A MIXED METHODS EXPLORATION INTO CLINICAL DECISION-MAKING, MORAL DISTRESS AND COPING-RELATED CONSTRUCTS AMONGST NURSING PROFESSIONALS.

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ABSTRACT

Clinical decision-making is a core competency of the nursing role, one that is derived from clinical skill, knowledge and experience. However, little is known about how decision-making relates to nurses' wellbeing. Moral distress is a common challenge throughout the nursing workforce and describes the psychological response that arises when one identifies a correct action to take but is constrained from implementing this in practice. This experience is particularly prevalent across the nursing profession, with nursing professionals demonstrating a heightened susceptibility to this phenomenon due to the nature of the nursing role. It is therefore important to consider potential associations between clinical decision-making and moral distress, with consideration to potential elements of support. The main aim of the current thesis was to examine nurses' experience of clinical decision-making and any impact on health and wellbeing. Further consideration was given to the role of coping behaviours, health-promoting behaviours and self-compassion and their role in mitigating any potential negative effect. A mixed-methods approach was adopted to explore these areas, with an initial exploratory quantitative phase, followed by a qualitative exploration of key findings. The first phase of data collection consisted of four cross-sectional studies. Findings revealed that clinical decision-making was indeed associated with nurses' wellbeing, demonstrating significant associations with physical health, psychological wellbeing and moral distress. Interestingly, control decision-latitude, grazing, self-compassion, coping behaviours, personality and philotimo were all seen to influence the observed relationships, offering insight into potential areas of support for nurses' wellbeing. The second phase of data collection utilised qualitative methods to offer further insight into the relationships observed within the initial quantitative phase and examine findings further. This phase consisted of two studies. Chapter 7 details the first qualitative study, which utilised semi-structured interviews to explore nurses' experience of clinical decision-making. Three key

themes were derived from the data: We're not doctors handmaidens anymore, the impact of clinical decision-making, we're not trained to make clinical decisions. Overall findings from this chapter highlight that the nursing role has become increasingly autonomous, and nurses possess high levels of responsibility for clinical decision-making. However, training and support is not yet sufficient which ultimately impedes nurses' ability to manage the impact of decision-making. The final chapter details a dissemination study whereby participants discussed the research findings and offered practical insight into how findings could be implemented in reality. Discussions centred around the need for greater models of clinical supervision and training opportunities tailored towards nurses' decision-making specifically. Overall, this research offers insight into the impact of clinical decision-making on nurses' wellbeing and offers suggestion for both person-centred and organisation-led intervention to mitigate any negative effect.

DISSEMINATION

Chapter 4 (Development and Revision of the Clinical Decision-Making in Nursing Scale: A Methodological Study) has been published in pre-print and is currently under review with Heliyon: Miley, M., Connabeer, K., Wallis, D., Egan, H., & Mantzios, M. (2023). Development and Revision of the Clinical Decision-making in Nursing Scale: A Methodological Study. *Available at SSRN 4621063*. http://dx.doi.org/10.2139/ssrn.4621063 (See Appendix A1).

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Chapter 6 (Exploring the Role of Personality, Perfectionism and Self-Compassion on the Relationship Between Clinical Decision-Making and Nurses' Wellbeing) has been published in Contemporary Nurse: Miley, M., Mantzios, M., Egan, H., & Connabeer, K. (2024). Exploring the role of personality, perfectionism, and self-compassion on the relationship between clinical decision-making and nurses' wellbeing. *Contemporary Nurse*, *60*(2), 111-125. https://doi.org/10.1080/10376178.2024.2319845 (See Appendix A3).

The contents of this thesis were presented at the Nurse Specialist Conference on Friday 20TH September 2024. Chapter 7 was presented as a poster presentation (see Appendix B).

Chapter 8 details a series of online dissemination activities which have been used to inform future recommendations.

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AMOS: Analysis of a Moment Structures

BMI: Body Mass Index

BTPS-SF: The Big-Three Perfectionism scale Short-form

CDMNS-13: The Clinical Decision-Making in Nursing Scale-13 item

CDMNS-40: The Clinical Decision-Making in Nursing Scale

CFA: Confirmatory factor analysis

DC: Dysfunctional Coping

DCSQ-CDL: The Demand Control Support Questionnaire – Control Decision-latitude

DCSQ-PD: The Demand Control Support Questionnaire – Psychological Demands

DCSQ-SS: The Demand Control Support Questionnaire – Social Support

DCSQ: The Demand Control Support Questionnaire

EFA: Exploratory factor analysis

EFC: Emotion-Focused Coping

GQ: The Grazing Scale

HEXACO: The HEXACO Personality Inventory

IPAQ-M: The International Physical Activity Questionnaire Short-form (Moderate activity)

IPAQ-SF: The International Physical Activity Questionnaire Short-form

IPAQ-T: The International Physical Activity Questionnaire Short-form (Total activity)

IPAQ-V: The International Physical Activity Questionnaire Short-form (Vigorous activity)

IPAQ-W: The International Physical Activity Questionnaire Short-form (Walking activity)

MCDA: Multicriteria Decision Analysis

MDS-R: The Moral Distress Scale-Revised

NHS: National Health Service

OBI-D: Oldenburg Burnout Inventory - Disengagement

OBI-E: Oldenburg Burnout Inventory - Exhaustion

OBI: Oldenburg Burnout Inventory

PFC: Problem-Focused Coping

PHQ: The Physical Health Questionnaire

RTA: Reflexive Thematic Analysis

SOCS- MTA: The Sussex-Oxford Compassion for Self-scale – Being Motivated to Act to Alleviate Suffering

SOCS-FPS: The Sussex-Oxford Compassion for Self-scale – Feeling for the person suffering

SOCS-RS: The Sussex-Oxford Compassion for Self-scale – Recognising Suffering

SOCS-TUF: The Sussex-Oxford Compassion for Self-scale – Tolerating Uncomfortable Feelings

SOCS-UUS: The Sussex-Oxford Compassion for Self-scale – Understanding the Universality of Suffering

SOCS: The Sussex-Oxford Compassion for the Self Scale

SPSS: The Statistical Package for Social Sciences

SSES: The Salzburg Stress Eating scale

TA: Thematic Analysis

The Brief COPE: The Brief COPE Inventory

UK: United Kingdom

WEMWS: The Warwick Edinburgh Mental Wellbeing Scale Short-form

CHAPTER 1: GENERAL INTRODUCTION

This chapter introduces the focal elements of the thesis: clinical decision-making in a dynamic healthcare environment, and potential relations to moral distress and wellbeing. Consideration is given to elements of personality and personal values, which may offer a possible explanation for the variation observed when exploring nurses' experience of decision-making and its impact. Furthermore, the chapter introduces coping behaviours, health-promoting behaviours and self-compassion as potentially protective factors that may mitigate any acknowledged impact of decision-making on wellbeing. The chapter will conclude with a summary of the research aims, objectives, and detail the direction of the wider thesis.

1.1. Clinical Decision-Making

Clinical decision-making is an integral component of healthcare, whereby healthcare professionals analyse and evaluate information from a range of different sources to make informed judgements and choices (Smith et al., 2008; Tiffen et al., 2014). Information is drawn from both nurses' own experiences (Wu et al., 2016) as well as interactions with patients to inform accurate decision-making and optimise nursing care (Krist et al., 2017). Within nursing practice, decisions present in two distinct forms: patient care, whereby nurses advocate and make decisions that directly impact upon patient experiences and care received, and occupational decisions, which impact upon the work context or colleagues more broadly (Huitzi-Egilegor et al., 2014; Lauri, 1982; Müller-Staub et al., 2016; Neville & Roan, 2014; Rabelo-Silva et al., 2017). The breadth of decisions made across the nursing profession therefore ranges from advocating for the patients' needs and coordinating care to being involved in more complex decisions such as end-of-life and prescribing choices (Adams et al., 2011; Funnell et al., 2014; Karam et al., 2021).

The decision-making process is essential to ensure patients receive accurate diagnoses and treatment (Masic, 2022) and has become a fundamental expectation of the nursing role (Johansen & O'Brien, 2016). There are several factors that can influence an individual's decision-making process, including level of experience (Maharmeh et al., 2016; Wu et al., 2016), knowledge and education (Bjørk & Hamilton, 2011; Melin-Johansson et al., 2017), decision-making context (Cappelletti et al., 2014) as well as personal traits and characteristics (Alaseeri et al., 2021; Farčić et al., 2020). The clinical decision-making process is therefore unique to each individual and not uniform across nursing professionals.

Nurses' involvement in complex clinical decision-making has increased over recent years, a result of advanced medical technology, an aging population, and the evolving complexity of nursing tasks (Mun & Kim, 2016; Price et al., 2017). Nurses' involvement also appears multifaceted when compared to other healthcare roles due to their unique immersion in patient care; nurses are involved in initial treatment decisions, the development and implementation of treatment plans, whilst also being responsible for the continuous monitoring and improvement of care (Ajibade, 2021; Nursing & Midwifery Council, 2023a; Suliman & Alijezawi, 2018). As a result of this prolonged involvement in patient care, nurses tend to spend far more time with patients than any other group of healthcare professionals and so their input is crucial when exploring best possible outcomes for patient care (Razieh et al., 2018). As such, there is a greater emphasis on nurses' autonomy and responsibility when determining decision outcomes (Martin, 2002). It is important that nurses are well-equipped to manage the level of responsibility that accompanies clinical decision-making, given their enhanced involvement and its direct relationship with the quality of patient care administered (Cheung et al., 2008; Abate et al., 2022); poor decision-making predicts improper patient handling, increased hospital stays and higher re-admission rates amongst patients (Cheung et

al., 2008; Abate et al., 2022), further highlighting nurses role in patient health outcomes via the decisions that are made.

In order to acquire sound judgement and decision-making skills, nurses need to develop a strong critical thinking ability, as well as a comprehensive understanding of why and how decisions are made (Dowding et al., 2012). Critical thinking in nursing practice has been defined as the purposeful thought process and reflective reasoning in which nurses examine ideas, principles, and assumptions before arriving at a conclusion (Brunt, 2005) and is essential for safe, efficient and skilful nursing practice (Papathanasiou et al., 2014) as well as effective clinical decision-making (Ludin, 2018). Given that critical thinking is a skill that can be cumulated through reflective practice, experience as well as continual education and development (Cirocco, 2007; O'Hare & McGuinness, 2009; Özkahraman & Yildirim, 2011), it is important that nurses are equipped with the education, experience and training opportunities to think critically and reach meticulous decisions within their role.

1.1.1. Models of Clinical Decision-Making

Existing nursing literature highlights three main models of clinical decision-making, namely, the information-processing model, the intuitive humanist model, and the cognitive continuum theory (Banning, 2008; Cader et al., 2005). Each model constitutes an explanation for how nurses navigate decisions within a clinical environment. The information-processing model is a psychological theory that is rooted in medical decision-making literature (Bjørk & Hamilton, 2011; Joseph & Patel, 1990). The model describes an information processing approach whereby individuals attend to incoming information, store this information in one's memory, and retrieve the information dependent upon the decision-making context and needs (Schunk, 1996). In the nursing literature, this approach is described as a 'hypothetical-deductive rational process' that underpins the four stages of nursing: cue acquisition, hypothesis generation, interpretation, and evaluation (Radwin, 1989; Hamers et al., 1994).

