Median		4.0833	
		Variance		1.158	
		Std. Deviation		1.07609	
		Minimum		2.42	
		Maximum		5.92	
		Range		3.50	
		Interquartile Range		1.87	
		Skewness		.124	.501
		Kurtosis		-1.180	.972
MSPSSOnlineTotal	<= 10	Mean		2.5074	.13660
		95% Confidence Interval for Mean	Lower Bound	2.2294	
			Upper Bound	2.7853	
		5% Trimmed Mean		2.5000	
		Median		2.5000	
		Variance		.634	
		Std. Deviation		.79650	
		Minimum		1.00	
		Maximum		4.25	
		Range		3.25	
		Interquartile Range		1.06	
		Skewness		.246	.403
		Kurtosis		-.451	.788
	11+	Mean		3.2024	.19641
		95% Confidence Interval for Mean	Lower Bound	2.7927	
			Upper Bound	3.6121	
		5% Trimmed Mean		3.2526	
		Median		3.2500	

		Variance		.810	
		Std. Deviation		.90007	
		Minimum		1.00	
		Maximum		4.50	
		Range		3.50	
		Interquartile Range		1.25	
		Skewness		-.980	.501
		Kurtosis		1.076	.972
SM_Frequency	<= 10	Mean		2.59	.113
		95% Confidence Interval for Mean	Lower Bound	2.36	
			Upper Bound	2.82	
		5% Trimmed Mean		2.65	
		Median		3.00	
		Variance		.431	
		Std. Deviation		.657	
		Minimum		1	
		Maximum		3	
		Range		2	
		Interquartile Range		1	
		Skewness		-1.368	.403
		Kurtosis		.752	.788
	11+	Mean		2.71	.101
		95% Confidence Interval for Mean	Lower Bound	2.50	
			Upper Bound	2.92	
		5% Trimmed Mean		2.74	
		Median		3.00	
		Variance		.214	
		Std. Deviation		.463	

		Minimum		2	
		Maximum		3	
		Range		1	
		Interquartile Range		1	
		Skewness		-1.023	.501
		Kurtosis		-1.064	.972
Online_Comparisons	<= 10	Mean		2.44	.203
		95% Confidence Interval for Mean	Lower Bound	2.03	
			Upper Bound	2.85	
		5% Trimmed Mean		2.40	
		Median		2.00	
		Variance		1.406	
		Std. Deviation		1.186	
		Minimum		1	
		Maximum		5	
		Range		4	
		Interquartile Range		2	
		Skewness		.438	.403
		Kurtosis		-.984	.788
	11+	Mean		3.19	.281
		95% Confidence Interval for Mean	Lower Bound	2.60	
			Upper Bound	3.78	
		5% Trimmed Mean		3.21	
		Median		4.00	
		Variance		1.662	
		Std. Deviation		1.289	
		Minimum		1	
		Maximum		5	

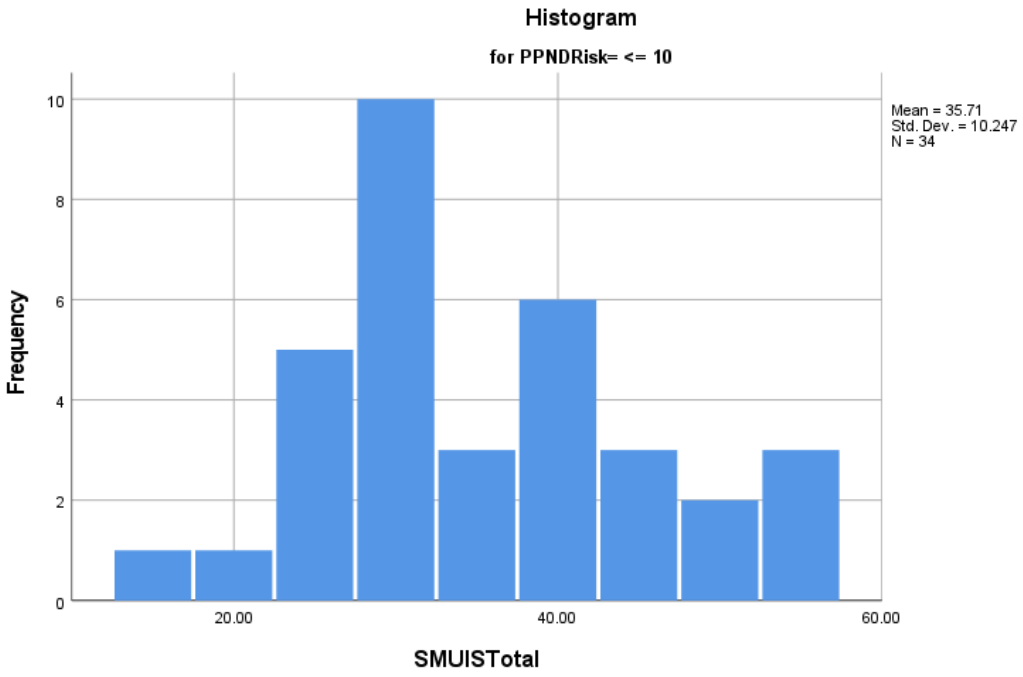
	Range	4	
	Interquartile Range	2	
	Skewness	-.700	.501
	Kurtosis	-.588	.972

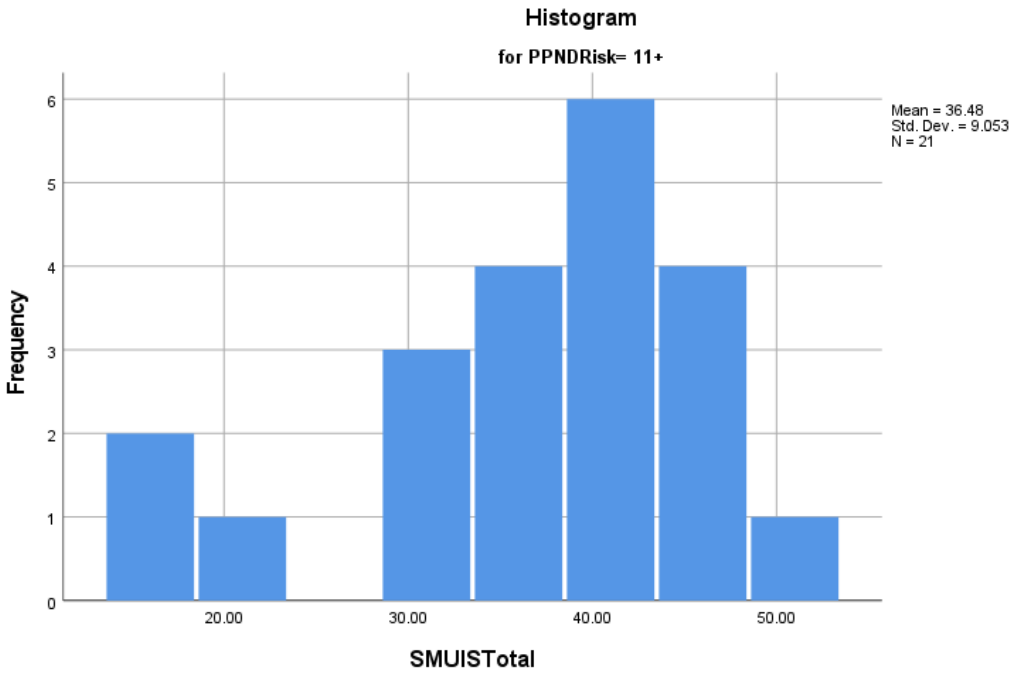
Tests of Normality

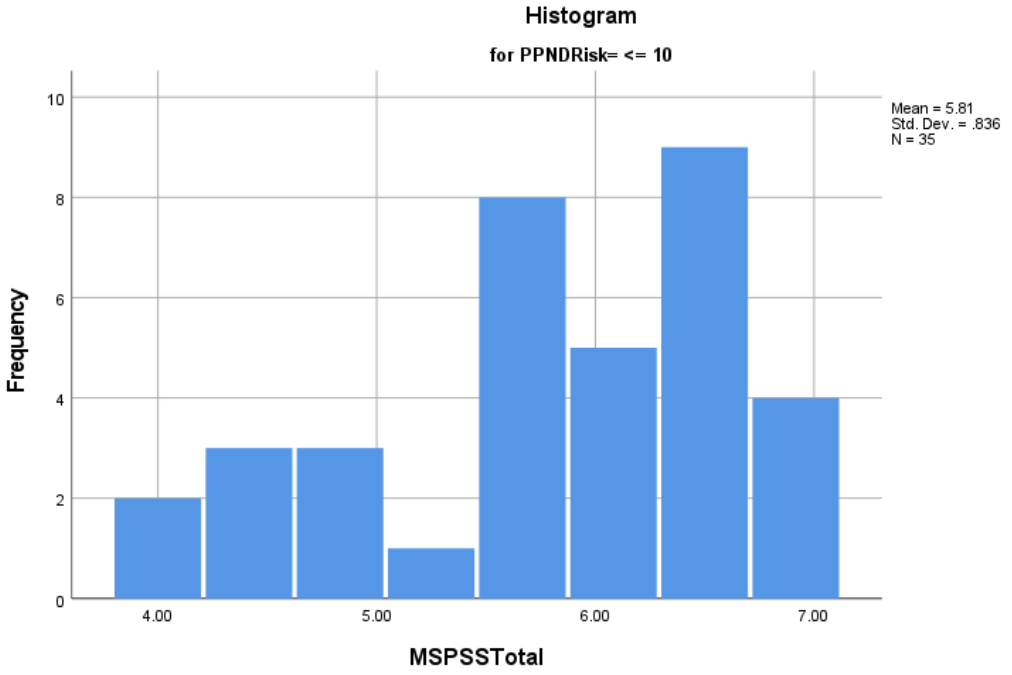
	Risk of	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	PPND	Statistic	df	Sig.	Statistic	df	Sig.
SMUISTotal	<= 10	.148	34	.058	.971	34	.486
	11+	.160	21	.170	.931	21	.146
MSPSSTotal	<= 10	.146	35	.055	.913	35	.009
	11+	.135	21	.200*	.949	21	.327
MSPSSOnlineTotal	<= 10	.116	34	.200*	.971	34	.502
	11+	.165	21	.141	.905	21	.043
SM_Frequency	<= 10	.411	34	<.001	.647	34	<.001
	11+	.446	21	<.001	.570	21	<.001
Online_Comparison	<= 10	.263	34	<.001	.865	34	<.001
s	11+	.259	21	<.001	.843	21	.003

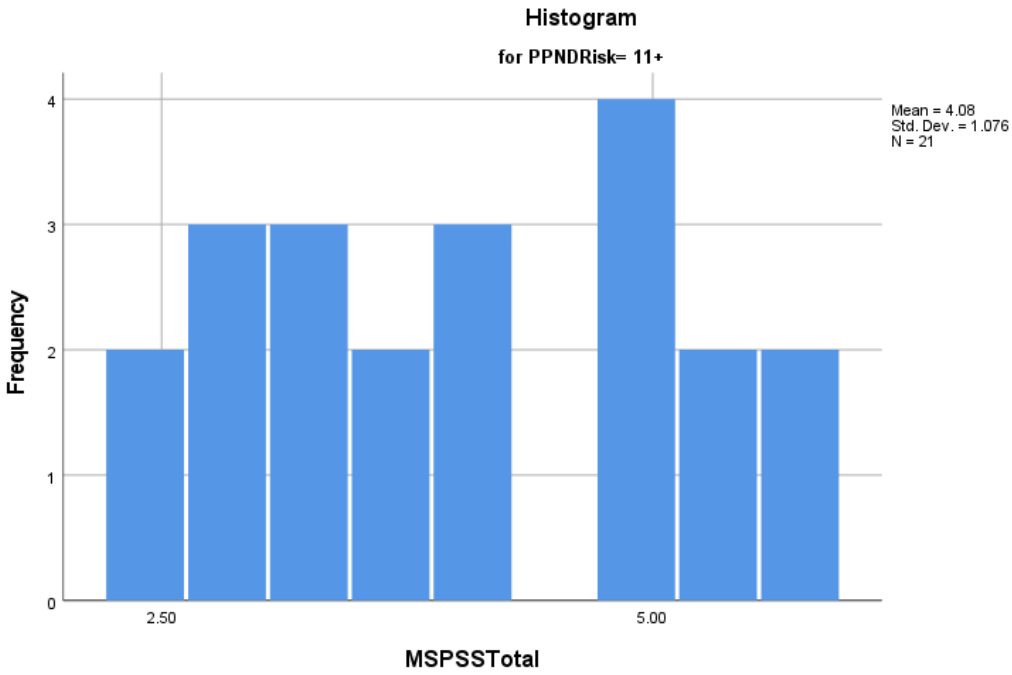
*. This is a lower bound of the true significance.