Hamers et al. (1994) describe these four distinct stages in greater detail, identifying it as a process in which nurses gather preliminary clinical information about a patient, generate tentative hypotheses about the patients' condition, interpret any initial cues in relation to these hypotheses, and weigh up decision alternatives, before settling on a final decision in light of the evidence. This model therefore views clinical decision-making as a systematic and logical process, informed by factual contextual knowledge stored by the individual (Thompson et al., 2003). This model assumes that the scope for inferences and subjectivity is limited, thus limiting uncertainty (Offredy & Meerabeau, 2005). Standing (2010) found that information processing models such as these can enhance decision-making quality. However, this model of decision-making assumes that existing knowledge is available and accurate when navigating a decision (Miers, 1990; Harbison, 1991). Cranley et al. (2009) found that nurses do still experience some uncertainty when navigating clinical decision-making and tend to rely on heuristics or colleagues as a source of information in these cases. These findings dispute the notion that the information-processing model is a standalone model of decision-making and suggest that there is an element of subjectivity in the decisions that are made. Therefore, it can be inferred that the current model of decision-making does not consider situations whereby nurses are required to make quick and impulsive decisions without having all the necessary information. Little consideration is given to how nurses make decisions within these scenarios, and the role of individual perceptions and heuristics when navigating these. This is important to note given that existing literature highlights the role of personality traits, personal values and individual characteristics in shaping nurses' decision-making (Abdelhadi et al., 2020; Habeeb, 2022). Therefore, this approach may not offer a holistic understanding into nurses' approach to decision-making and may not be helpful in situations where full and comprehensive knowledge is not available or accurate.

Multicriteria decision analysis (MCDA) is a systematic decision-making framework rooted in the analytical principles of the information processing model. MCDA is an analytical way of helping decision-makers rationally choose between multiple, often competing criteria within a complex healthcare environment (Gongora-Salazar et al., 2023); MCDA can increase the reliability and credibility of solutions reached and can therefore optimise the healthcare system and service provided (Thokala et al., 2016; Delice & Zegerek, 2016; Dehe & Bamford, 2015; Liu et al., 2013). In healthcare, MCDA allows individuals to integrate the judgements, priorities and preferences of patients, insurees and experts, allowing healthcare professionals to reach systematic and transparent decisions (Mühlbacher & Kaczynski, 2016). Through considering multiple factors simultaneously in this way, healthcare professionals are able to compare options and make well informed decisions within their roles (Khan et al., 2021). It is therefore unsurprising that the use of MCDA methods to guide complex decisions has increased rapidly across healthcare environments and has been used to address a wide range of decision-making problems, including diagnosing, priority setting, technology assessments, treatment evaluation, and resource allocation (Adun et al., 2015; Diaby et al., 2013; Marsh et al., 2014; Schmidt et al., 2015; Khan et al., 2021). However, the lack of standardisation of MCDA methods limits the credibility, comparability and policy usefulness of MCDA, highlighting the need for further attention when seeking to integrate such frameworks into complex healthcare systems (Gongora-Salazar et al., 2023).

A second model, the intuitive-humanist model differs from the information-processing model in that it emphasises the role of intuition, experience, and human values in the decision-making process (Benner, 1984). It is this intuitive judgement that distinguishes the expert from the novice during the decision-making process, as the individual no longer relies upon analytical processes to inform the decisions that are made (Mok & Stevens, 2005).

Intuition, commonly referred to as a 'gut feeling' is defined as an intellectual technique that provides an individual with an answer, solution, or idea without the use of a conscious and analytical process (Hammond, 1996) and allows individuals to make rapid decisions based on visual, verbal, and non-verbal cues (Mok & Stevens, 2005). It is well established that intuition is a focal component of the decision-making process (Rew & Barrow, 1987) and is deemed particularly beneficial during highly complex tasks (Rew & Barrow, 2007). Given advancements to the nursing role, nurses face complex tasks daily, including the resolution of ethical dilemmas and decisions based on inadequate information; it is during these clinical situations that intuitive decision-making is best used (Rew & Barrow, 2007). However, it is important to note that there are limitations to this model of decision-making, and that it may not explain decision-making across all contexts. Price et al. (2017) found that although intuitive decision-making was associated with more accurate decision-making during familiar situations, it appeared to hamper decision-making when nurses were faced with scenarios that they had not yet encountered. This is important to consider when exploring the applicability of the model across the nursing profession as a whole, suggesting that perhaps novice and less experienced nurses should not heavily rely upon intuition. The intuitive-humanist model may explain why the use of intuition tends to increase with experience across nursing professionals (Pretz & Folse, 2011) and why student nurses tend to adopt more analytical strategies (Price et al., 2017). Benner's work has been considered one of the most useful conceptual frameworks when guiding the professional development of nurses (Oshvandi et al., 2016) and has guided clinical educators in supporting nursing students and novice nurses (Ozdemir, 2019). Novice nurses must be assisted to learn and build experience handling individualised nursing care in practice, so that they can draw upon these experiences when navigating clinical decision-making alone. This model therefore supports the training and support of nurses across their careers and highlights the role of individual factors, such as

experience and intuition in clinical decision-making. By recognising the impact of individual factors on nurses' navigation of clinical decision-making, it is likely that personal differences may also influence how nurses manage or cope with the demands this presents; this is important to consider when seeking to further understanding into nurses' experience of clinical decision-making and its impact upon health and wellbeing.

The cognitive continuum model of decision-making disputes the notion that clinical decision-making is either analytical or intuitive and instead combines elements of the two previous models (Cader et al., 2005). Hammond (1981) describes analysis and intuition as two poles of a continuum, in which most people sit somewhere in between. It was theorised that both the individual's analysis of the situation, experience, and the nature of the task determined what style of thinking would be most appropriate (Hamm, 1988). In 2008 Standing (2008) revised the cognitive continuum theory to accommodate the patient-centred nature of nursing. The revised model utilises the core ideologies from the original theory, with an additional acknowledgement towards ethical and reflective judgement, evidence-based practice, professional accountability, and clinical judgement, thus heightening its relevance in the nursing decision-making literature (Standing, 2008, 2010). Standing conceptualises tasks as 'high-structured' or 'low-structured' and suggests that the mode of cognition varies dependent upon the task. High structured tasks involve decisions relating to research, policies, and guidelines, whereas low structured tasks refer to patient care decisions (Standing, 2008). Melin-Johansson et al. (2017) offer support for this model, suggesting that the type of clinical situation is a major determinant of which decision-making mode is selected by nursing professionals. Further support stems from Abdelhadi et al. (2020) who also highlight nurses' tendency to engage with two different modes of cognition when approaching decision-making. Within this study, nurses tended to engage with 'automatic thinking' when there was a high workload, when resources were scarce, and when they were

presented with particularly difficult patients. Contrary to this, nurses engaged with 'effortful thinking' during more urgent patient care situations, and when head nurses or patient relatives were present. This research supports the notion that nurses' cognition and approach to decision-making vary depending on the situation and is not limited to just one mode of cognition. This model may therefore offer a more holistic view of nurses' decision-making and likely captures the complexity of cognition when navigating clinical decisions. As this model suggests, it is likely that nurses' decision-making is guided by both an individual's cognition as well as external influences in everyday practice. The model suggests that nurses' decision-making will be impacted by personal, environmental and organisational factors, which needs be considered when supporting and facilitating accurate and efficient decisions across nursing professions.

1.1.2. Factors Influencing Clinical Decision-Making

Given nurses involvement in the assessment, interpretation, evaluation, and management of clinical situations (Dougherty & Lister, 2015), and their growing participation in clinical decisions (Mun & Kim, 2016; Price et al., 2017), it is important to consider factors influencing the decision-making process. Ten Ham et al. (2017) divides influential factors into four main categories: nurse characteristics, patient characteristics, environmental factors, and organisational determinants. Nurse characteristics includes nursing experience, clinical expertise, autonomy, and one's attitudes towards patient care. Experience, clinical knowledge and training all had a positive influence on clinical decision-making, unlike age which had a negative influence. Organisation determinants on the other hand involve interactions between the multidisciplinary team, resource availability, and access to decision-making tools. Access to decision-making tools and various resources was seen to positively influence nurses' clinical decision-making ability. More recently, a review of existing literature categorised these elements even further, labelling decision-making

influences as either personal, or organisational factors (Alaseeri et al., 2019). Recognising the impact of these factors as either barriers or facilitators of decision-making is important when seeking to support nurses in making effective decisions to support patient health and wellbeing.

Organisational factors play a crucial role in shaping the clinical decision-making process of nursing professionals. These factors, embedded within the healthcare system and processes, impact both nurses' participation in clinical decision-making (Fetouh et al., 2023) and the efficacy of the decisions that are made (Ten Ham et al., 2017). Across the literature, organisational and interpersonal support are seen to influence nurses' clinical decision-making. Merrick et al. (2014) found that collegial support and professional relationships had a notable impact upon nurses' decision-making, and that when insufficient, negatively influenced patient care outcomes. This may explain why nurses often utilise 'human' sources of information to inform and support their decisions, utilising the clinical knowledge and experience of their colleagues (Seidi et al., 2015). Research therefore highlights how the work environment, collegial support and interpersonal relationships can directly impact clinical decision-making and subsequent patient outcomes. Further consideration should be given to the role of support in nurses' experience of decision-making and when managing the associated responsibility. Similarly, Ten Ham et al. (2017) found that it was the interprofessional dynamics arising from other healthcare professionals within the multi-disciplinary team that significantly influenced decisions. Collaboration and approachability within a multidisciplinary team are important when facilitating effective decision-making, due to the combination of various areas of knowledge and expertise (Lamb et al., 2011; Ten Ham et al., 2017). This explains why healthcare organisations prioritise staffing composition in terms of skill mix to prioritise patient outcomes (Sworn & Booth, 2019; Tamburello, 2023). Alternatively, the influential role of peers upon nurses' clinical decision-making can be

viewed from a social support standpoint, with Brabers et al. (2016) reporting that having

access to emotional support positively relates to one's active involvement in medical

decision-making. This is unsurprising given that peer and social support have been seen to

enhance self-confidence (Freeman & Rees, 2010), increase self-esteem (Liu et al., 2021;

Richard et al., 2022) and empower individuals to take control when necessary (National

Health Service, 2023a). Therefore, receiving support has the potential to support nurses'

confidence and facilitate more autonomous decision-making by empowering professionals to

take control of decisions when appropriate. Further consideration should be given to the role

of peer support in equipping nursing professionals with the support, skills and confidence

required to navigate autonomous clinical decision-making and minimise any negative impact

on health and wellbeing.