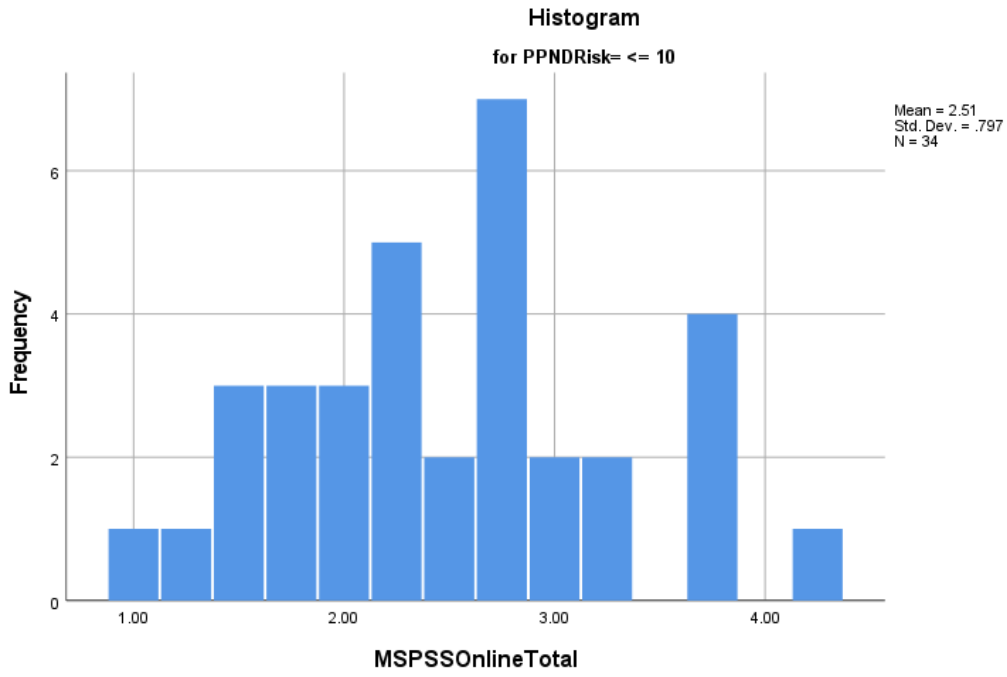
a. Lilliefors Significance Correction

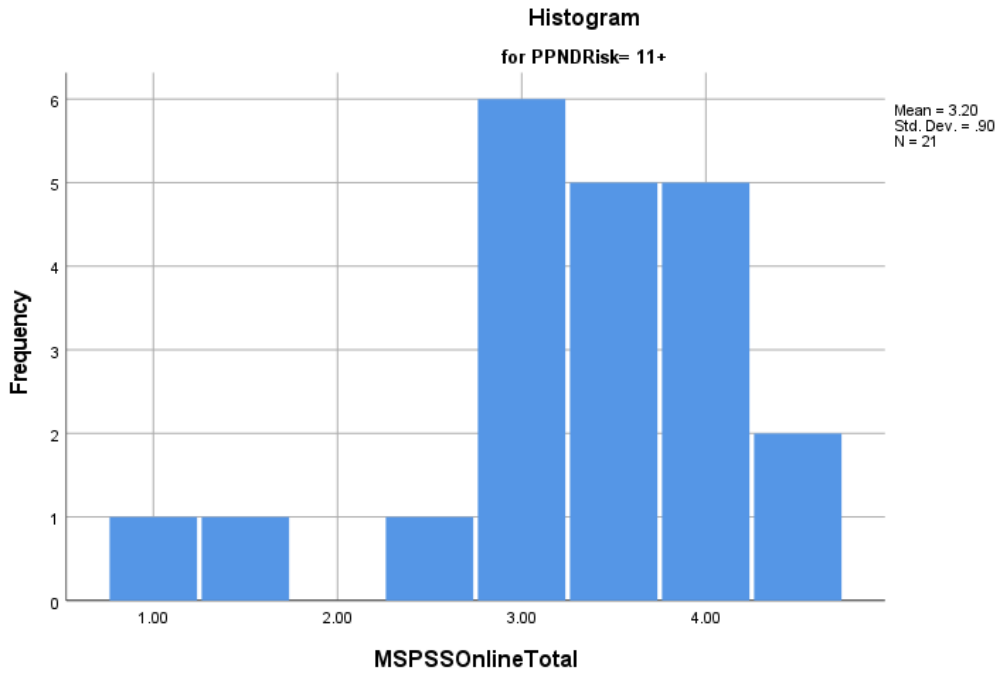

Histogram
for PPNDRisk= <= 10
Mean = 35.71
Std. Dev. = 10.247
N = 34
Frequency
SMUISTotal
0
2
4
6
8
10
20.00
40.00
60.00

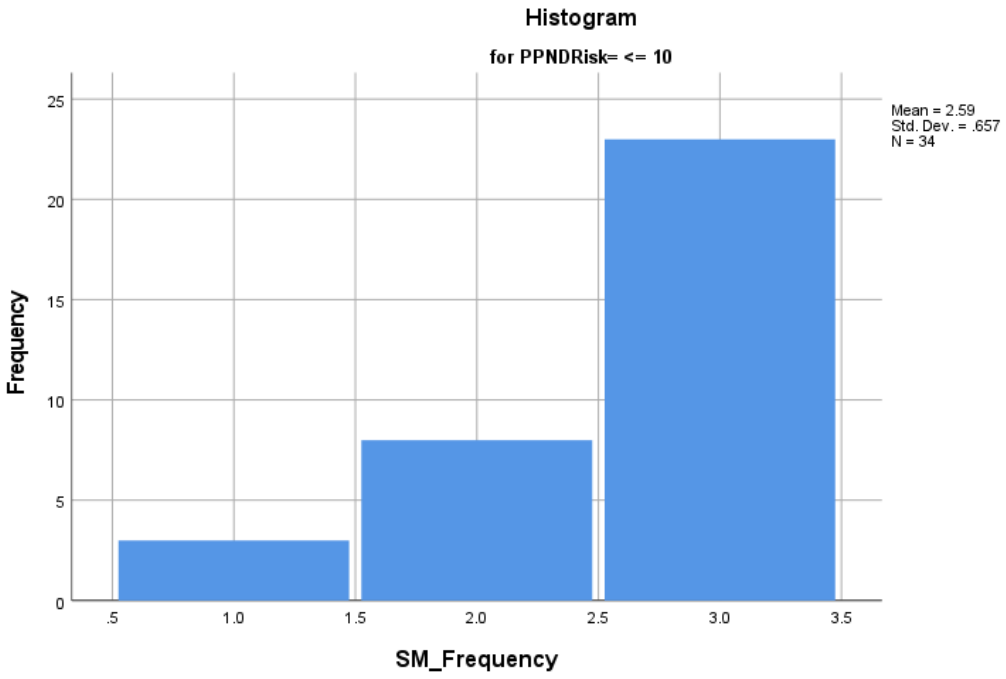

Histogram
for PPNDRisk= 11+
Mean = 36.48
Std. Dev. = 9.053
N = 21
Frequency
SMUISTotal
0
1
2
3
4
5
6
20.00
30.00
40.00
50.00

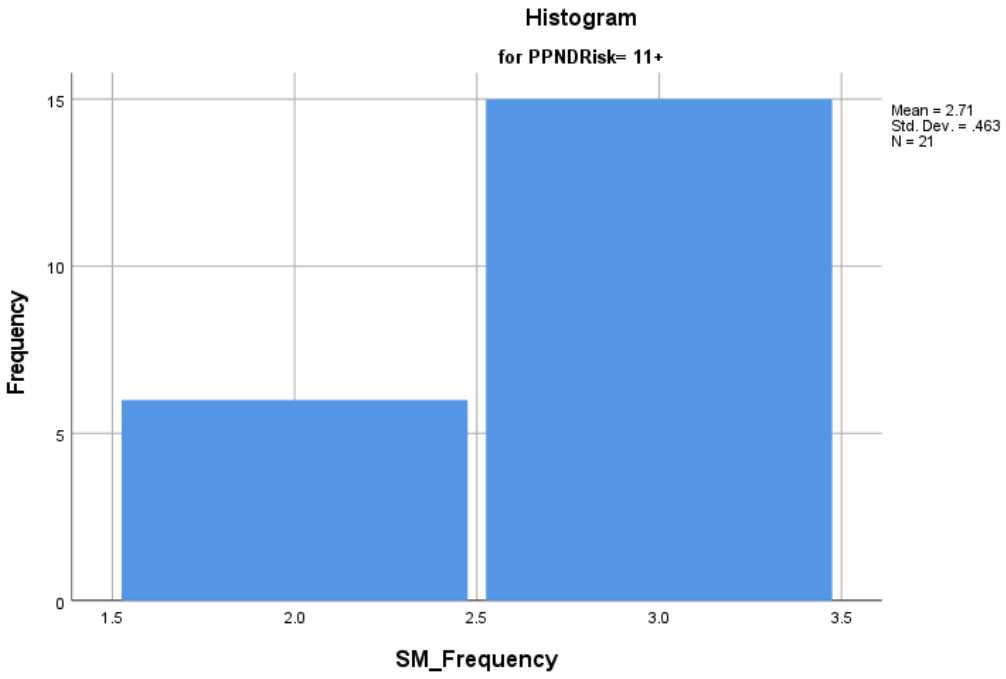

Histogram
for PPNDRisk= <= 10
Mean = 5.81
Std. Dev. = .836
N = 35
Frequency
MSPSSTotal
0
2
4
6
8
10
4.00
5.00
6.00
7.00