Existing literature also highlights the role of contextual factors in nurses' clinical

decision-making. Ten Ham et al. (2017) identified heavy workloads as a barrier to sound

decision-making in nursing, which ultimately hindered patient care decisions due to time

insufficiencies. The observed relationship between workload and the accuracy of clinical

decision-making may be further understood through the impact of decision fatigue. Decision

fatigue describes an impaired ability to make accurate decisions and control one's own

behaviour, as a result of making many decisions across a period of time (Pignatiello et al.,

2020). This enhanced demand for decision-making can ultimately lead to reduced clinical

judgements (Masiero et al., 2020) and less resource-efficient and effective decisions across

nursing professionals (Allan et al., 2019). Decision fatigue is widespread amongst nurses and

is associated with a reduced self-worth, as well as increased anxiety, guilt and self-blame

(Dong et al., 2024). It is therefore important to consider the impact of work demand in

relation to decision-making frequency across nursing roles to minimise the risk of decision

fatigue. In addition to work demand, Ten Ham (2017) suggest that nurses cannot make

effective decisions without adequate resources, sufficient staffing levels, and a supportive

organisational structure to help manage the large workload. Robert et al. (2020) found that

organisational constraints such as these make it difficult for healthcare professionals to

achieve their ethical obligations to patient care, ultimately resulting in an increased risk of

ethical dilemmas, and hindering one's ability to fully engage in the decision-making process

(Banks et al., 2020; Choe et al., 2015; Dalingwater, 2019; McLeod, 2014). Organisational

constraints appear to complicate the decision-making process and should be considered in

relation to nurses' lived experience of clinical decision-making and any impact this may have

upon health and wellbeing.

Research also highlights the role of contextual factors upon nurses' clinical decision-

making ability and experience. Alaseeri et al. (2021) found that organisational rules and

regulations were indicative of the decisions that were made. Specifically, having consistent

and up-to-date hospital policies, roles and guidelines facilitated decision-making and

enhanced patient care. When these were not adhered to, potential risks and errors were

exasperated. These findings highlight the importance of regular and updated policies to

support nurses' clinical decision-making and minimise any negative impact. It is therefore

important for healthcare organisations to consider the support and context in which decisions

are made to facilitate effective decision-making across nursing professionals. Often, the

efficacy of nurses' decision-making is evaluated in isolation of these barriers, with nurses

being accountable and taking responsibility for all decisions and errors that are made

(Luggar-Schmit, 2024). Consideration must be given to availability of resources, accessibility

to up-to-date policies and contextual elements that can influence nurses' ability to make

accurate and efficient clinical decisions.

Healthcare policies, guidance and frameworks are fundamental in supporting

evidence-based decision-making and competency across nursing professionals, whilst also

ensuring care is consistent across different healthcare settings (Melnyk et al., 2004). Each of these is carefully designed to optimise patient services and the delivery of care by ensuring that nurses meet the high standards set by regulatory bodies and that nurses' clinical skills are up to date (National Institute for Health and Care Excellence, 2024a). Clinical guidelines provide evidence-based recommendations to support healthcare professionals' decisions and therefore act as an important resource for nurses when navigating decision-making (Panteli et al., 2019). Currently, there are a variety of frameworks, policies and guidance in place to support nurses' decision-making. The National Institute for Health and Care Excellence (National Institute for Health and Care Excellence, 2024b) offers evidence-based guidelines that facilitate clinical decision-making processes and ensure that nurses are well-informed to make decisions on current best practices. The guidance focuses on supporting good communication with patients and their families, involving others in decision-making and making decisions around the escalation of treatment (Royal College of Physicians, 2020). The National Institute for Health and Care Excellence (NICE, 2024) also places emphasis on shared decision-making, the process in which a healthcare professional works alongside an individual to reach decisions about care. This process allows the patient to contribute their preferences, beliefs and values to the decisions being made whilst still considering the risks and consequences of these (NICE, 2024). Patients' involvement in decisions is important when ensuring the decision is made in line with the patients' priorities (Hargraves et al., 2016). Following this guidance not only empowers patients to make decisions about their treatment but also prompts greater communication and understanding between the professional and patient, thus positively influencing the care relationship (Montori et al., 2022). Moreover, the Nursing and Midwifery Council (2018) code is used to guide nurses' practice, decision-making and documentation. This guide sets a regulatory standard for nursing professionals and emphasises the importance of professional judgement,

accountability, collaboration and evidence-based practice in decision-making. By highlighting nurses' responsibilities to communicate effectively, prioritise patient safety and act within their remit, nurses are guided into making the most appropriate and meticulous decisions within the healthcare environment (NHS England, 2023b).

Given the vast implications of healthcare policies, guidance and frameworks on nursing practice and patient care, it is important that nurses are involved in not only their implementation, but also their development (Juma et al., 2014; Smith, 2014). This is for a number of reasons; first, nurses work alongside patients and their families in a variety of settings; therefore, nurses act as an invaluable source for developing relevant policies that are applicable for the service. Second, health policies have a direct effect on nursing professionals and their practice, thus nurses' involvement ensures that the positive impact and relevance of policies are maximised. Third, nurses are heavily involved in professional development and are often capable and eager to contribute positively towards the development of efficient health policies (Juma et al., 2014; Smith, 2014). However, despite these considerations, research suggests that nurses have limited involvement in the policies and political decisions that influence healthcare delivery (Etowa et al., 2023; Juma et al., 2014; Salvage & White, 2019). This is important to consider when exploring nurses' approach and experience of clinical decision-making as well as perceptions of decision-making ability.

It is also important to consider intrinsic factors that influence nurses' clinical decision-making. Research highlights the role of education (Fetouh et al., 2023), experience (Wu et al., 2016), and self-confidence (Nibbelink & Brewer, 2018) when acknowledging nurses' navigation of decisions. Education has been seen to predict various elements of clinical decision-making, with highly educated nurses demonstrating advanced reasoning skills when evaluating a decision (Bjørk & Hamilton, 2011), having a greater theory base to guide their

decisions (Pantazopoulos et al., 2012) and expressing a desire to have greater involvement in the decisions that are made (Fetouh et al., 2023). Furthermore, Abu Arra et al. (2023) found that possessing a bachelor's degree in nursing predicted greater decision-making ability. Given the noted relations between the level of education and nurses' involvement in decision-making, it may also have important implications for how nurses cope with the demands it brings. Nurses with a higher degree of education appear to be equipped with a great deal of skills, knowledge and motivation to navigate decision-making, and so further exploration into how this translates to managing decision-making would be beneficial when seeking to support nursing professionals.

Personality and personal characteristics are other areas implicated in decision-making more broadly. Flynn and Smith (2007) explored patients' involvement in medical decisions and found that individuals possessing higher agreeableness, conscientiousness and openness to experience demonstrated a greater preference for being involved in important medical decisions and actively participated in the decision deliberation. They suggest that agreeable individuals may be less confrontational with doctors in relation to decision-making and less reactive when doctors assume their 'traditional paternalistic' role. Possessing traits consistent with neuroticism, however, was associated with a preference for reduced participation. Findings highlight the role of individual differences when seeking to further understand an individual's preference for involvement in clinical decision-making as well as their interaction with healthcare professionals. It is important to consider whether similar findings would be observed across nursing samples specifically, given their multifaced involvement in clinical decision-making (Ajibade, 2021; Nursing & Midwifery Council, 2023a; Suliman & Alijezawi, 2018). Further exploration across a nursing sample would support a deeper understanding of nurses' preference for being involved in clinical decisions and how they navigate potential barriers presented by other healthcare professionals within their role.

Currently, research on nursing samples more specifically is scarce, although a recent study by Xu et al. (2023) corroborates the positive relations between agreeableness, conscientiousness, openness to new experiences and decision-making. Xu and colleagues found that these personality traits predicted greater clinical decision-making and nursing competence. Findings highlight the importance of cultivating these adaptive personality traits when seeking to support nurses' clinical decision-making and potentially increase nurses' preference for involvement in more complex decisions.

Given the acknowledged role of personality in an individual's approach and involvement in decision-making, philotimo may offer valuable insight into nurses' navigation of clinical decision-making. Philotimo is a Greek concept rooted in ethical traditions and encompasses a commitment to unconditional selfless acts, honesty, integrity and morality (Vassiliou & Vassiliou, 1973). Viewed as a 'personality trait of a person's goodness', philotimo aligns closely with one's own sense of moral identity (Mantzios, 2021) and may therefore offer valuable insight into how nurses manage and navigate complex clinical decision-making within their roles. Although there is very little research on philotimo across UK literature, it can be inferred that nurses embodying traits consistent with philotimo may demonstrate heightened accountability and compassion due to intrinsic motivations, which is likely to influence the decision-making process and impact. Further research across nursing populations is vital when seeking to gain a holistic understanding into how personality and individual traits contribute towards the decisions that are made within a clinical environment.

Expanding on the broader discussion of personality and philotimo, perfectionism may play a significant role in shaping nurses' approach to decision-making as well as perceived professional competency. Perfectionism is a personality trait and psychological construct which is defined by its exceptionally high standards and self-critical approach (Flett & Hewitt, 2002). Often considered a multidimensional construct, perfectionism can be

categorised as being adaptive or maladaptive in nature, with each demonstrating a unique contribution to health, wellbeing and decision-making (Bulina, 2014; Ganske & Ashby, 2011; Park & Jeong, 2015). Adaptive perfectionism involves setting and working towards high personal standards and goals, whilst maintaining the ability to be satisfied with one's performance (Enns et al., 2002). Such traits are deemed admirable across nursing professions, where high standards and perfectionist expectations are placed on nurses during patient care (Hiçdurmaz & Aydin, 2017). Adaptive perfectionist traits have been deemed a negative predictor of career decision-making difficulty (Chen et al., 2022) whilst also fostering positive relations with others, promoting job engagement and positively influencing psychological wellbeing (Fallahchai et al., 2019; Tziner & Tanami, 2013). These traits can therefore be considered positive and supportive of the nursing role and expectations. However, it is important to consider the varied implications of maladaptive perfectionism. Maladaptive perfectionism has been identified as a vulnerability factor across healthcare professions (Zarei & Fooladvand, 2022). Unlike adaptive perfectionism, maladaptive perfectionists are driven by self-criticism and fear of failure (Frost et al., 1993) and are subsequently left unsatisfied with their performance (Gnika et al., 2012), with concerns over mistakes and with significant doubt about the actions taken (Malivoire et al., 2019). It is therefore unsurprising that maladaptive perfectionists are more susceptible to emotional dysregulation (Malivoire et al., 2019), anxiety (Xiong et al., 2024), negative career thoughts and career decision-making difficulties and (Chen et al., 2022). Overall, maladaptive perfectionism appears to accelerate the emotional impact of stressful situations, which may be problematic and particularly relevant for the nursing role when navigating complex clinical decisions and inherently stressful situations.

Individual self-efficacy and self-confidence have also been identified as essential factors contributing towards nurses' involvement in clinical decision-making (Leontiou et al.,

2021). Farčić et al. (2020) found that one's self-esteem, self-efficacy and locus of control influenced all dimensions of clinical decision-making, especially in the exploring and evaluation of objectives and values. Nurses possessing a greater self-evaluation, categorised by these three concepts, felt more in control and confident in their ability to make decisions. Those possessing a lower self-evaluation tended to have fewer accessible resources and were more risk-averse in their navigation of decisions. These findings highlight the role of individual differences when seeking to understand nurses' experience and approach to clinical decision-making. Specifically, possessing a high degree of self-confidence allows individuals to optimise the use of resources, feel more in control of the decisions that are made, and take a positive approach to their clinical responsibilities. Given the relationship between individual differences and the different elements and competencies of decision-making, it is reasonable to assume that individual differences may also influence nurses' experience of decision-making in relation to managing its impact and coping with the associated responsibility. Further research exploring whether certain individuals are better equipped to cope with clinical decision-making would build upon this research and provide insight into the wider impact of clinical decision-making. Du et al. (2022) further highlight the role of personal factors in relation to the decisions that are made by nursing professionals; Both empathy and professional values were seen to predict ethical decision-making ability. Nurses with a higher ethical ability are able to balance potential risks and benefits to patients and integrate this in their practice (Jo & Kim, 2017) and so intrinsic factors may influence nurses' ability to consider and implement decisions. It is important to note that if nurses are unable to act or make decisions in line with their professional and ethical values, ethical dilemmas can occur (Haahr et al., 2020).

An ethical dilemma describes a situation where a decision must be made in the face of competing values (Thompson et al., 2006) and often occurs when a nurse is forced to choose

between two equally desirable or undesirable options or when one is forced to act against their own professional values (Haahr et al., 2020). Ethical dilemmas are a common occurrence across the nursing profession due to the growing responsibility of the nursing role. Nurses are required to take care of patient's needs whilst also managing external demands from medical teams and management in their daily practice (Haahr et al., 2020). Ethical dilemmas also stem from organisational constraints, power struggles and conflict with other healthcare professionals, and end-of-life care situations (Rainer et al., 2018). The COVID-19 pandemic appears to have intensified the magnitude of these dilemmas due to unprecedented demands and the rationing of access to vital healthcare materials (Gavin et al., 2020). During this period, Robert et al. (2020) report that there was a limited availability of both hospital beds and lifesaving ventilation equipment due to the unprecedented demand on healthcare services. Healthcare professionals were required to prioritise patients for ICU beds and accelerate the withdrawal of care. These resource constraints complicated the decision-making process and made it difficult to achieve one's ethical obligations to patient care for all patient admissions. Resource limitations and organisational constraints continue to influence nurses' decision-making in healthcare beyond the COVID-19 pandemic. Valley et al. (2023) report that resources and organisational restrictions influenced nurses' ICU admission decisions. Specifically, the availability of ICU beds, access to intermediate care and nurse availability impeded on these decisions. Holmér et al. (2023) found that to overcome resourcing issues such as these, healthcare professionals made decisions to match patient care needs with professionals' competency, had to provide care at an inappropriate healthcare level and escalated decisions to others. Findings highlight significant challenges that complicate nurses' decision-making process, and the strategies used to manage these.

Other contextual factors have been seen to complicate the decision-making process and trigger ethically complex situations across clinical environments. Alzghoul and Jones-

Bonofiglio (2020) found that power dynamics and interpersonal relationships were predictive of ethical conflicts and dilemmas. These were particularly evident when physicians and nurses had different ideas about care plans and when nurses' input was not taken seriously. Alzghoul and Jones-Bonofiglio (2020) also report that the type of community and hospital location were driving factors in the ethical decisions that were made. Working in a small and isolated community meant that nurses assumed greater responsibilities and had to take additional risks to navigate ethical dilemmas; this was due to acute care personnel and resources being 'hundreds of miles away' and subsequently inaccessible. These findings highlight how contextual factors such as competing interpersonal priorities and physical location can prompt ethical conflicts and enhance the risk of dilemmas. This is problematic given that such ethical dilemmas and conflicts are associated with not only professional burnout (Wlodarczyk & Lazarewicz, 2011) but when left unresolved can predict moral distress across nursing professionals (Kälvemark et al., 2004; Rathert et al., 2016).

1.2. Moral Distress

Moral distress is a complex human experience, whereby external constraints prevent an individual from acting in line with their own personal and ethical beliefs (Jameton, 1984). It is this ethical and moral focus that distinguishes this form of distress from any other forms of emotional or psychological distress (Whitehead et al., 2015). Much of the literature to date is centred around moral distress across nursing populations, likely due to the moral and ethical focus of the nursing role (Corley & Minick, 2002).

The conception of moral distress was termed by Jameton (1984, p.6), who described it as the emotional state that arises from a situation 'where one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action'. As a result of this, individuals are forced to act in a way that violates one's own core values, often resulting in feelings of anger, frustration, and guilt (Hamric & Blackhall, 2007; Jameton,

1984; Rodney, 2013; Webster & Baylis, 2000). Since Jameton's (1984) initial coining of the term moral distress, several scholars have criticised the definition for being too 'narrow' and highlight a need for its description to be broadened (Fourie, 2015; Campbell et al., 2016). Corley (2002) proposed a theory of moral distress and further defined the concept as a negative and unpleasant state of psychological imbalance that ultimately causes suffering (Corley, 2002; Mareš, 2016). Corley suggests that nurses experience this when the individual is aware and accepting of making a moral decision, but their decision cannot be implemented in action due to real or perceived institutional obstacles. Through providing a comprehensive theory and understanding of moral distress, Corley supported the development of a measurement tool designed to capture nurses' moral distress experience (Corley et al., 2001). This tool is labelled the 'Moral Distress Scale' and has been used extensively across nursing literature, thus allowing scholars to identify, quantify and explore experiences of moral distress (Corley et al., 2001; Rushton et al., 2015; Mason et al., 2014). However, it is important to note that whilst variation in the definition of moral distress exists, there is consensus around the potential causes of moral distress, the prevalence of moral distress and the implications of moral distress across nursing professionals (Corley, 2002; Mareš, 2016).

Epstein and Hamric (2009) identify three distinct causes of moral distress, which are important to consider when seeking to minimise its occurrence across nursing professions. The first is internal constraints, referring to inadequate understanding of a situation, self-doubt, or perceived powerlessness. The second is external constraints, which tends to refer to more organisation-level constraints, such as inadequate staffing levels, limited organisational support, or fear of litigation. The final cause of moral distress refers to clinical root causes, which tend to be much more situational based, for example, navigating end-of-life care situations or having to go along with the patient's family's wishes, despite not being in agreement. Recognising the potential causes or triggers of moral distress within the nursing

community is important when exploring strategies to support nurses and minimise its impact upon wellbeing.

Existing literature has highlighted the nursing profession as particularly at risk of moral distress experience, both in terms of prevalence and severity (Salari et al., 2022). As discussed previously, a reason for this includes the moral focus of the nursing role (Corley & Minick, 2002) but may also be a result of the complexity of care provided, as well as the increased expectations placed upon the nursing role (Beumer, 2008). Mehlis et al. (2018) found that nurses report higher levels of moral distress when compared to physicians, despite the ultimate decision-making responsibility sitting with the physician. Mehlis and colleagues concluded that this higher intensity may be understood either by the intimate relationship that nurses hold with patients, or the fact that nurses are not involved or responsible for the decision but are expected to implement this in practice. Beyaffers et al. (2020) support these conclusions, as it was found that nurses possessing low levels of autonomy were three times more likely to develop a high level of moral distress when compared with autonomous nurses. This highlights the role of autonomy and responsibility in nurses' experience of moral distress. It may therefore be suggested that training, support and organisational factors need to be implemented to fully support nurses in making autonomous decisions and encourage more autonomous decision-making where appropriate.

1.2.1. Distinguishing Moral Distress from Occupational Stress

It is important to distinguish between moral distress and occupational stress, another common phenomenon across the nursing profession (Burke, 2013; Veda & Roy, 2020). Occupational stress describes the psychological, behavioural or physiological strains that arise from stressors in the work environment and occur when the demands of a job exceed an individual's ability to cope effectively (Roelofs et al., 2017). Similar to moral distress, occupational stress can manifest as feelings of powerlessness, anxiousness, fatigue,

headaches, frustration and being emotionally reactive (BUPA, 2022; National Health Service, 2023b). When left unresolved, occupational stress can contribute to burnout, compassion fatigue and poor mental health (Health and Safety Executive, 2024; Klein et al., 2020), whilst also impeding on nurses' job performance (Babapour et al., 2022). However, despite sharing similar symptomology and psychoneuroimmunological mechanisms, occupational stress and moral distress are conceptualised differently and have different root causes that are important to address.

Broadly speaking, nursing has been identified as a particularly difficult and stressful career (Burke, 2013) and requires nurses to navigate a number of job-related stressors daily. Common causes of occupational stress across this population include working long and irregular shifts, excessive job demands, poor relationships with coworkers, low pay, the organisational hierarchy and having a lack of control, as well as unfavourable working conditions (Toh et al., 2012). A number of different models and theoretical frameworks have been proposed to further understand how different factors within an individual's working environment can contribute to work-related stress and wellbeing. Karasek and Theorell's (1990) Job Demand-Control-Support model focuses on three distinct dimensions of the work environment (job demands, job control, social support) and highlights its role in the acquisition of work-related stress. The model illustrates how high job demands can cause stress for employees, including high workload, high expectations and role ambiguity. However, the model suggests that receiving social support or gaining autonomy and control over one's work can decrease this stress. Overall, Karasek and Theorell offer valuable insight into the contribution of work-related factors to employee's stress and wellbeing and highlight potential areas of support to overcome these.

The primary drivers for occupational stress tend to be external, stemming from organisational demands or perceived inadequacies in the working environment (Toh et al.,

2012). This differs from moral distress and its emphasis on moral or ethical compromise (Jameton, 1984). Whilst external factors can contribute towards the initial ethical dilemma, moral distress is linked specifically to the moral conflict that arises when a person is unable to act in line with their moral values or obligations (Jameton, 1984). Acknowledging the fundamental differences between these forms of stress is critical for developing strategies of support for nursing professionals. Strategies to address occupational stress often centre around eliminating external stressors such as workload, whereas perhaps more internally focused strategies may be more effective in the mitigation of moral distress given its focus on individual moral values.

1.2.2. Consequences and Implications of Moral Distress

The impact of moral distress is multifaceted, affecting one's emotional, psychological, physical, and professional wellbeing. Ramos et al. (2016) found moral distress to predict professional isolation, mental health disorders, as well as physical and emotional exhaustion within the nursing profession. Such feelings negatively impacted patient care, and led to the abandonment of the profession, highlighting how implications extend to wider healthcare organisations. More recently, Eche et al. (2023) drew significant associations between moral distress, burnout syndrome, compassion fatigue, and secondary traumatic stress syndrome across nursing professionals. Whilst such symptoms pose a grave personal disadvantage, the negative implications extend further to patient wellbeing, with moral distress predicting greater disengagement from patients, compassion fatigue, and reduced quality of patient care (Austin et al., 2005; Henrich et al., 2017). This is problematic across the healthcare sector, where inadequate care has severe consequences for patient wellbeing (World Health Organization, 2019b). Moral distress therefore has a significant and far-reaching impact on an individual's wellbeing and professional life. However, it has been identified as an inherent part of nursing practice, something that is unlikely to be eliminated (Davis & Batcheller,

2020). It is therefore important to consider different strategies to help manage the impact of moral distress to further support nursing professionals and minimise any negative affect.