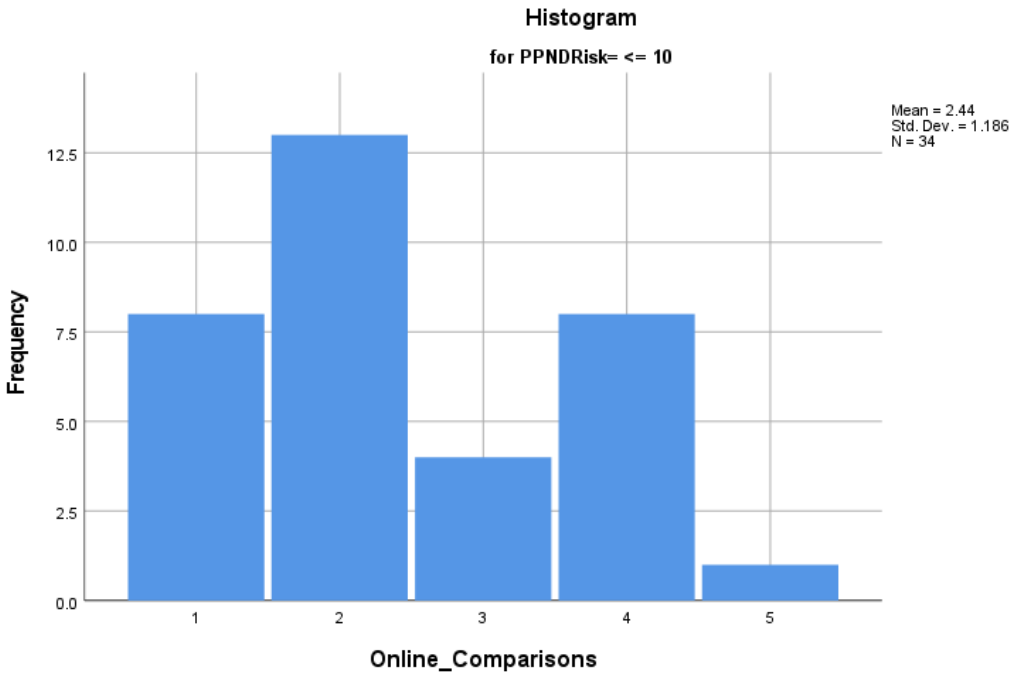

Histogram
for PPNDRisk= 11+
Mean = 4.08
Std. Dev. = 1.076
N = 21
Frequency
MSPSSTotal
0
1
2
3
4
2.50
5.00

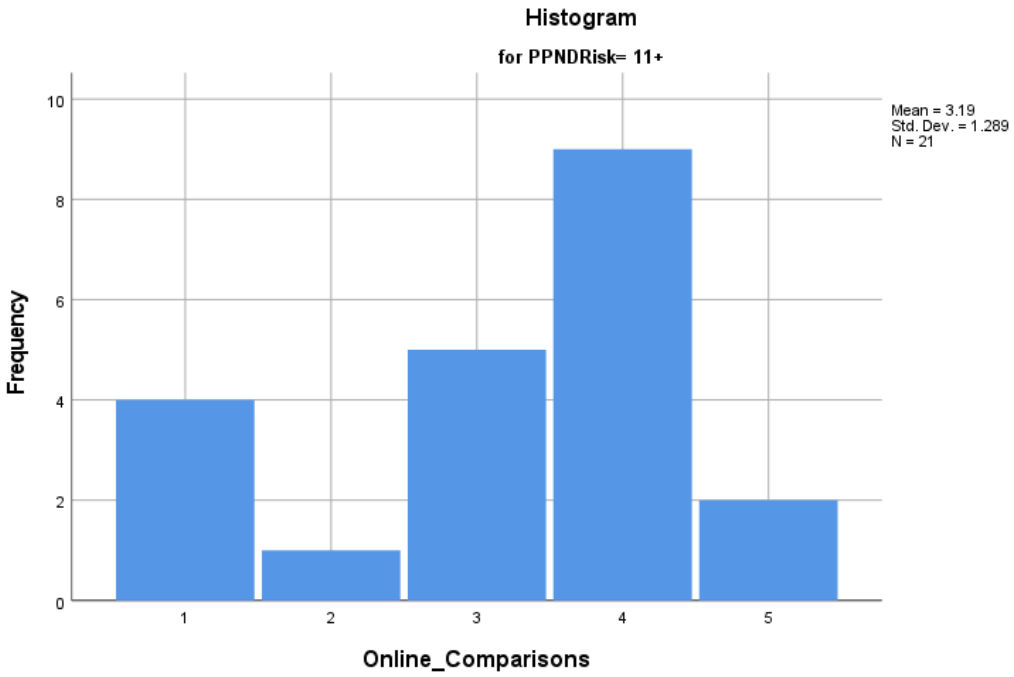

Histogram
for PPNDRisk= <= 10
Mean = 2.51
Std. Dev. = .797
N = 34
Frequency
0
2
4
6
1.00
2.00
3.00
4.00
MSPSSOnlineTotal

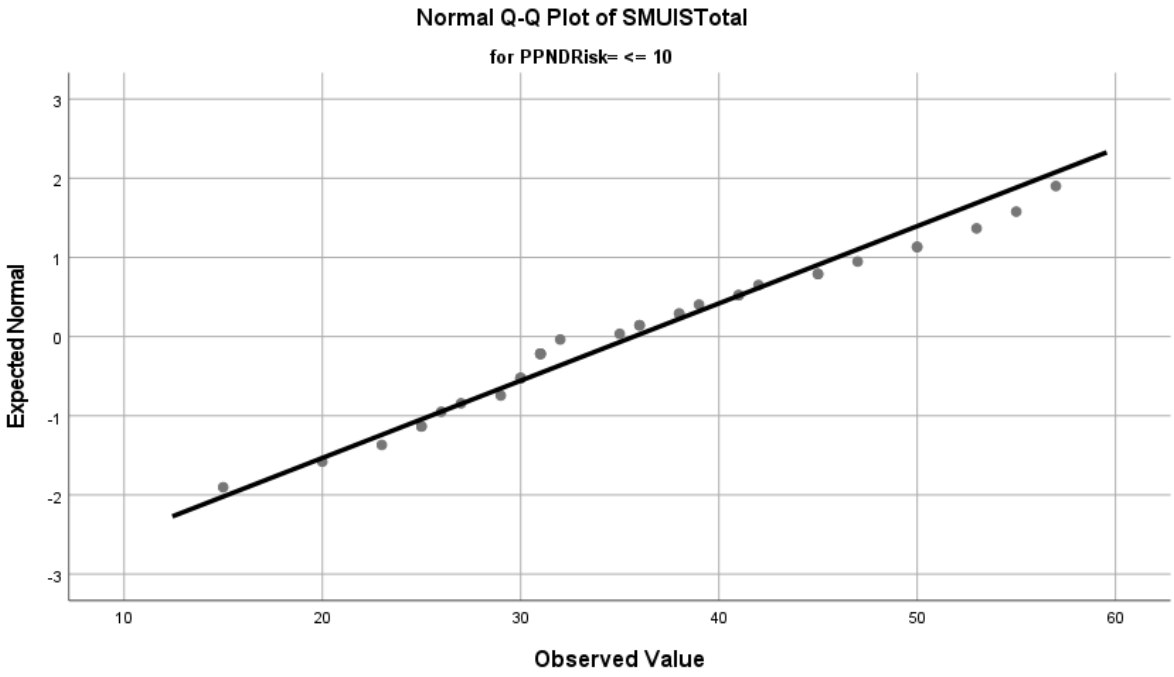

Histogram
for PPNDRisk= 11+
Mean = 3.20
Std. Dev. = .90
N = 21
Frequency
0
1
2
3
4
5
6
1.00
2.00
3.00
4.00
MSPSSOnlineTotal

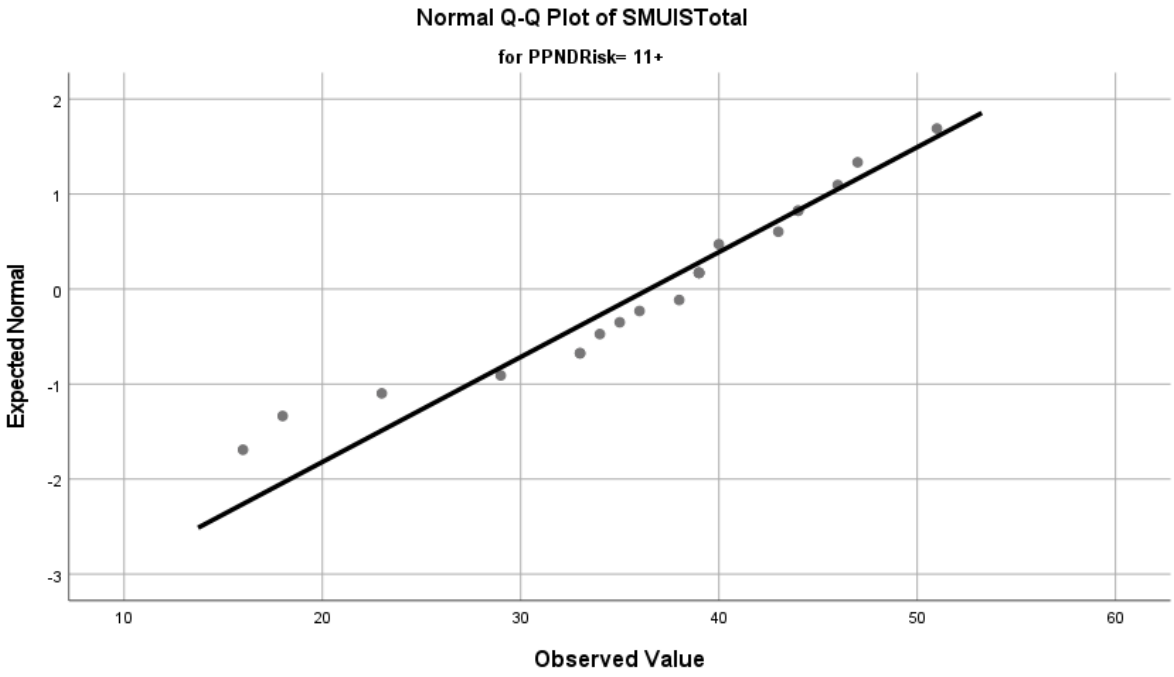

Histogram
for PPNDRisk= <= 10
Mean = 2.59
Std. Dev. = .657
N = 34
Frequency
SM_Frequency
0
5
10
15
20
25
.5
1.0
1.5
2.0
2.5
3.0
3.5