Moral distress also has important ramifications for both patients and healthcare organisations more broadly. These two areas are closely related, with the quality of patient care being directly influenced by the overall efficacy of the healthcare service. At a behavioural level, moral distress is associated with the avoidance of patients (Boulton et al., 2023), exiting of the nursing profession (Dyo et al., 2016), reduced collaboration with other healthcare professionals and patients (Karanikola et al., 2014), lower nursing skill (Ganz & Berkovitz, 2012) as well as reduced engagement with work and responsibilities (Clark et al., 2021; Lawrence, 2011). Consequently, healthcare organisations may struggle to retain and engage skilled nursing professionals, which can compromise the quality of patient care provided and the overall efficacy of the healthcare service. Moreover, Demir et al. (2024) found that the provision of holistic care was neglected due to nurses' perceived moral distress. Nurses suggest that having long-term exposure and experience of moral distress impeded on one's energy and approach to work and prevented nurses' contribution towards a creative and developing healthcare workplace. Findings highlight how moral distress can alter nurses' approach to the situations that arise within their role. Acknowledging this is important when seeking to understand how and why moral distress can hinder nurses' ability to advocate for patients (American Association of Critical-Care Nurses, 2024), meet patients' needs and maintain high standards of care quality (Ganz & Berkovitz, 2012). It is therefore important to address challenges relating to moral distress; Equipping nurses with the skills, experience and resources to manage this would enhance promote healthcare service efficacy and ultimately support patient care quality and outcomes.

1.3. Coping

It may be difficult to eliminate moral distress given the nature of the nursing profession and the systemic challenges that are present and contribute towards its existence. Despite this, there is a limited body of research exploring potential strategies and ways in which nurses can manage or cope with moral distress, presenting a valuable direction for future research. Understanding and supporting adaptive coping is therefore necessary when supporting nursing professionals and limiting its effect on health and wellbeing. Effective coping is important across the nursing profession where exposure to potential stressors is high (Dobnik et al., 2018; Nowakowska et al., 2017). Research suggests that stressful situations may reduce the critical thinking, problem-solving and decision-making skills of nurses (Kaučič, 2002), and that failure to manage such stressors can lead to psychological distress, burnout, secondary traumatic stress, anxiety, and depression (Barr, 2017; Barr, 2018). It is therefore crucial that research explore adaptive coping strategies for nursing professionals to adopt in the face of perceived stressors.

Broadly speaking, coping is defined as the thoughts and behaviours that occur to manage internal and external stressful situations and involve a conscious effort to minimise any negative feelings (Folkman & Moskowitz, 2004; Venner, 1998). As such, effective coping has been seen to positively influence health and wellbeing across an extensive demographic (Guszkowska & Dąbrowska-Zimakowska, 2022; McFadden et al., 2021; Meyers et al., 2024; Shen & Slater, 2021). There are several ways to classify copying strategies, although a common conception includes problem-focused and emotion-focused coping (Lazarus & Folkman, 1984; Caroll, 2020). Problem focused-coping differs from emotion-focused, in that it seeks to address the underlying source of stress. Emotion-focused on the other hand seeks to manage one's emotional response to the stressful event or situation, and so often provides more short-term relief (Lazarus & Folkman, 1984). It is

important to note that the coping style selected varies depending on the nature of the stressor, one's appraisal of the stressor, as well as the individual's characteristics (Borkoles et al., 2018; Martínez-Zaragoza et al., 2020).

Problem-focused coping involves taking direct actions to address the underlying source of stress, aiming to alter or resolve the stressor itself (Caroll, 2020). This approach to coping is much more solution-driven and utilises strategies such as planning, time management, and seeking information to solve the problem. In nursing, this form of coping is most often used during periods of direct care or medication tasks with high demand (Martínez-Zaragoza et al., 2020) and has been deemed a more effective stress-coping strategy when compared to emotion-focused coping (Kim & Yi, 2023). Problem-focused coping has been deemed effective in the reduction of stress, anxiety, and depression across nursing students (Samson, 2019), and further diminishes the relationship between workload and job burnout (Woranetipo & Chavanovanich, 2021). Furthermore, Hosaini and Ariapooran (2014) found problem-focused coping to negatively relate to nurses' secondary traumatic stress symptoms, unlike emotion-focused coping, which demonstrated positive associations. This highlights the multidimensional nature of coping and the benefits of adopting more problem-focused coping strategies for nurses' health and wellbeing. Problem-focused coping and its relationship with other forms of stress and distress across nursing roles hint at its potentially protective role in mitigating or preventing the symptoms of moral distress. Exploring these associations further is important when seeking to understand effective strategies for coping with clinical decision-making and reducing the risk of moral distress. Furthermore, Ruhabadi et al. (2022) support the positive impact of problem-focused coping on wellbeing, and its role in supporting adaptability. In this study, both problem-focused and emotion-focused coping strategies related positively to resilience. With resilience being identified as an antidote for moral distress (Traudt et al., 2016) it can be inferred that both styles of coping have valuable

implications for mitigating moral distress experience and supporting overall wellbeing. It is important to note that this form of coping is most effective when individuals have control over the situation, and it is possible to eliminate the stressor (Carver, 2011). However, given the dynamic healthcare environment, and the evolving expectations of the nursing role (Mun & Kim, 2016; Price et al., 2017) this may not always be possible. It is in circumstances such as these where emotion-focused coping and its focus on emotional regulation may offer immediate relief to perceived stressors. A focused exploration of nurses' coping behaviours would provide further insight into the value of different coping styles for nursing professionals and their efficacy in minimising the impact of clinical decision-making.

Emotion-focused coping is distinguished from problem-focused coping by its focus on modifying the emotional response to the source of stress, rather than the stressor itself (Lazarus & Folkman, 1984; Kaffash et al., 2017). This form of coping includes a range of different strategies, such as seeking emotional support, venting, self-encouragement, and acceptance (Folkman & Lazarus, 1988; Lazarus & Folkman, 1984) and has been seen to buffer the impact of stressful stimuli upon nurses' health outcomes (Kaffash et al., 2017). Research suggests that nurses tend to engage with emotion-focused coping more frequently than other forms of coping (Cybulska et al., 2022; Loukzadeh & Bafrooi, 2013), particularly during conditions of high demand and effort, little control, negative mood, and high states of fatigue (Martínez-Zaragoza et al., 2020). Emotion-focused coping strategies have been associated with reduced psychological distress (Lorente et al., 2021), increased mental health (Barr, 2023), and greater wellbeing (Jang et al., 2019; Leung et al., 2024) across nursing samples. However, it's important to note that conclusions surrounding the efficacy of emotion-focused coping appear to be mixed, with research suggesting that they may be associated with a higher level of occupational stress (Cybulska et al., 2022), burnout (Howlett et al., 2015) and secondary traumatic stress (Hosaini & Ariapooran, 2014). Further

exploration into the associations between this coping style and moral distress is therefore warranted and would offer further insight into potential strategies that may support (or hinder) nurses' ability to cope with the demands of clinical decision-making.

Whilst emotion-focused coping may offer immediate relief to stressors in the fast-paced clinical environment, it is important to consider the long-term outcomes on nurses' health and wellbeing. Interestingly, Iddrisu et al. (2023) found that most nurses took a flexible approach to coping and combined both emotion-focused and problem-focused coping strategies. Emotion-focused coping strategies were effective at increasing nurses' resilience against a lack of support among other organisational factors, whereas problem-focused coping strategies were more helpful in dealing with psychosocial stress. By using emotion-focused coping first as an immediate resort, followed by problem-focused coping strategies after having reappraised the stress-inducing situation, nurses were successful in maintaining psychological wellbeing. Findings highlight the value of both coping strategies when mitigating the impact of stress upon wellbeing, and the benefits of combining both.

Generally speaking, both problem-focused and emotion-focused coping are seen as adaptive coping strategies (Ewert et al., 2021), although it is important to acknowledge the presence of maladaptive coping across nursing professions. Maladaptive coping describes the strategies used to escape the stressor or the associated emotions and include social withdrawal, self-blame, and substance use (Owen et al., 2023). Gillen et al. (2022) suggest that the use of negative coping behaviours, such as self-blame and behavioural disengagement has increased among healthcare professionals since the COVID-19 pandemic. Authors suggest that because stress and coping are interlinked, the high levels of stress and uncertainty witnessed during the pandemic may have further diminished healthcare professionals' wellbeing and professional quality of life. Maladaptive coping strategies such as these have been associated with poor mental health outcomes across healthcare

professionals (Owen et al., 2023), reduced academic performance, lower mental health and increased distress across student nurses (Charlton & Wofford, 2022), and low levels of satisfaction with professional relationships, community connectedness, and personal wellbeing across nursing samples specifically (Dimunová et al., 2021). It is therefore important to consider elements that foster more adaptive coping strategies and support nurses' overall health and wellbeing. It is also important for future research to explore relations between coping and clinical decision-making directly, rather than drawing conclusions from the concept of stress more broadly.

1.4. Health-Promoting Behaviours

Health-promoting behaviours are defined as 'purposeful behaviours performed to optimise health and prevent illness before it occurs' (O'Donnell, 2009), and include factors such as engaging in exercise, monitoring nutrition, getting enough sleep and health responsibility (Tabrizi et al., 2024). Engaging in these behaviours can be used as a form of coping and has been successful in supporting nurses with managing work-related stress outside of the working environment (Happell et al., 2013; Mohebbi et al., 2019). Engaging in health-promoting behaviours is also important for individual wellbeing, with research highlighting its associations with reduced trait anxiety (Chehrazi et al., 2021), increased resilience (Rink et al., 2021), as well as greater physical health and psychological wellbeing (Gedik, 2019). However, whilst nurses are well informed on the importance of engaging in health-promoting behaviours, this does not always translate into their own conduct (Ross et al., 2017). Fewer than half of British nurses meet government guidelines for physical activity and dietary intake (Blake et al., 2011) and whilst nurses may be active in the working environment, a large proportion do not undertake sufficient physical activity to reap the full benefits of exercise (Kyle, 2022; Malik et al., 2011). Not only do such behaviours place nurses at increased risk of non-communicable diseases, but it also heightens their

susceptibility to burnout and exhaustion (Alexandrova-Karamanova et al., 2016; Perry et al., 2018), thus highlighting the importance of exploring these areas further when seeking to support nurses' wellbeing.

It is important to note that the healthcare environment in which nurses work may present a barrier preventing nurses from engaging in health behaviours, a result of high workload, lack of protected breaks, and shift work (Uchendu et al., 2020; see also Caruso, 2014). Chong and Shorley (2021) suggest that the work environment, workplace culture and nature of the nursing role all hinder nurses' engagement in health-promoting behaviours; accessibility to healthy food, gym facilities, or refrigerators for storing healthy food was insufficient and did not facilitate health behaviours. It is therefore inferred that there needs to be a greater emphasis on organisation-wide support for facilitating health-promoting behaviours to support nurses' wellbeing.