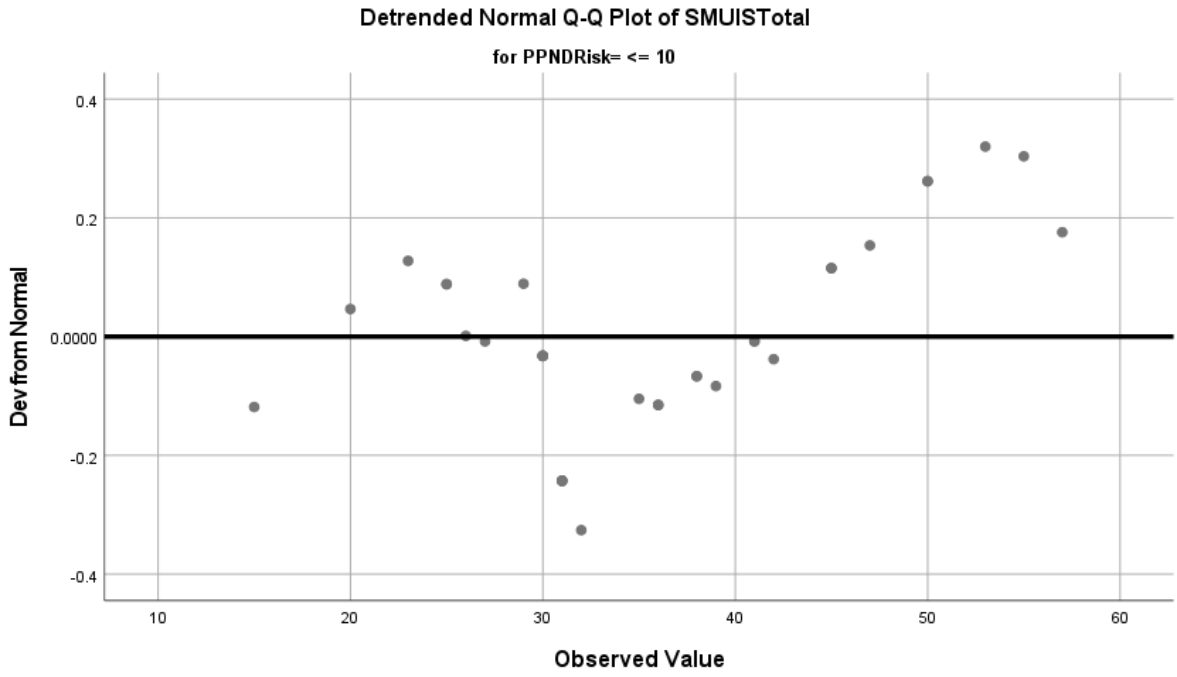

Histogram
for PPNDRisk= 11+
Mean = 2.71
Std. Dev. = .463
N = 21
Frequency
SM_Frequency
0
5
10
15
1.5
2.0
2.5
3.0
3.5

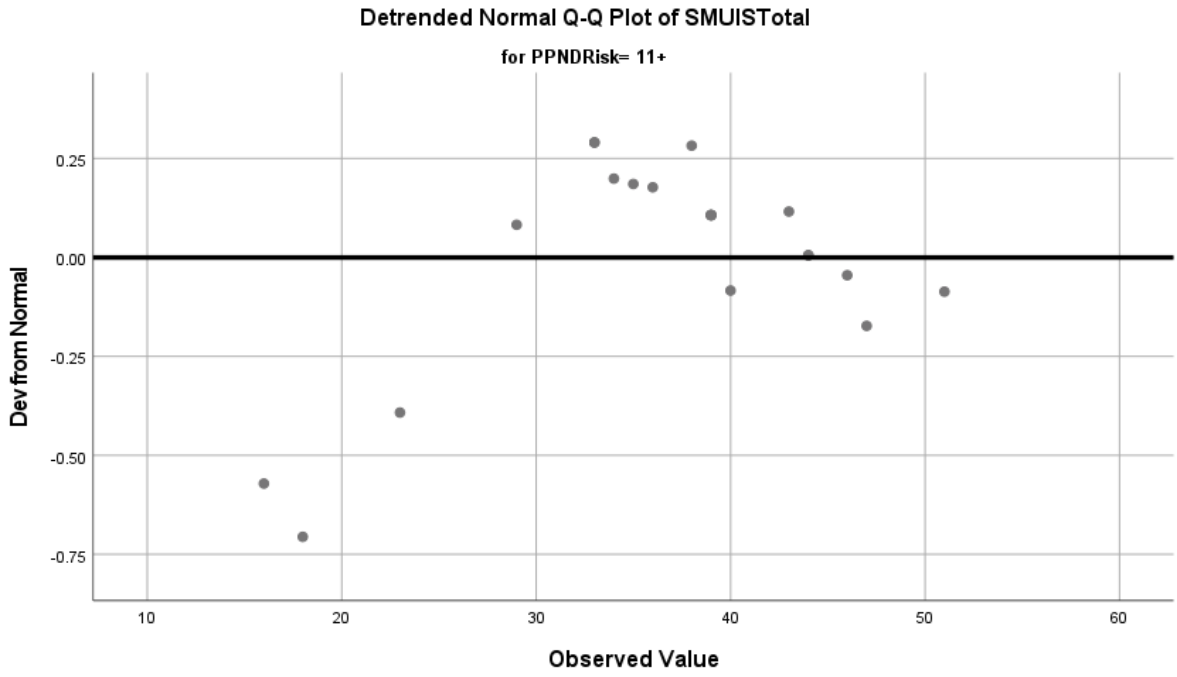

Histogram
for PPNDRisk= <= 10
Mean = 2.44
Std. Dev. = 1.186
N = 34
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
1
2
3
4
5
Online_Comparisons

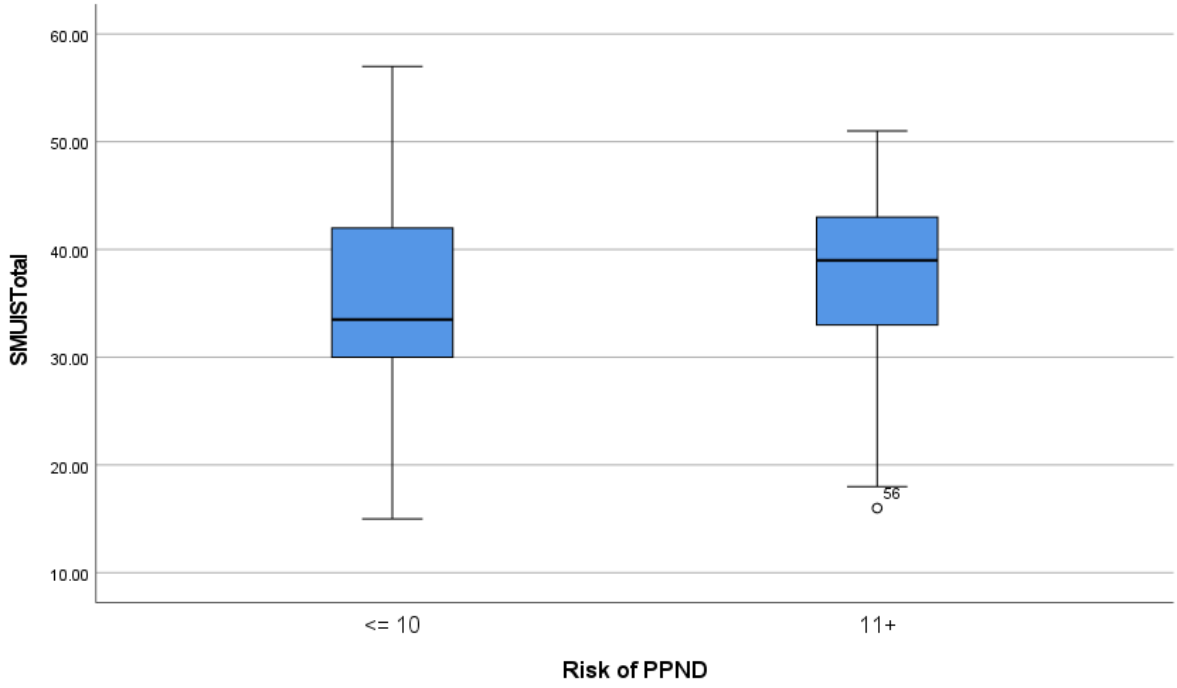

Histogram
for PPNDRisk= 11+
Mean = 3.19
Std. Dev. = 1.289
N = 21
Frequency
10
8
6
4
2
0
1
2
3
4
5
Online_Comparisons


Normal Q-Q Plot of SMUISTotal
for PPNDRisk= <= 10
Expected Normal
Observed Value
3
2
1
0
-1
-2
-3
10
20
30
40
50
60


Normal Q-Q Plot of SMUISTotal
for PPNDRisk= 11+
Expected Normal
Observed Value
2
1
0
-1
-2
-3
10
20
30
40
50
60


Detrended Normal Q-Q Plot of SMUISTotal
for PPNDRisk= <= 10
Dev from Normal
0.4
0.2
0.0000
-0.2
-0.4
10
20
30
40
50
60
Observed Value


Detrended Normal Q-Q Plot of SMUISTotal
for PPNDRisk= 11+
Dev from Normal
0.25
0.00
-0.25
-0.50
-0.75
10
20
30
40
50
60
Observed Value



T-Tests

Group Statistics

	Risk of PPND	N	Mean	Std. Deviation	Std. Error Mean
SMUISTotal	<= 10	34	35.7059	10.24704	1.75735
	11+	21	36.4762	9.05328	1.97559
MSPSSTotal	<= 10	35	5.8095	.83568	.14126
	11+	21	4.0794	1.07609	.23482
MSPSSOnlineTotal	<= 10	34	2.5074	.79650	.13660
	11+	21	3.2024	.90007	.19641
SM_Frequency	<= 10	34	2.59	.657	.113
	11+	21	2.71	.463	.101
Online_Comparisons	<= 10	34	2.44	1.186	.203
	11+	21	3.19	1.289	.281

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidenc Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SMUISTotal	Equal variances assumed	.928	.340	-.283	53	.778	-.77031	2.72372	-6.23340	4.692
	Equal variances not assumed			-.291	46.520	.772	-.77031	2.64409	-6.09099	4.550
MSPSSTotal	Equal variances assumed	3.041	.087	6.726	54	<.001	1.73016	.25725	1.21440	2.245
	Equal variances not assumed			6.314	34.440	<.001	1.73016	.27403	1.17352	2.286
MSPSSOnlineTotal	Equal variances assumed	.056	.814	-2.992	53	.004	-.69503	.23233	-1.16102	-.229
	Equal variances not assumed			-2.905	38.559	.006	-.69503	.23924	-1.17912	-.210
SM_Frequency	Equal variances assumed	3.414	.070	-.768	53	.446	-.126	.164	-.455	.203
	Equal variances not assumed			-.833	51.965	.409	-.126	.151	-.430	.178

Online_Comparisons	Equal variances assumed	.017	.898	-2.203	53	.032	-.749	.340	-1.432	-.067
	Equal variances not assumed			-2.159	39.774	.037	-.749	.347	-1.451	-.048

Multiple Regression – EPDS scores as Dependent Variable

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.811[a]	.658	.623	3.692

a. Predictors: (Constant), Online_Comparisons, SM_Frequency, MSPSSOnlineTotal, MSPSSTotal, SMUISTotal

b. Dependent Variable: EPDSTotal

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1283.896	5	256.779	18.841	<.001[b]
	Residual	667.801	49	13.629		
	Total	1951.697	54			

a. Dependent Variable: EPDSTotal

b. Predictors: (Constant), Online_Comparisons, SM_Frequency, MSPSSOnlineTotal, MSPSSTotal, SMUISTotal

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VI
1	(Constant)	23.957	3.941		6.078	<.001	16.037	31.877					
	SMUISTotal	-.103	.063	-.167	-1.637	.108	-.230	.024	-.016	-.228	-.137	.668	1.47
	MSPSSTotal	-3.414	.420	-.711	-8.135	<.001	-4.258	-2.571	-.779	-.758	-.680	.914	1.04
	MSPSSOnlineTotal	1.112	.618	.166	1.798	.078	-.131	2.354	.270	.249	.150	.821	1.28
	SM_Frequency	1.020	.940	.100	1.085	.283	-.869	2.909	.099	.153	.091	.824	1.24
	Online_Comparisons	.848	.432	.179	1.961	.056	-.021	1.716	.259	.270	.164	.839	1.11

a. Dependent Variable: EPDSTotal

Multiple Regression – SMUIS scores as Dependent Variable

Descriptive Statistics

	Mean	Std. Deviation	N
SMUISTotal	36.0000	9.72968	55

EPDSTotal	10.70	6.012	56
MSPSSTotal	5.1607	1.25185	56
MSPSSOnlineTotal	2.7727	.89659	55
SM_Frequency	2.64	.589	55
Online_Comparisons	2.73	1.269	55

Correlations

		SMUISTotal	EPDSTotal	MSPSSTotal	MSPSSOnlineTotal	SM_Frequency	Online_Comparisons
Pearson Correlation	SMUISTotal	1.000	-.016	-.003	.376	.356	.290
	EPDSTotal	-.016	1.000	-.779	.270	.099	.259
	MSPSSTotal	-.003	-.779	1.000	-.190	-.070	-.170
	MSPSSOnlineTotal	.376	.270	-.190	1.000	.147	.099
	SM_Frequency	.356	.099	-.070	.147	1.000	-.086
	Online_Comparisons	.290	.259	-.170	.099	-.086	1.000
Sig. (1-tailed)	SMUISTotal	.	.454	.493	.002	.004	.016
	EPDSTotal	.454	.	.000	.023	.235	.028
	MSPSSTotal	.493	.000	.	.083	.305	.108
	MSPSSOnlineTotal	.002	.023	.083	.	.141	.236
	SM_Frequency	.004	.235	.305	.141	.	.267
	Online_Comparisons	.016	.028	.108	.236	.267	.
N	SMUISTotal	55	55	55	55	55	55
	EPDSTotal	55	56	56	55	55	55

	MSPSSTotal	55	56	56	55	55	55
	MSPSSOnlineTotal	55	55	55	55	55	55
	SM_Frequency	55	55	55	55	55	55
	Online_Comparisons	55	55	55	55	55	55

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.606[a]	.367	.302	8.12813

a. Predictors: (Constant), Online_Comparisons, SM_Frequency, MSPSSOnlineTotal, MSPSSTotal, EPDSTotal

b. Dependent Variable: SMUISTotal

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1874.740	5	374.948	5.675	<.001[b]
	Residual	3237.260	49	66.067		
	Total	5112.000	54			

a. Dependent Variable: SMUISTotal

b. Predictors: (Constant), Online_Comparisons, SM_Frequency, MSPSSOnlineTotal, MSPSSTotal, EPDSTotal

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VI
1	(Constant)	11.515	11.374		1.012	.316	-11.343	34.373					
	EPDSTotal	-.501	.306	-.310	-1.637	.108	-1.117	.114	-.016	-.228	-.186	.361	2.771
	MSPSSTotal	-.718	1.413	-.092	-.508	.614	-3.557	2.122	-.003	-.072	-.058	.391	2.558
	MSPSSOnlineTotal	3.848	1.294	.355	2.974	.005	1.248	6.447	.376	.391	.338	.909	1.100
	SM_Frequency	5.906	1.917	.357	3.081	.003	2.054	9.759	.356	.403	.350	.960	1.042
	Online_Comparisons	2.681	.911	.350	2.943	.005	.850	4.512	.290	.388	.335	.916	1.092

a. Dependent Variable: SMUISTotal

Chi-Square Test- Frequency of social media use and Risk of PPND

Risk of PPND * Frequency of Social Media Use Crosstabulation

			Frequency of Social Media Use			
			Weekly	Once a day	Several times a day	Total
Risk of PPND	<= 10	Count	3	8	23	34
		Expected Count	1.9	8.7	23.5	34.0
		% within Risk of PPND	8.8%	23.5%	67.6%	100.0%
		% within Frequency of Social Media Use	100.0%	57.1%	60.5%	61.8%
		% of Total	5.5%	14.5%	41.8%	61.8%
	11+	Count	0	6	15	21
		Expected Count	1.1	5.3	14.5	21.0
		% within Risk of PPND	0.0%	28.6%	71.4%	100.0%
		% within Frequency of Social Media Use	0.0%	42.9%	39.5%	38.2%
		% of Total	0.0%	10.9%	27.3%	38.2%
Total		Count	3	14	38	55
		Expected Count	3.0	14.0	38.0	55.0
		% within Risk of PPND	5.5%	25.5%	69.1%	100.0%
		% within Frequency of Social Media Use	100.0%	100.0%	100.0%	100.0%
		% of Total	5.5%	25.5%	69.1%	100.0%

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.009[a]	2	.366
Likelihood Ratio	3.040	2	.219
Linear-by-Linear Association	.595	1	.441
N of Valid Cases	55		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.15.

Appendix R- Interview Transcript Example Study 2

INT: so if we can just start with some general information about yourself, so if you can tell me how many children you have and how old they are?

P: I've got one child and she's 4 and a half months old

INT: okay, can you tell me a bit more about how you've been feeling since you gave birth?

P: about what sorry?

INT: uh about how you've been feeling since you gave birth

P: I've been feeling fine really, we had a difficult start with her, with breastfeeding and she lost a lot of weight so that caused a little bit of anxiety for me and my husband but she's on the up and mainly I've been feeling fine

INT: oh that's good, so at the beginning when you had those difficult times, what- how did you manage to cope with them?

P: erm well, my husband, we supported each other and family supported us as well, we spent a lot of time in hospital so it was family really that got us through and I dunno, that's mainly it

INT: yeah, and what about the health professionals, did you find them helpful?

P: oh yeah, really good, really good, erm a bit of conflicting advice at the beginning in the maternity ward, everyone was really nice but everyone had a different approach on how to get the breastfeeding started and actually looking back, that wasn't helpful at all cos we lost valuable time with that really but I mean everyone was nice and we're- we're still under a paediatrician consultant and they've just referred us to a dietician as well because she's- she lost a lot of weight initially and now she's quite slim for a baby and very light in the (?) and she's healthy but we're still being monitored and stuff so yeah, the health professionals can't fault them at all

INT: erm and what about the relationship with your baby, was that any difficult at first or- especially because it's your only baby

P: well yeah, I think it was difficult the first few days, you panic a bit cos obviously I've not been a mum before this and I knew that I wanted to breastfeed but we couldn't get her to

breastfeed and so she's just this tiny, tiny little thing and the midwives made such a big deal that she was so little for her- she was such a low weight, which she was 6'8'' (?) when she was born which isn't exceedingly small really, I thought that was about average but no, they were quite concerned so there was a lot of pressure put on that she had to learn to breastfeed yet she wouldn't latch on, so you panic a bit because there's really nothing you can do until that's established, so I didn't feel like there was a bond and those very early days it was just- I don't know, the breastfeeding wasn't gonna go to plan unless you relax is what they tell you but then it was that much immediate pressure on us to get it established because she was so small, so I don't know, I think now that she is a little bit older and she's all smiley, we have a really good relationship now and she's got a really good relationship with her dad as well but in those first couple of weeks maybe it was really difficult, we didn't have- we didn't have much of a bond I don't think, I was just stressed about it all and she- she was still poorly for quite a while and we didn't know so, but I think we're over that now

INT: that's good, so what do you think made the relationship a bit better? You mentioned that she's a bit more smiley, so…

P: yeah to be honest, I mean I'm sure her health picking up is definitely a part of it but I just don't know where I am with new born babies, I've never been around them, don't have any babies in the family, so I think the main factor for me is that she grew a bit older and she developed a bit more and she's more sociable so now she's making eye contact (?) and I was really just longing for that first smile cos I used to kiss her all over (laughing) I've wanted a baby for ages and when she was tiny she used to like flinch and turn away and I said to my husband "ah I just can't wait until she's at that stage where she can smile back" and I know she kinda loves me back, but we're kinda there now, she's full of smiles and bubbling away, so I think that's the main factor in how our relationship got better but obviously her increase in health has got to be part of that as well

INT: ah that's really good, and what about the relationship with your husband, you said that he was really supportive at first

P: yeah really supportive, all way through really. I've found that cos I've wanted my baby for so long erm and we both get on really well with her and we're both learning, we both got no other children, and he's been wonderful but I do, in all honesty find that we bicker quite a lot more now that we have had her erm so that can be hard cos obviously it's all new and I don't know what I'm doing but I've got my opinion of how I want it to go and he's exactly the

same and we don't always agree but we don't know who's right because we've never done it before, so yeah we- we snap at each other and I hate that but it's me, I think I instigate it quite a lot as well, sometimes he'd be talking and I find myself rolling my eyes and gritting my teeth and there's no reason for it at all but… I feel like such a cow (laughing) but for the most part we're fine

INT: yeah I guess the stress has a … like it could explain that in a way, doesn't it

P: yeah

INT: cos you can't always control how you act, even though you…

P: I blame the hormones but I really don't think I've had them, like what everyone says that your hormones will be everywhere, they weren't really, I think it's natural to stress if she's not been well the first couple of weeks, so I really don't think I've been too bad with hormones

INT: and what about like socialising with the baby, did you go to any baby groups or anything like that or

P: yeah I'm making an effort to, I'm not a very sociable person anyway, I'm quite shy and dad's quite shy as well but she's very sociable so we're making an effort to get her around people, so we go to breastfeeding support group on a Friday, just come back, and obviously we have to get away quite often because she's still being monitored so we have a stay, weigh and play clinic (??) in the same place every Thursday afternoon so they've now told us not to go so regularly because the health visitors that run it said that she's stayed more stable now and she's following the ?? but now we're- the feeding patterns changed a little bit since we had- since we met with the paediatrician on Tuesday, so I probably gonna go back to going weekly but that's quite good cos we used the toys and stuff in the waiting room, erm and then, there's no other groups, although I'm gonna start at a toddler group at a school down the road and that starts again in September, we've not been there yet and then I try and go shopping with her every- at least once a week, she goes in the fling (??) and people always comment and she smiles, she smiles away so she's around people a lot and the family come over a lot but in terms of groups it's only breastfeeding group on a Friday and soon to be a toddler group on a Wednesday

INT: mhm and how have you been finding the breastfeeding group?

P: erm really good, it's run by a volunteer, she's a mum of 3 and she found there was no support locally so she's started this up in her own free time erm so in that respect it's really good and they have health visitors come on the last Friday of the month and they have visits from the FAB team- Families and Babies, they sometimes come and then they kind of get guest speakers sometimes to come and talk about weaning or cloth nappies or you know, I've (?) missed every single one of those cos when she wasn't- when my baby wasn't well I wasn't really up to going, so we missed a few here and there in the beginning but we try and go most weeks now

INT: oh that's good, and what about online support, do you find yourself going online to look for advice or information or anything?