Physical activity and nutrition are two health-promoting behaviours which have been explored extensively across existing literature in relation to stress, health, and wellbeing (Głąbska et al., 2020; Marquez et al., 2020; Wunsch et al., 2017). However, there is little research exploring these elements in relation to clinical decision-making directly and managing its impact on wellbeing. Physical activity describes any bodily movement produced by skeletal muscles that results in energy expenditure (Caspersen et al., 1985) and is a common coping behaviour across healthcare professionals (Shechter et al., 2020). A lack of physical exercise behaviours is a risk factor for the experience of clinical symptoms of stress, anxiety, depression, and social dysfunction (Simães & Gomes, 2019) whereas active engagement with physical activity relates to a lower level of burnout (Mincarone et al., 2024) and an increased quality of life (Paniora et al., 2017). Further associations have been drawn between physical activity and resilience, with individual competence and autonomy mediating this relationship (Xu et al., 2021). This highlights the importance of physical

activity when seeking to increase nurses' adaptability in the face of challenges but also reinforces the need for autonomy to facilitate these relations. Physical activity therefore may have implications on nurses' adaptability and management of complex clinical decisions in the workplace. These associations need to be explored within the context of nurses' clinical decision-making directly if inferences are to be drawn about its role in supporting nursing professionals through this process.

Eating behaviours and healthy eating practices are another important health-promoting behaviour relating to higher levels of self-efficacy and lower levels of psychological distress (Głąbska et al., 2020). Eating a healthy diet is an important factor constituting towards the mitigation of stress and prevention of illness (Rangel et al., 2023) and has been associated with lower levels of burnout (Utter et al., 2023) and positive health outcomes (Reed, 2014; Hall et al., 2015). Given the potentially stressful nature of clinical decision-making and the accountability that comes with this (Luggar-Schmit, 2024), it is inferred that engaging in healthy eating behaviours may mitigate any negative effect on health or wellbeing. However, the nature of the nursing role can make it difficult for nurses to engage with these healthy eating practices. Cheong et al. (2022) found that work demands, inflexible break timings and exposure to unhealthy food in hospital wards all contributed towards unhealthy eating practices across nursing professionals. Given the inconsistent break scheduling and shift-work nature of the role, nurses tended to eat unhealthy and more 'convenient' food throughout their shifts as opposed to full nutritious meals. These findings highlight how the nature of the nursing role can influence nurses' nutritional choices and engagement in health behaviours. Considering the unique barriers that prevent nurses from engaging in healthy eating behaviours, it is important for future research to capture the impact that this may have on nurses' susceptibility and experience of moral distress.

Additionally, Yao et al. (2022) found that both the type of food and time of consumption influence wellbeing. Notably, during a night shift, nurses should eat earlier to reduce the symptoms of post-traumatic stress disorder. This relationship was mediated through improving depression, anxiety, and sleep disorder. Important considerations therefore surround not only the quantity and quality of food selected, but also the scheduling of mealtimes. This highlights the importance of organised breaks, to enable nurses working irregular shifts and unsociable hours to consume food earlier in the shift. Moreover, Marko et al. (2023) report that barriers to healthy eating amongst nurses include high accessibility and availability to unhealthy foods, high cost and low availability of healthy foods, a lack of storage and preparation facilities, social norms and work culture, as well as stress and fatigue. Furthermore, irregular work schedules and inadequate workplace facilities have also been seen to encourage nurses to skip meals (Almajwal, 2016; Gupta et al., 2019; Nicholls et al., 2017). Skipping meals can lead to greater grazing tendencies (Northwell Health, 2020).

Grazing is defined as the uncontrolled and repetitive eating of small amounts of food (Lane & Szabó, 2013) and is not related to hunger sensations (Conceição et al., 2014). The unplanned nature of this eating behaviour suggests that this relates to a lack of control when eating (Conceição et al., 2017; Conceição et al., 2015), with it being compared to binge-eating episodes (Teodoro et al., 2021). Grazing has further been associated with psychological distress, eating disorders, and a reduced quality of life (Colles et al., 2008; Spirou et al., 2023). Research on grazing is limited, particularly in nursing professions, and has not yet been explored in relation to potential occupational stresses such as clinical decision-making. Hence, it is important to consider nurses' eating behaviours within the context of clinical decision-making and moral distress, whilst also considering potential areas to foster more adaptive eating behaviours.

1.5. Self-Compassion

Identifying strategies to promote the uptake of adaptive coping behaviours and health-promoting behaviours is important to consider when seeking to manage the impact of clinical decision-making on wellbeing. Self-compassion, a concept rooted in Buddhist ideologies, describes the tendency to take a kinder approach to oneself during times of suffering, regardless of whether the suffering is a result of external factors or our own personal mistakes and failures (Neff, 2003a; Neff & Dahm, 2015). Self-compassion recognises that imperfection is a part of the shared human experience, and can be further understood by its three, interrelated components; self-kindness vs self-judgement, common humanity vs isolation, and mindfulness vs over-identification (Neff, 2003a, b; Neff & Dahm, 2015). Self-kindness refers to the tendency to be caring and understanding towards oneself and viewing one's worth as unconditional even after failures (Neff, 2003a, b; Leary et al., 2007). Second, common humanity recognises that all people make mistakes, and that suffering is a shared human experience; It involves acknowledging that others have similar feelings and experiences, rather than being alone in one's failures (Neff, 2003a). Finally, mindfulness involves being purposely present and aware of one's immediate experience, paying careful attention to one's thoughts, feelings, and experiences in a non-judgemental manner (Neff, 2003a, b; Bluth & Blanton, 2014). Over-identification on the other hand involves ruminating on one's failures or mistakes, thus magnifying their significance (Karanika & Hogg, 2016).

Self-compassion has an important role in coping with stressful situations and challenging emotions (Ewert et al., 2021; Beato et al., 2021). Higher levels of self-compassion not only alter one's perceptions and experiences of stress (Dev et al., 2020; Sirois & Hirsch, 2019) but also how individuals cope and manage these (Ewert et al., 2021; Beato et al., 2021). The effectiveness of coping with stressful situations is a determinant of subjective wellbeing (Allen & Leary, 2010) and so self-compassion has valuable implications for the

wellbeing of nursing professionals, of whom navigate complex situations daily. Higher levels of self-compassion are associated with a lower engagement with maladaptive coping strategies and a greater uptake of adaptive coping behaviours in the face of demanding situations (Ewert et al., 2021). The mindfulness component in particular has been identified as a protective factor that may teach nurses coping skills to assist them in the management of daily stressors present in their working and home life (Mahon et al., 2017). It is therefore unsurprising that self-compassion interventions have been seen to foster greater resilience as well as lower levels of burnout, anxiety, and stress across a nursing population (Franco & Christie, 2021). Franco and Christie (2021) conclude that even a one-day self-compassion intervention was successful in equipping nurses with the skills to increase resilience, and support both their emotional and professional wellbeing; further supporting the potentially protective nature of self-compassion and its wider implications upon nurses' health and wellbeing.

Given the acknowledged relationship between adaptive coping and self-compassion, it is unsurprising that self-compassion has been identified as a key protective factor against negative life experiences and poor psychological health outcomes (Játiva & Cerezo, 2014; Kotera et al., 2021). Across nursing populations, self-compassion relates to lower levels of burnout, anxiety, and compassion fatigue (Joneghani et al., 2023; Steen et al., 2021), whilst also relating negatively to secondary stress and trauma (Delaney, 2018). In healthcare professionals more broadly, self-compassion is described as minimising secondary traumatic distress (Rushforth et al., 2023), offering suggestion for its potential relation to other forms of distress, such as moral distress. It is also important to note that the implications of self-compassion extend beyond an individual level, with research highlighting its relationship with nursing competence. Rizal et al. (2021) found the elements of self-compassion to have differing moderation effects on the relationship between clinical competence and

environmental support in mental health nurses. The positive relationship between environmental support and nursing competency became significant as self-compassion increased, suggesting that self-compassion may be a useful tool when supporting nurses' competency and performance. These findings hint at the relevance of self-compassion when considering ways to support nurses' clinical decision-making. However, it is important to note that the sample utilised within this study was limited to mental health nurses only. Therefore, whilst findings offer valuable insight into relations between self-compassion and nursing competency, it is necessary to explore these relations across nursing samples and specialities more broadly. Further research utilising nurses from various specialisms is necessary to strengthen the applicability of these findings and generalise the conclusions reached; this would aid understanding into the role of self-compassion in relation to nursing competency and further support its use in everyday nursing practice.

Self-compassion presents a potential shielding factor against the demands of the nursing role, however many barriers to being self-compassionate exist across healthcare professions specifically. Egan et al. (2019) found that irregular break schedules across healthcare roles made it difficult to attend to basic needs such as drinking water, going to the toilet, and eating healthily. Further exploration revealed that upon completing a shift, healthcare professionals did not have the energy or motivation to cook healthy meals or exercise and so neglected these elements of self-compassion and self-care. These findings highlight the presence of organisational barriers to being self-compassionate and offers an explanation for why engagement with its practice is not high across healthcare professionals. Furthermore, Andrews et al. (2020) found that nurses were hardwired to be caregivers, and as a result required permission from themselves and others to be self-compassionate and self-caring. Being unable to gain this permission had a negative impact on individual wellbeing, as well as the compassionate care given towards others. Yüksel et al. (2022) corroborate these

findings further, highlighting that although nurses tend to recognise the importance of self-compassion, engagement with its practice is not high. There appear to be personal and organisational barriers to its implementation, with nurses seeing it as 'selfish' to engage with elements of self-kindness. Existing findings therefore emphasise the role of self-compassion on both nurses' wellbeing and their ability to provide compassionate care, highlighting the importance of cultivating self-compassion and eliminating potential barriers when supporting nurses through the decision-making process.

1.6. Summary, Aims, and Outline

1.6.1. Summary of the Literature Review

Clinical decision-making is a critical component of the nursing role (Johansen & O'Brien, 2016), whereby nurses are required to utilise decision-making pathways, protocols, and clinical intuition to make informed clinical decisions (Miller & Hill, 2018). The growing complexity of the healthcare environment means that nurses have had to adapt quickly to increasing levels of autonomy and responsibility, as well as the increased expectations placed on the nursing role (Martin, 2002; Mun & Kim, 2016; Price et al., 2017). The scope of decision-making therefore appears to be multifaceted and encompasses a greater demand on nursing professionals. However, there is little research exploring the impact of these increased demands and the wider clinical decision-making process on nurses' health and wellbeing. Exploring this impact would further understanding into nurses' experience of clinical decision-making and inform individual and organisation-level support for nursing professionals. Self-compassion, health-promoting behaviours, and coping behaviours all relate to various elements of nurses' health and wellbeing and have been identified as protective factors when managing the impact of work-related stressors (Abdollahi et al., 2021; Engelbrecht et al., 2021; Happell et al., 2013; Lorente et al., 2021; Mohebbi et al., 2019), although these have not yet been explored within the context of clinical decision-

making. Exploring these concepts within this context would further understanding into the impact of decision-making on nurses' wellbeing and offer potential strategies of support to mitigate any acknowledged negative effect. Fostering a healthier nursing population is important not only on an individual level but also has wider benefits to public health through the quality of patient care administered and staffing levels across healthcare organisations.