P: yeah always looking for advice, they say not to Google stuff, don't they, but it's just the easiest thing

INT: yeah everyone does it anyway (laughing)

P: (laughing) erm I subscribed to a few emailing lists when I was pregnant so a lot of those, I check a lot of those, Pampers emailed me, I don't even use Pampers nappies but with like most things, they send you "at 4 months, your baby should be doing this, this, click this link for, you know, (?) blah blah blah" so I'm always looking into that, and there's some apps that offer free- little freebie packs and stuff so I joined most of those as well

INT: and what about like forums or Facebook groups or anything, cos I know there's a lot of them right now

P: yeah erm I was trying to stay away from it on Facebook because my very best friend is doing IVF and it's not going very well at the moment and I don't put any pictures up of the baby and I wasn't gonna join any groups and stuff that she might be able to see but I've changed my privacy settings so that only I can see which groups I belong to, so I've joined the Baby weaning group because my baby will be weaning in the next 6 weeks and a breastfeeding- well, yeah the Families and babies page on its own and now there's a new Lancashire Family and babies page I've joined that one as well, erm the breastfeeding group that I go to (name of group) has got its own Facebook page as well, so and that one as well, and in terms of forums, I only really joined Netmums but I find it quite difficult to navigate, so I don't really go on it at all but I work in a nursery and the parents are always talking about how good it is, that's why I joined it, but I haven't got on board with it yet really

INT: mm and with the groups on Facebook what- how did you usually interact with them, do you post questions or do you answer to other people or just observe or?

P: erm I haven't asked any questions I don't think but yeah erm I think if I had a question they would answer it, I posted on the local group, the breastfeeding group that I go to, I've posted on their page and it was only things that I've seen my colleagues or friends that they've breastfed in the past and they've shared stuff that they found important or (?) (13:17) to breastfeeding so I've shared it to the group, you know just to kind of get that support to the lady who runs it so she can spread it elsewhere you know I kinda just did that, but I prefer to ask questions face to face really cos I'm not- as I said, I'm a bit shy, I don't really want to draw attention… I know everyone has their ups and downs of breastfeeding but it is still quite raw, like we're still struggling with her weight now and I don't really want to draw attention to that by posting publicly to everyone in the group, so, I mean I can see and I ask questions in the weaning group but (?) just generic, everyone seems to ask questions in that group like "my baby is not eating enough/ my baby is eating too much" and blab la bla so, but I don't feel there's much scrutiny at all to contribute there (?) but it's a safe place this group that we're in, t's supposed to be a safe place and no judgment but it's just my personal preference cos I don't feel that- I'm not really the type of person to shout from the rooftops what we're going through personally, I prefer to speak to someone face to face

INT: right so- but is there anything in particular that you feel that stops you from posting online, except from the privacy that you like…

P: erm really just the privacy but erm Facebook is probably the page that I use the most and as I said, the thing that stops me posting there is my best friend, just being considerate of others, isn't it because I remember I wanted a baby for so long and people around me kept getting pregnant and a lot of them were accidents and I just felt furious and just "why, why not me, why them and they don't even want it" and it can drive you mad and now I'm lucky enough that I have a baby now whereas she must've felt all of that and people always post pictures of their children and it's- it's lovely but if it's the thing you want most in the world and you can't have it, it must just be the most painful thing, so I'm not gonna add to that for her, that stops me posting on Facebook, I've set up a private photo album, chosen who I think would like to see it because you don't get baby bored, do you (laughing) so family and colleagues, they can see it, but my bestfriend she can't

INT: oh okay so you still like to share information and pictures of your baby but just to certain people who you know wouldn't be affected

P: yeah, I'm so proud of her, I just want everyone to see her but you don't want to bore everyone at the same time, so I customise who can see it

INT: and erm with the information that you can find on these groups and on forums in general, what do you think of the quality of that information?

P: erm I have nothing to compare it to but I suppose it's good information because it's set up by people who care enough to set the group up, so you just have to trust that they know what they're talking about and it's better than not having any information, I mean as far as the weaning goes, the health visitor left me with lots of leaflets and I trust that information above anything that I see online because that was specifically given to me with me in- you know, it's the current legislation and the current research so I always take that first, but I still do go on the weaning website and read different mums from all walks (?) of life asking for advice, I just like to tip my toe in and see what other people do and just ideas really

INT: so if you were to look for something, you'd first go to something more official like those leaflets or

P: yeah I'd always go with the most official guidance we've been given, so for me it's those leaflets or in terms of, when the dietician becomes involved it will be her because that will be even more personal, personalised support than the leaflets, cos the leaflets are generic given out to new parents at this time but the dietician advice is gonna be specifically for my daughter so I would take that over the leaflets, I think she's going to recommend high calorie milk so that my daughter would put more weight on and then (?) advice that we introduce food that are higher calorie than say, I dunno, cucumber is not gonna put much weight on her, so I suppose that's what we're expecting (????) so that's what I take, the leading advice to follow

INT: mhmm and are there any moments when you'd rather go online than ask a doctor or anyone else?

P: erm well for convenience, because I'm on- well I'm not at work at the moment, facebook is just the quickest (?) so I'd go on for convenience and I'd go on if I've a burning question then the internet can do that much quicker than waiting to ask somebody or even ringing up, I didn't really want to ring, say a health visitor to ask because I don't know, you feel like

you're- you feel like you're stupid for asking a stupid question or you've taken more time or you know, so the internet at least you don't have to be like that, it's just there at the touch of a button

INT: erm could you give me an example of one moment when you found social media useful when you were looking for something or ?

P: well I suppose I find the email most helpful because- oh, as well, Facebook for suggested posts, you know the adverts that are tailored for me, so because- I suppose because I research things online, just on Google, then their sponsored posts come up and they are really helpful actually, so I find that helpful because you can peruse (???) in your own time, same with the email whereas like the baby weaning group you gave to go looking for it, don't you and you have to scroll through everyone's posts to find stuff that relates to myself, I mean sure it'd be much easier to just ask the question but because she's not even weaning yet, I'm only really part of the group to just get an idea at the moment but the adverts specifically are- it's clever isn't it, because they're using what you've looked into and in the past and it kinda selects for you what it thinks you're gonna be interested in, so I do look at those sometimes, so that's been helpful

INT: mm and what about an example that was not useful for to you as a mother?

P: was not useful?

INT: mhmm or something negative that you found about social media or the internet

P: I don't think I have found anything negative or not helpful, erm if it's something irrelevant to us we just don't look at it and the only thing is, well it's not, it's not the fault of the internet, it's just my preferences again with the posting and setting privacy and stuff but no, nothing in terms of- even when you join mailing lists and then they bombard you with stuff, that's not always the best, but you just unsubscribe, don't you, so nothing's been a major problem, nothing- I can't think of anything really negative

INT: mhm and does social media have any impact on your mood or the way you feel, do you find yourself feeling in a certain way after you've been on Facebook or anything like that?

P: yeah I mean, it can be a little bit dull, I mean don't get me wrong, but not being at work and we don't go out every day, sometimes I think she just needs to not be overstimulated and just spend time at home so I will go on Facebook sometimes just to not be bored, that sounds

terrible, but I like to just have a look at what everyone's been up to and people post all of these "oh you're a great mum" not to me, you know these general verses, and "live for today"and laugh and all that (?) but you know, I post sunny pictures and stuff, I just like to do that, that keeps my mood light

INT: yeah so it's entertaining for you, you'd say

P: yeah entertainment, yeah

INT: uhh so how often would you say that you go online?

P: at the moment a lot, erm maybe about 3 hours a day

INT: and do you think this changed ever since you had the baby?

P: yes because I'm not at work, so normally my shift would be 8 hours and travel half an hour each way to get to work, so I would just go on it in the evening but now, as I said, I'm at home a lot so I go on a lot more

INT: and what about when you first had the baby, like those few weeks and now, is there any difference in the way you use it?

P: yeah I don't really remember those first few weeks, it was a bit of a blur but I don't think I was really on social media at all cos we weren't really sleeping and then in the day we were at the hospital and then the family were always around to try and support us, so I don't think really there was any- any social media at all or no TV, no days out, nothing, just a blur of hospital and lack of sleep

INT: mm so you wouldn't really go online if you were feeling down or

P: no we weren't, no

INT: and now in the present, is there- are there any moments when you'd say that you use it more often than any other times?

P: ermmm

INT: like maybe when you're feeding, or…

P: yes yeah so maybe sometimes she feeds in the night, I mean sometimes she doesn't and sometimes she feeds just once, I'd say 2 or 3 o'clock, so I'd sometimes go on then, whereas obviously I never would before, so that's really the only difference

INT: so how would you say that overall, how do you feel about the support that there is online for parents? Do you think there's anything missing, or could be improved somehow?

P: uhh erm I think the people who set up the groups have done a great job erm the thing that was missing for me maybe was the baby's health (?) and stuff because the breatfeeding group I go to say that even- even if I stopped breastfeeding for any reason they'd let me to still come to the group because I can share my story with others, but as I said to my husband, I'm quite a shy person and I would never just go "so anyway everyone, have you heard my story" you know, so it's not really about that, they kinda just chat about other things, so it'd be good if online there was something like that because that's where my anxiety lies, that we have to keep going to the hospital and her weight isn't good and I don't really feel like there's anyone to talk to about that apart from family and our family are great so luckily I get what I need from them, I mean I'm sure Netmums probably do have something like that but I just can't navigate it, I've given up on it cos I just can't, at present I can't make it work for me but, there was another website that I was on support and I joined when we were trying to conceive but I can't even think what that one was now and again, they probably have something along the lines that I'm looking for but I don't feel like I need it now cos I would just speak to my mum or my husband and that seems to do the trick, but there aren't really groups- face to face groups to talk about stuff like that but I suppose ?? the hospital staff can sort you out but that's like a massive part of my parenthood journey so far and there's not really been any support that I've accessed anywhere except my immediate family, I mean you do get- you have mothers, don't you, with no family and I don't know how- how I would've got through it really if I've not had my husband and my mum and that- that would be the one thing that I'd say it's missing but I know it's not missing, it's just I don't know how to find it (laughing)

INT: mm you're probably not the only one, so, it's probably missing for other mothers as well. Erm and going back to these groups on Facebook because you mentioned them a lot, what would you say that- how would you say that they're actually useful for mothers?

P: how the Facebook groups are useful to a mother?

INT: yeah

P: I think probably just cos Facebook is so accessible and I mean there's just groups for everything now but I only joined just those few because I was wary for a while that my friends or anyone really would see, but I haven't joined that many, only really cos the

weaning is a quite big deal of importance and I want her to be ready (?), I think it's just good for preparing, just for the weaning it's for preparing you, giving you lots of ideas and also seeing how other people are either coping with it or if there's any struggle, you can- I mean a lot of people have said they're not sure about their high chair or not sure if the baby's able to sit high enough to be able to start weaning yet, so I think because I've got 6 weeks left with practicing her sitting more and you know, just using other people's experiences to try and prepare us for our own, that's what I'm getting from it, and in terms of breastfeeding, again I think seeing other people's journey has a lot to do with it cos it can help with my own or give me ideas or, but that's how it'd be helpful it think

INT: mhm and do you think that could- seeing other people's journey, it can have a negative effect in any way?

P: maybe but it's not like with the timeline where everybody's competing to be the best, I mean I suppose there is an element of that on the weaning page, you've got these mums that are cooking things up from scratch and it's ever so healthy and the baby is doing so well, so I suppose you could feel negative about it, but I know that I'm not a strong cook and I'm not gonna try and compete with those mums, I'm just gonna give her what we have in the cupboards and… a whole lot of vegetables (laughing) just trying to do the best I can do but I'm not- a lot of them make home made pin wills, I didn't know what one was until I joined the group, so my baby's not gonna have pin wills, she's gonna have probably a load of carrots and broccoli

INT: that sounds really healthy, so… (laughing) yeah because you know that there are many mothers who tend to compare themselves, so I guess it depends on how you look at it and …

P: yeah

INT: yeah erm yeah I think we've covered everything, is there anything else that you'd like to add?