1.6.2. Aim of the Thesis

Given nurses increased involvement and autonomy when navigating clinical decision-making, it is important that research reflects these changes to the nursing role and explores relations to wellbeing. The current thesis presents a series of studies that examine the impact of clinical decision-making on nurses' wellbeing and its relation to moral distress directly. The main aim of the thesis is to explore various positive constructs (health-promoting behaviours, coping behaviours, self-compassion) and their role in minimising negative relations between clinical decision-making and wellbeing outcomes. To achieve this aim, the following research questions were proposed:

1. Is there a relationship between clinical decision-making and wellbeing among nursing professionals?
2. Are coping behaviours, health-promoting behaviours, self-compassion and individual differences influential upon the relationship between clinical decision-making and wellbeing?

1.6.3. Outline of the Thesis

The following chapter (Chapter 2) will outline the methodological approach taken to examine associations between clinical decision-making, moral distress, coping behaviours, health-promoting behaviours, and self-compassion across a nursing population. Establishing

these relations will provide an understanding of nurses' experience of the decision-making process, and potential elements of support to mitigate its impact on wellbeing. The initial research chapters utilise quantitative methodologies to collate cross-sectional data and observe any interactions between the research variables (Chapter 3-6). The following research chapters (Chapter 7-8) adopt a qualitative methodology, offering further insight into the initial relations identified during the quantitative stage of data collection. Chapter 3 will examine relations between clinical decision-making, moral distress, mental wellbeing, physical health, work-related stressors, coping behaviours and self-compassion. Chapter 4 examines the reliability and internal consistency of the clinical decision-making in nursing scale in greater detail and offers a revised measurement to facilitate further research. Chapter 5 explores relations between clinical decision-making, moral distress, physical activity, grazing, stress-eating, and self-compassion. Chapter 6 explores associations between clinical decision-making, moral distress, personality, perfectionism, philotimo, and self-compassion across a nursing population. Chapter 7 utilises semi-structured interviews to further investigate nurses' experience of the decision-making process, and what strategies are adopted to minimise its impact on wellbeing. Chapter 8 describes a series of dissemination activities used to gain feedback on the research findings and offer practical elements of support going forward. The final chapter, chapter 9, will provide an overview of the thesis findings in light of existing literature and acknowledge the limitations, implications and directions for research going forward.

CHAPTER 2: GENERAL METHODOLOGY

2.1. Introduction

Chapter 2 will provide an overview of the methods used within the current thesis. Five research studies were conducted (Chapters 3-7) and a dissemination event was used to gather feedback on research findings from across the nursing population. This chapter details the ethical considerations, methodological selection, measurement tools and data analysis strategies adopted across each of the studies. Further methodology details for each study are reported in individual research Chapters.

2.2. Mixed Methodology

The current thesis utilises a mixed methods approach to explore relations between clinical decision-making and wellbeing, and to offer further understanding into potential areas of support for the nursing profession. Mixed methods describe the process in which quantitative and qualitative approaches are combined for a single purpose and offer a more holistic and in-depth understanding of a research topic when compared to the use of each approach in solidarity (Creswell & Clark, 2011; Morse & Niehaus, 2009; Patton, 2002). Through combining questions from two different philosophies, mixed methods are often referred to as the 'third paradigm' (Gorard & Taylor, 2004; Mayoh & Onwuegbuzie, 2015) and are known to support stronger inferences (Creswell, 2014) and offer multiple perspectives when seeking to answer a research question (David, 2006). Mixed method approaches have become increasingly popular across healthcare research, due to their ability to harness the strengths and manage the weaknesses of each individual approach (Bryman, 2006); this is particularly important when addressing the complex and multifaceted issues prevalent across healthcare (Nicca et al., 2012; Raven et al., 2011; Tariq & Woodman, 2013). The use of mixed methods was selected to explore clinical decision-making within the

current study due to its consideration of both observable behaviours and subjective experiences. Utilising both quantitative and qualitative methodologies allowed the researcher to gain a comprehensive understanding of not only how coping, health-promoting behaviours and self-compassion related to individual wellbeing on a quantitative scale, but also nurses' lived experiences of decision-making, and any acknowledged barriers to engaging with adaptive management strategies. Gaining insight from both methodologies allowed for rich and detailed conclusions to be drawn from research data, which had a strong and diverse evidence base. This approach was therefore appropriate when exploring complex concepts and experiences across nursing professionals, such as clinical decision-making.

There are four key mixed methods designs, namely, triangulation, embedded, explanatory, and exploratory (Teddlie & Tashakkori, 2009). The current project utilised an explanatory sequential framework to gain a holistic understanding of nurses' experiences of clinical decision-making and its impact on health and wellbeing. An explanatory sequential framework utilises a quantitative approach during the initial phase of the study, before seeking further clarification through a second qualitative phase (Edmonds & Kennedy, 2017). This approach is particularly helpful when exploring surprising or unexpected findings from the quantitative phase and allows researchers to gain a deeper understanding of the relationships identified by explaining and expanding on initial quantitative findings (Ivankova et al., 2006). Moreover, explanatory sequential designs support the validity and credibility of research findings. Teddlie and Tashakkori (2009) highlight that having an initial quantitative phase, followed by a qualitative phase allows researchers to confirm and cross-validate research findings. Through triangulating research findings, the risk of bias and inconsistencies is reduced, thus strengthening the reliability and validity of the conclusions drawn. This design was therefore selected for the current thesis due to its ability to generate comprehensive and reliable conclusions that support an in-depth understanding of nurses'

clinical decision-making. Additionally, Bryman (2006) highlights the importance of this design when seeking to make practical recommendations based on the research, as it combines the strengths of both quantitative and qualitative insights. The current thesis aimed to make recommendations that would guide nursing practice and support nurses' wellbeing, and so it was inferred that the use of a sequential explanatory design would be appropriate for facilitating an in-depth understanding of clinical decision-making and allow the researcher to meet these aims.

The explanatory sequential framework has been employed extensively across nursing literature, particularly when exploring complex and multifaceted areas such as clinical practice, decision-making, healthcare delivery and wellbeing (Palese et al., 2014; Smith & Gray, 2016). When looking at decision-making directly, Palese et al. (2014) found this design to produce an in-depth understanding of nurses' clinical decision-making. Researchers first utilised quantitative surveys to explore potential influences on decision-making. This was followed by a qualitative phase whereby interviews were used to explore how and why these areas influenced decisions from the nurses' own perspective. The direction and depth of this study align closely with the goals of the current thesis, and so a similar design was used to capture the impact of clinical decision-making and identify potential areas to help reduce any acknowledged negative effects.

Within the current thesis, the quantitative and qualitative phases were highly integrated. The initial four quantitative studies directly informed the content and direction of the qualitative studies. The quantitative phase revealed that clinical decision-making was related to nurses' wellbeing (physical health, psychological wellbeing and moral distress) and so interview questions were designed to capture how and why decision-making had this impact. The quantitative studies also revealed that self-compassion, coping behaviours and

health-promoting behaviours all related to nurses' experience of clinical decision-making and the impact that it had on health and wellbeing. Questions within the interview guide were designed to provide further detail into how nurses tend to cope with decision-making, how effective these coping styles are, and any barriers to coping or being self-compassionate that may exist. Therefore, the qualitative phase and interview guide were carefully designed to explain or elaborate on the initial quantitative findings. Additionally, the quantitative phase revealed that there were significant differences between junior and senior banded nurses in relation to self-compassion and its relationship with clinical decision-making and moral distress. This finding influenced the recruitment phase of the qualitative stage and steps were taken to ensure that the sample captured experiences from both seniority bands. This involved a targeted recruitment of junior nurses, to ensure that this demographic was large enough to compare experiences across both groups.

Given the scarcity of research exploring nurses' experience of clinical decision-making, its impact upon health and wellbeing and different strategies of support through the process, the exploratory quantitative studies were prioritised during the initial stage of the thesis. These quantitative studies supported an understanding of initial relationships and identified key areas to explore going forward. However, the qualitative phase became of equal importance as the project progressed, contributing equally but in different ways to the overall research question. The qualitative phase offered explanation for the unexpected and complex results obtained during the initial quantitative phase, whilst also building upon this by identifying practical ways in which these findings could be implemented to support nurses when navigating clinical decision-making. Both the quantitative and qualitative strands of this research project were therefore of equal importance in addressing the research question and maximising the thesis impact. The two phases of the project were drawn together and compared during the interpretation stage to facilitate a multifaceted and in-depth

understanding of nurses' experience of clinical decision-making and its impact on health and wellbeing. The combination of these two approaches was important when exploring a novel area where little research has been conducted to date. The initial quantitative phase allowed the researcher to explore a number of different factors in relation to nurses' decision-making to gain a broad understanding into the concept of decision-making. The qualitative phase then offered a nuanced perspective to nurses' experience, offering an explanation for how and why associations were observed in the quantitative phase.

During the initial stages of the project, a series of four cross-sectional studies were conducted to explore various constructs in relation to clinical decision-making and gain an initial understanding into how nurses' decision-making interacts with these different variables. The first quantitative study, reported in Chapter 3 explored relations between clinical decision-making and nurses' wellbeing, capturing associations with physical health, psychological wellbeing and moral distress. Further examination into nurses' coping behaviours and relations with decision-making and wellbeing occurred, offering insight into how nurses tend to manage making decisions within a clinical environment, and their role in minimising any impact on wellbeing. Findings from this Chapter highlighted that coping was influential upon the relationship between clinical decision-making and wellbeing, highlighting an area for further exploration in subsequent Chapters. Furthermore, Chapter 3 identified significant flaws in the Clinical Decision-Making in Nursing scale (CDMNS-40; Jenkins, 1985) that need to be addressed given its extensive use within the thesis. Chapter 4 was therefore a direct result of Chapter 3 findings and involved an exploration into the reliability and consistency of the CDMNS-40; this ultimately led to the development of a revised decision-making scale that accurately captured nurses' perceptions of clinical decision-making. This scale was then used across the remaining quantitative research Chapters. Chapter 5 utilised the revised scale from Chapter 4 to explore the role of specific

health-promoting behaviours (physical activity and eating behaviours) in relation to clinical decision-making and moral distress. The direction and focus of this study were primarily informed by Chapter 3 findings. Both physical activity and eating behaviours are health behaviours that are commonly adopted when seeking to cope with stress (Azizi, 2011; Fernández-García et al., 2024; Jordan et al., 2016) and offer further insight into nurses' coping behaviours when managing the impact of clinical decision-making. The final quantitative study aimed to offer explanation as to why the relationship between clinical decision-making and moral distress differed between the previous cross-sectional studies, considering the role of individual differences. This Chapter explored the role of personality, perfectionism and philotimo when explaining associations between clinical decision-making and moral distress.