P: no, thank you

INT: thanks again for taking part, it's been really helpful

Appendix S- Interview Transcript Example Study 4

INT: errm so do you have any questions or can we just start

P: er we can start yeah that's fine

INT: okay so if we can just start with some information about yourself, so if you can tell me how old are you, how many children you have and their age as well

P: erm I'm 35, I have one daughter and she is- well she's one, one years old on Sunday

INT: okay so how has it been for you since you've had the baby, if you can just start with a general idea and then we can go into more detail

P: erm general idea, it's-it's erm it's been fun, it's very hard work erm but yeah it's been fun erm I got a reasonable amount of paternity leave from work so I was able to help out those first few weeks and I work flexi time which works erm I can help an amount (?) at home and stuff so yeah but it's just- it's just, it's very, very demanding but yeah good overall

INT: okay, do you remember your first reaction to having a baby, how you were feeling and thinking

P: err a little I think scared, very scared yeah with the sort of money, the lifestyle change, just feeling competent (????) to look after a child but it's- that sort of- with any... after a while, after a few weeks when we got the- we went for the first 12 weeks scan and it became exciting and then telling people er telling people about it, friends and family, it just became more exciting as time went on

INT: mm and did you have any expectations of how having a child would be like

P: err I expected it to be quite demanding, I thought I was worried that I wouldn't know what to do, that I wouldn't know how to change a nappy, I wouldn't know what food it needed, I was- yeah I thought financially , yeah quite- quite costly but yeah that's it really

INT: mhm and what would you say that you enjoy the most about being a dad and what do you find most difficult

P: err I think it's very rewarding, I think seeing my baby grow and develop erm and seeing my baby happy and laughing and smiling, I'd say that's the bit I enjoy the most, it's the most rewarding thing I've ever done err and what I find most difficult I think, I think really it's just an adjustment in your personal life cos suddenly your own free time- your time is not yours anymore, you can't do the same things, you can't go- er you can't go out as much erm I think it's obviously not having much money and having??people?? I can't do that?? (4:40) I think that's- yeah I think that's that side of it

INT: and how do you- how do you cope with these, like major changes in your lifestyle, do you just accept it or...

P: I thi- I think just accept it really, I think ?? For men, I don't think this is anywhere near as hard for men as it is for women so that's it but I think there's more err more resources for women I think, to look at it and think "oh this is how my life is gonna change..." I think it's just a gradual acceptance really, I talked to other men who's got babies and asked how they find it and I think that's it, it's just sort of a general coming to terms with the change, things like lack of sleep, I think that's been one of the biggest – you just- you don't sleep through the night and then the first few weeks you just wonder how you're gonna cope day to day ??????? You're waking up at 5 o'clock in the morning every day, so err yeah, yeah that's what I would say for that question yeah

INT: mhm and so how did you manage the issues that you had in the first few weeks when you weren't sure of how you're supposed to do things or

P: yeah I think it's- I think the main thing was err we took an antenatal class which gave us some idea and then it's we bought some books- we bought some books about parenting and then I think just like Google every time something happens and you're not sure what to do , sort of Googling it and erm yeah just coping with that I think yeah that's the way I managed to cope with things, I think you know just in terms of- the main thing is lack of sleep really it's just- you know the first two weeks because I was lucky enough to be able to- we were both lucky to be able to be off work and then just doing things like just making sure that we help each other out, giving a chance to sleep when the other one is really tired and I think sharing the load really, I think that's the best way

INT: mhm do you feel like the relationship between you and your partner changed in any way after having the baby?

P: yeah I think- I think it's err I think it's had its own challenges (?) I think it was a big change for the both of us and we just had to adapt, we had different ideas about what we thought was right erm and I think it brought that change in how we spend our time, our free time and I think it was challenging, and sometimes we would- in those first few weeks we would argue I think cos like I said ???? Plays a big part in that but we managed to work through it and get into our routine and sort of make the situation to work as best as we can but I think it works well now, it's just like any big change in life, it takes adjustment

INT: yeah and what about the relationship that you have with the baby, did that change in any way from the first few days, weeks of having the baby until now

P: yeah I think as the baby gets older they sort of develop their own personality, you get to find out what they like and what they don't like and in the first few weeks the baby is just unpredictable, they'll cry all the time, they'll want feeding constantly, they'll wake up at any time and I think it's err I think you just build up that bond as time goes on and then when they start to react to you, they'll see you and they'll smile and it's just over time, I mean obviously when my baby was born I loved him straight away, but I think as you get to interact with him more as they're older and then as things settle down, you feel like you can have a relationship with your baby because in the first few weeks you just don't really have time to think, you don't really stop to think "am I enjoying this" you just have to- you have to wake up when the baby wants you to wake up, you have to feed him when he wants feeding if you see what I mean, so yeah that's how I see it changed really

INT: mhmm and what about how confident you feel in your role as a father, you'd say that also changed in time and it became...

P: yes definitely I think before the baby was born I thought I can't do this, I thought this is- I thought this is just something ridiculous, like I've always looked up to people who had children and thought "oh that's not something I could do", I think you just- you find your own way, you find that it's actually – people have been having babies for, you know, thousands of years and it's- you just adapt and over time it becomes fun and you enjoy it

INT: mhm and did you ever feel any pressure or feel like you're supposed to feel in a certain way as a parent or to act in a certain way

P: ermm how do you mean...

INT: for example from society, how society sees parenting and...

P: yeah I think generally you're expected to sort of be quite responsible and I don't know sort of ???? Your own interests and focus- focus on the baby, I think lots of people have their own ideas but I think for me I try and keep, you know, I try and keep the things I'm invested in like erm I play football quite a bit, I watch football and things like that, I try and keep those things when I can but think what you find is you end up giving all your time to the baby anyway so I think you need to be responsible ????? I think you fall into those behaviours anyway if you see what I mean cause you gotta be there for your baby and you got to be doing things for him and you can't, for example, you can't go out to the pub all the time and stuff like that but I think, yeah generally I think- I think there's an issue as well ?? with things like social media these days where I think people expect you to present your life on social media because people would say to me "oh I didn't realise you have a baby because you're not posting any pictures" and I'd say well that's not what I want to do because it's a personal thing that I don't feel like I need to show off and I think my child is – has got a right not to be plastered all over social media erm so but yeah that's- yeah that's my answer to that question

INT: and do you feel like there's any specific expectations for dads compared to mums when it comes to being a parent

P: I mean yeah I think it-s ermm possibly it's quite negative expectations, men I think are expected to take a back seat and not be involved in things like feeding and take an interest in that and help and changing and things like that and I think even sometimes, I think some people- even if I take my baby out on our own without mum, I think some people might look at that and say "well that's a woman's job" or something, I think there's that pressure in society and obviously there's been times- I carry my baby around in a- you know, like a baby carrier sometimes and I think as well it's been a lot of- it's been a lot of things in the news recently and how some people think that, I don't know what's the term.. emasculating or whatever and I think- I just, I don't know I think people who think that are a bit behind the times really and I think I like to do what's best for my baby, I want to be able to have a bond with my baby and if somebody has a problem with that because of some old-fashioned reason then that's their problem, you see what I mean

INT: yeah so you're not really affected by these outside...

P: I mean it doesn't really affect me, I think for me as a parent I do sort of what is right for me and my baby and my partner and all that outside pressures don't really, I don't really ??

Into it because it matters more to me than what everyone else thinks and I think a lot of these things, old-fashioned ideas are just non-sense really

INT: yeah and erm what kind of support did you get ermm yeah after you've had the baby, so you said that you had those antenatal classes so that was before the baby, what about afterwards, did you have any classes or what about like family support or health professionals?

P: err health professionals, we have the health visitor who comes around and my partner is taking our baby to regular appointments with the doctor, erm in terms of family, we have my partner's parents, they're very good and my parents help out when they can but they're older and they're not in the best of health so it's a bit more difficult but I think the other family have been very supportive, I think it's- obviously there's our local GP and the health visitor- we've been quite lucky our baby's been quite healthy so we've not really had to access a lot of health services beyond the routine visits

INT: okay and did you have any specific support for you as a dad from health professionals, did you feel like they were...

P: erm not specifically, they did suggest a dads group, but that was somewhere about two or three miles away from my house and it wouldn't have been something practical to go to and also at the same time, I personally didn't think I needed it , I think it was- I think it could be more sort of specific support, I mean the only support we've had has been as a couple or my partner she;'s gone to things like breastfeeding support and drop-in sessions, but there's not really been anything, or I wouldn't say there's- what's been on offer to me has been quite limited which hasn't affected me as much but it might affect somebody else who's got a specific issue or whatever so yeah I'd say that not a great deal of specific- dad specific support on offer

INT: okay and moving on to internet, social media support, you said that you tend to go on Google if you have any questions or...

P: yeah

INT: can you tell me a bit more about that, like how do you use the internet or social media for parenting information

P: yeah, I'd say I stay away from social media for parenting advice, cos I think there is, I think it's not somewhere to put your problems and things like that, I'd say in terms of Google, I google things like Mumsnet for certain problems or NHS, I tend to find lots of information on there and obviously I trust the information on the NHS website more than say something like Mumsnet but err sometimes it can be hard to define a problem and then you can google it and there'll be lots of different opinions and you can form your own opinion often based on that but yeah I try and google, I mean some- yeah generally anything health related, generally I'd try and use trusted links like NHS and what have you, but there are other tools online out there that you can just put your mind at rest but yeah certainly social media wouldn't be somewhere that I would look for parenting advice

INT: mm is there a particular reason for that, is just the information that's not very reliable?

P: I'd say the information wouldn't be very reliable, I mean I don't know of any resources on social media that would be helpful and I think you'll ??? (19:40), I think if you put things on social media, you'll ??? And other people's opinions that might not be grounded in any facts and you'll leave yourself up (??) to criticism and it's not really somewhere I'd want to share a problem because people can be quite judgmental and that's ?? See what I mean

INT: yeah so you're not really part of any groups on Facebook or anything like that

P: no, I'm not no

INT: mhm, do you ever tend to talk to any parents online or go on any pages with parents and stuff like that

P: no, I wouldn't know- I wouldn't really know where to start to be honest, I mean I do look at that Mumsnet page, I dunno if that classes as social media, but yeah I'd say Facebook but I wouldn't really use those because generally I think they are unreliable

INT: mhm do you use them for anything, like other personal things or

P: yeah, yeah I mean I use- I don't really use facebook that much but I use twitter a lot for just how everybody uses it, snapchat and things like that... yeah I use those for what I feel it's there for which is just like sharing bits of- like sharing jokes or bits of trivia or the news but I think anything personal I try and avoid, I avoid social media for anything personal

INT: mhm and with sharing pictures of the baby, you said that you don't really like doing that

P: no, we agreed before the baby was born that it'd be something that we'd have to both agree no pictures to go up and we spoke to friends and family and said initially we prefer for them not to put photos of the baby online because you know the digital footprint that they leave and it's information that potentially could be up- cos obviously we don't know at this point in time what's going on, where the internet is going to go, where social media is going to go and our daughter's picture could be on there forever, we don't know who's looking at it and we have one or two select photos that we like and we put those on facebook, we've got, you know, only friends can see and although we're careful about what we put, because I know some people can share some really personal stuff and it can say things like "oh my baby's just been to the toilet" or "my baby's just been sick" and when my baby turns 18 she's not gonna want to know that her dad's been saying these things on the internet , it's embarrasing (?????) it's been alright I think ?? We send pictures to family on whatsapp and things like that cos it's private or , Facebook is a really public space I think

INT: mm so you said that you don't use social media for yourself but you can see other people posting maybe about their children or … and have you ever felt influenced by what they're posting or affected in any way

P: ermm influenced to share more or just influenced by what they're doing?

INT: yeah by what they're doing or yeah

P: yeah I suppose I'd say yes, I mean sometimes I might see someone who's been somewhere for like a nice activity, or a nice day out or a nice holiday, you might think "oh we could do that with our baby" and I think and I think that can be positive, I think sometimes as well I think sometimes you'll see things erm I think it's like anything with facebook, I think people present an idealised version of their life on there andi'm not sure I could stand (?)to live up to it like people would be posting- for example before the baby was born, a few people were posting pictures about their baby showers and things like that and then we things "oh why didn't we have a baby shower" but that's not something that we want to do but think some people can be very ostentatious with what they put on there and sometimes yeah it can make you feel a little bad cos you think "am I putting enough effort, should I be doing more of this" when you see pictures of people (???) and things like that and all the money they spend and our baby turns one on Sunday and we're just having a very small celebration because she's one years old, you know what I mean, it's a nice occasion but she won't remember it , we're not-we're not particularly sort of flashy people not very money orientated people, but yeah I

think sometimes you see people constantly posting things about how much money they spent or if they go on holiday and sometimes yeah it can make you feel like perhaps you're a little bit inadequate, it does take to be quite strong minded to overcome that

INT: mhm and do you have any moments when you'd rather go online to look for information than go somewhere else or ask a family member

P: erm sometimes, I think sometimes it's just easier to go online, I think perhaps if there was a health issue or I think perhaps if you ask a family member they might start to worry and think something's wrong, whereas going online for information or through google it's anonymous and you can put your mind at rest in seconds or perhaps if you spoke to a family member they'd go "oh what's wrong, is everything okay" and you don't want the hassle you know if you're a bit worried yourself or if you're a bit stressed or whatever

INT: mhm and do you feel like the way in which you use the internet to look for parenting information changed from when you've just had e baby until now?

P: rr not particualrly cos I've always had the opinion (???) thaty I think you've gota do certain things that you trust like the NHS and then there's certain things that perhaps you need to take with a pinch of salt just like forums, magazines, websites, newspaper websites and things like that so generally I'd look at a number of things rather than look at one page and take its word for it, so I try to form my own opinions based on that

INT: mhm and what about how often you go online to look for this information , did that change in any way

P: I'd say yes, i'd say probably in the first few months was on there all the time because everything was so new and obviously you dont sleep often, you're feeding a lot ????? And then I think when it got to six months and we started introducing solid food, I was looking for things for that, so I ink as you approach each milestone perhaps you might start doing more of that but I think generally now i tthink i'm more confident in my own parenting ability, and you get to know your own baby you know what they're liking, I think you're ??? A bit more,you don't need to google everything

INT: kay and what do yu think about the online support that's available for fathers

P: rm I would say I don't really know whats out there to be honest, i think there's general support, I think there's a lot of things onine about babies but I think t a lot of iis father

specific, I suppose I could just google that but there's nothing that I know of that would be father specific

INT: okay so you never really needed any kind of...

P: yeah it's never really been something that i thought I need father specific support or ???? from a fathers point of view, that's not how I approached it, but that's not to say that it would - that it's wrong, so say somebody that would need that approach is wrong cos that might be what they need but it's not something thats particualrly... that I thought I needed support from a fathers point of view

INT: okay and do you feel like there's anything that wouldve improved your online experience in terms of parenting support

P: erm I'm not sure to be honest, I think it's more sort of trustworthy... whats the word I'm looing for... like trustworthy research, erm evidence based , as opposed to just people's opinions, I think ???? That's a good resource but i think it perhaps doesn't go far enough because I think cos it always ends up saying "oh you're worried about this then ring the doctor" or ring 999 or 111 because a lot of the time as a parent you just want to be- just want to have your mind put to rest so perhaps something more evidence based , perhaps a bit more comprehensive with what the NHS offers t the moment, I'd say that'd probably be a good resource

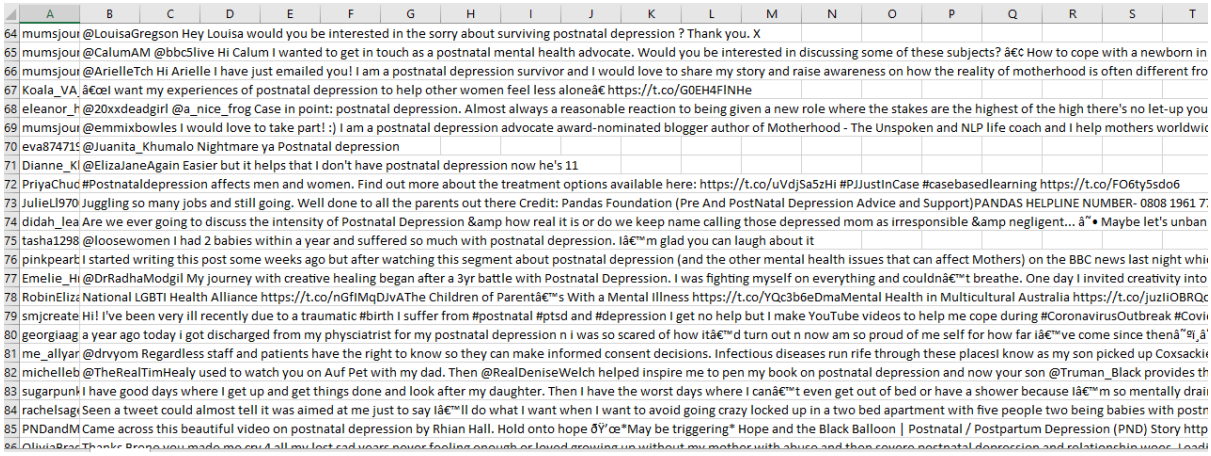
INT: okay so finally what would you say that s an advantage and a disadvantage of using social media for parents

P: err advantage, I'd say the advantages are relatively few I think, i think other than convinience , I think you can get opinions and replies and new information, you can get that very quickly , it's certainly quicker than perhaps, you know waiting to see a friend on a friday when you go to the pubwith them or waiting to go to work tto see a work colleague , I'd say I think it's got that vantage bt I think the disadvantages are qwuite numerous, I think you get opinions unreliable, I think you can start to feel about yourself, I think people can be very judgmental there and I think generally you can an impression of howther people are coping that's not realistic and it can make you feel like you're not doing the best job you could be doing

INT: yeah so it's probably important how you approach what you find online and yeah

Appendix T- Corpus Linguistics data

Example of tweets collected



	A	B
64	mumsjour	@LouisaGregson Hey Louisa would you be interested in the sorry about surviving postnatal depression ? Thank you. X
65	mumsjour	@CalumAM @bbc5live Hi Calum I wanted to get in touch as a postnatal mental health advocate. Would you be interested in discussing some of these subjects? â€¢ How to cope with a newborn in
66	mumsjour	@ArielleTch Hi Arielle I have just emailed you! I am a postnatal depression survivor and I would love to share my story and raise awareness on how the reality of motherhood is often different fro
67	Koala_VA	â€œI want my experiences of postnatal depression to help other women feel less aloneâ€ https://t.co/G0EH4FlNHe
68	eleanor_h	@20xxdeadgirl @a_nice_frog Case in point: postnatal depression. Almost always a reasonable reaction to being given a new role where the stakes are the highest of the high there's no let-up you
69	mumsjour	@emmixbowles I would love to take part! :) I am a postnatal depression advocate award-nominated blogger author of Motherhood - The Unspoken and NLP life coach and I help mothers worldwic
70	eva87471	@Juanita_Khumalo Nightmare ya Postnatal depression
71	Dianne_Kl	@ElizaJaneAgain Easier but it helps that I don't have postnatal depression now he's 11
72	PriyaChuc	#Postnataldepression affects men and women. Find out more about the treatment options available here: https://t.co/uVdjSa5zHi #PJJustInCase #casebasedlearning https://t.co/FO6ty5sdo6
73	JulieLl970	Juggling so many jobs and still going. Well done to all the parents out there Credit: Pandas Foundation (Pre And PostNatal Depression Advice and Support)PANDAS HELPLINE NUMBER- 0808 1961 7
74	didah_lea	Are we ever going to discuss the intensity of Postnatal Depression &amp how real it is or do we keep name calling those depressed mom as irresponsible &amp negligent... â˜• Maybe let's unban
75	tasha1298	@loosewomen I had 2 babies within a year and suffered so much with postnatal depression. Iâ€™m glad you can laugh about it
76	pinkpeark	I started writing this post some weeks ago but after watching this segment about postnatal depression (and the other mental health issues that can affect Mothers) on the BBC news last night whi
77	Emelie_Hi	@DrRadhaModgil My journey with creative healing began after a 3yr battle with Postnatal Depression. I was fighting myself on everything and couldnâ€™t breathe. One day I invited creativity into
78	RobinEliz	National LGBTI Health Alliance https://t.co/nGfIMqDJvAThe Children of Parentâ€™s With a Mental Illness https://t.co/YQc3b6eDmaMental Health in Multicultural Australia https://t.co/juzIiOBRQc
79	smjcreate	Hi! I've been very ill recently due to a traumatic #birth I suffer from #postnatal #ptsd and #depression I get no help but I make YouTube videos to help me cope during #CoronavirusOutbreak #Covi
80	georgiaag	a year ago today i got discharged from my physciatrist for my postnatal depression n i was so scared of how itâ€™d turn out n now am so proud of me self for how far iâ€™ve come since thenâ˜¯ï¸
81	me_allyar	@drvyom Regardless staff and patients have the right to know so they can make informed consent decisions. Infectious diseases run rife through these placesI know as my son picked up Coxsackie
82	michelleb	@TheRealTimHealy used to watch you on Auf Pet with my dad. Then @RealDeniseWelch helped inspire me to pen my book on postnatal depression and now your son @Truman_Black provides th
83	sugarpunk	I have good days where I get up and get things done and look after my daughter. Then I have the worst days where I canâ€™t even get out of bed or have a shower because Iâ€™m so mentally drai
84	rachelsag	Seen a tweet could almost tell it was aimed at me just to say Iâ€™ll do what I want when I want to avoid going crazy locked up in a two bed apartment with five people two being babies with postn
85	PNDandM	Came across this beautiful video on postnatal depression by Rhian Hall. Hold onto hope ðŸ˜œ*May be triggering* Hope and the Black Balloon | Postnatal / Postpartum Depression (PND) Story http
86	OliviaBrad	Thanks Bronc you made me cry4 all my lost sad years never feeling enough or loved growing up without my mother with abuse and then severe postnatal depression and relationship woes Readi