After careful consideration of the key quantitative findings, a qualitative study was designed to explore the relationships identified in initial studies in greater detail, seek clarification on any unexpected findings and ask follow-up questions to progress current understanding. The interview schedule was carefully devised to capture nurses' experiences of navigating clinical decision-making, explore how nurses managed the impact of decision-making, and any barriers to decision-making that exist. This qualitative phase allowed nurses to provide full responses from their own perceptions and lived experiences, removing any response bias and supporting a deeper understanding of nurses' experience of clinical decision-making. The use of this sequential approach within the current project allowed initial judgements to be made on interactions between clinical decision-making, wellbeing, and potential strategies of support, an area unexplored in existing literature. By developing a preliminary understanding of the observed interactions in this way, researchers were able to tailor the qualitative phase to further understanding of these relations and maximise research impact. The combination of these phases then informed a final dissemination study, whereby

a series of activities were developed to gain feedback on the thesis findings, identify further

areas of research going forward and identify practical ways of implementing findings to

bridge the gap between research and clinical practice. The sequential explanatory mixed

methods approach adopted in the current thesis therefore facilitated a thorough understanding

of a scarcely explored area, and highlighted practical elements of support which have the

potential to simultaneously drive forward clinical practice and support nursing professionals

make clinical decisions.

2.3. Epistemological Approach

The current project sought to gain a thorough understanding into nurses' experience of

clinical decision-making, its impact on health and wellbeing, and consider potential elements

of support for nurses when navigating these decisions. The project embraced both

quantitative and qualitative approaches to exploring this area and took a pragmatist

epistemological approach. The pragmatic approach, unlike any other, focuses primarily on the

research area and research questions, employing any available approach to further understand

the problem (Tashakkori & Teddlie, 2010). The choice of research methods and design is

therefore guided by the specific research questions, allowing for the combination of different

methodologies, as seen in the current thesis through both quantitative and qualitative phases

(Morgan, 2013). Pragmaticism argues that both science and constructivism offer different sets

of tools for investigating different aspects of the world (Badley, 2003) and combines the

different strengths of these to resolve the research questions (Morgan, 2013). The research

question is therefore more important than the method or paradigm used to underlie the

method (Tashakkori & Teddlie, 1998).

In mixed methods research, pragmatism facilitates the use of different methodologies,

different world views and different assumptions (Cherryholmes, 1992; Morgan, 2007). This

approach therefore accommodates exploration into the multifaceted nature of clinical

decision-making, whereby different approaches and methodologies can contribute a different level of insight and understanding into the concept. The research questions for this project were complex, capturing various elements of nurses' decision-making experience, its impact, and coping strategies. Utilising an approach that embraces this complexity is important when developing an in-depth understanding of the concept and when considering practical elements of support for nursing professionals. Within the current thesis, the research methodologies and approaches were carefully considered in relation to the specific goals of the research area. Given the scarcity of existing literature in the research area and a somewhat limited level of understanding of its impact on wellbeing, it was important to have an initial exploratory phase of the project. These initial quantitative studies explored different areas in relation to the research question and adopted a more deductive positivist approach. This approach assumes that knowledge of clinical decision-making is quantifiable and can only be understood through what is objectively observed and experiences (Turner et al., 2001). However, this quantitative phase was followed by an exploratory qualitative phase, which was grounded in interpretivism. Interpretivism recognises that no two realities are the same and that cultures, context, and individual circumstances all contribute towards one's social reality (Alharahsheh & Pius, 2020). The qualitative studies sought to explore participants unique experience of clinical decision-making and recognised that knowledge was subjective and based upon nurses' own perceptions and reality. Questions were designed to capture these, prompting discussions into what their experiences of decision-making were, what coping strategies they employed to manage decision-making, and what barriers they faced to making clinical decisions.

Overall, the pragmatic approach adopted across the current thesis allowed the researcher to capture the multifaceted and complex nature of clinical decision-making using different methodologies and ontological approaches. Through prioritising the research aims,

questions and objectives when devising each study, the researcher was able to draw full and insightful conclusions about nurses' experience of clinical decision-making and offer valuable recommendations to advance clinical practice across the healthcare environment.

2.4. Reflexivity

Reflexive practice was proposed by early theorists as any action that involves 'active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further consequences to which it leads' (Dewey, 1933, p.9). Reflexivity describes the process of inner reflection, whereby an individual adopts a conscious level of awareness of how one's thoughts, feelings and behaviours can impact upon practice (Reid, 2016). Within a research context, reflexivity acknowledges a relationship between the participants and the researcher (Narayanasamy, 2015) and the impact that both groups can have on each other and the data (Darawsheh, 2014; Patton, 2015). Researchers are required to critique, appraise and evaluate how one's subjectivity, biases and context can influence the research process (Olmos-Vega et al., 2022) in order to maintain the scientific vigour of research and maintain the credibility of findings (Darawsheh, 2014). Additionally, engaging with reflexive practice can be transformative for the researcher, prompting personal growth, self-awareness and improving one's practice (Lamb & Huttlinger, 1989; Narayanasamy, 2015). Given its role in maintaining scientific rigour and enhancing personal development, reflexivity has been considered an essential aspect of qualitative research (Barrett et al., 2020). Steps have therefore been taken throughout the conduct of the current thesis to acknowledge the researcher's role and influence upon the research findings.

Coming from a background in Psychology, I have a strong understanding of human behaviour, health, and wellbeing. However, given that I have not worked in the nursing profession, it is important to acknowledge the challenges and opportunities that this presents.

First, it is important to note that I have not navigated clinical decision-making myself, and so although I have an understanding of nurses' experiences from an outside perspective, I cannot relate to this on a personal level. The researcher therefore takes an 'outsider' position, meaning that I do not belong to the group under study (Bonner & Tolhurst, 2002). Existing literature suggests that sharing membership with the research group provides a level of trust and openness from participants that would not be prevalent for 'outsiders' (Dwyer & Buckle, 2009). Participants are more likely to share their experiences because there is an assumption of shared understanding and experience (Dwyer & Buckle, 2009). Therefore, the researcher's position as an 'outsider' may have altered how comfortable participants felt disclosing detailed accounts of their own experiences and limited the depth of understanding I could obtain through the interviews. This was evident in Chapter 7 on a small number of occasions, when participants discussed decisions in relation to specific health conditions and when discussing previous clinical decision-making training received. Participants assumed that I had heard of specific conditions and training courses and were required to elaborate at times. However, there are also distinct advantages of being an outsider that are important to consider. Kanuha (2000) found that the familiarity that accompanies being an insider-researcher ultimately impeded the level of detail received from participants. Participants presumed a shared understanding, and so interview transcripts consisted of vague statements and incomplete sentences and accounts. It can therefore be inferred that although the researcher did not share high levels of familiarity in terms of knowledge or experiences with the sample, they were able to use this to an advantage by generating thorough and comprehensive accounts of their experiences.

A second consideration is given to the nursing jargon and terminology used by nursing professionals, and how my academic background limits my familiarity with the language used. To bridge this gap in knowledge, I engaged fully with nursing and decision-

making literature prior to the qualitative phase of data collection. I also ensured that participants were informed of my background, approached interviews with an open mind and asked for further elaboration on areas that I was not familiar with. Through doing this, I was able to develop a comprehensive understanding of participant accounts and became increasingly familiar with nursing jargon as my research progressed. Existing research suggests that asking for clarification and elaboration can positively influence interview conversations by keeping the interview focused and ensuring that the interviewer and interviewee have a mutual understanding (Seidman, 2006). However, whilst this can be helpful, it is important to consider the timing and sensitivity in asking for clarification to prevent participants from feeling defensive (Charmaz, 2006) and to ensure that the natural flow of conversation is not disrupted (Wengraf, 2001). The researcher therefore ensured sensitivity and waited for an appropriate time to ask for further elaboration to avoid disrupting or offending the participant in any way. Utilising the explanatory sequential framework was also beneficial in minimising the impact of this on data collection and data analysis. Through conducting quantitative studies during the initial phase of the project, I was able to gain insight into nurses' experience of clinical decision-making, the impact that this may have on wellbeing, and common coping strategies used, prior to my discussions in the qualitative phase. This enhanced understanding going into the interviews and allowed me to relate to individual accounts utilising the knowledge I had already acquired during the earlier stages of the project.

2.5. Reflexive Thematic Analysis

A reflexive thematic analysis (RTA; Braun & Clarke, 2019) was used in Chapter 7 to analyse and interpret data obtained from the semi-structured interviews. RTA is a widely used interpretive method to analyse qualitative data, one that highlights researcher's reflective and thoughtful engagement with data to support knowledge production (Braun & Clarke, 2019).

This analysis strategy aligns closely with the researcher's interpretive approach to the qualitative phase of the project, capturing nurses' own subjective experiences of clinical decision-making to make conclusions around its impact and potential strategies of support. Therefore, using this analytical strategy supported an in-depth understanding of nurses' experiences based on participants' own social reality and perspective, and allowed the researcher to draw insightful conclusions from these. Unlike other analysis strategies, RTA recognises that codes and themes are a product of the researcher's interpretation of patterns across the dataset and does not frame this as problematic (Braun & Clarke, 2019). Instead, the subjectivity of the researcher is seen as integral to the analytical process (Campbell et al., 2021). Therefore, consideration is given to the fact that the researcher comes from a background in Psychology as opposed to nursing, although this is not seen as an issue. RTA acknowledges the influence that this background will have on the researcher's interpretation of the data and construction of themes and allows the researcher to engage deeply with the data using the insights and perspectives gained through one's own knowledge and ideas. Specifically, the researcher has a thorough understanding of different psychological theories and constructs, particularly surrounding coping mechanisms and stress. RTA acknowledges that the researcher may draw upon these theories and concepts during the analysis phase, and that the researcher may be drawn to themes centred around psychological wellbeing, resilience and coping within the nursing profession. It is important to acknowledge and reflect upon these influences throughout data analysis.

RTA outlines six key steps to analysing and interpreting qualitative data: familiarising oneself with the data, generating codes, constructing themes, reviewing and developing potential themes, defining and naming themes, and producing a report of this data (Braun & Clarke, 2006, 2021a,b). The first step, familiarising oneself with the data is crucial when gaining an overarching understanding of the data and when identifying potentially important

information relevant to research objectives (Naeem et al., 2023). Within the current thesis, familiarisation involved transcribing the interviews verbatim, before reading and re-reading the transcripts to provide a high level of familiarity with the data. At this stage, the researcher began to consider any stand-out elements relevant to the research goals and noted down any initial thoughts to reflect on during the latter stages of analysis.

The second stage of RTA involved generating codes that captured the content of the data set. Coding requires the researcher to assign a short phrase or word to data, capturing its summative and essence-capturing attributes (Saldana, 2016). These are used to break down the data into more manageable pieces so that it can be further categorised into themes later in the analytical phase (Attride-Stirling, 2001). Within the current thesis, latent coding was adopted to interpret and assign meaning to the data. Utilising latent coding allowed the researcher to capture the underlying meaning behind participants' accounts, providing a more thorough understanding of nurses' experiences than what other coding styles would provide (Terry et al., 2017). This was completed using both NVivo and Microsoft Word, allowing the researcher to make note of any particularly important codes, and ensure that they captured participants' experiences accurately. Nvivo is a qualitative data analysis software tool which is useful for sorting, organising and analysing qualitative data (Dhakal, 2022). This tool is invaluable when analysing large qualitative data sets (Bazeley & Jackson, 2013) and possesses a number of visualisation tools (word clouds and charts) which help identify trends and relationships in the data (Zamawe, 2015). Within the current thesis, these features were helpful when comparing transcripts and highlighting patterns in regard to nurses' experience of clinical decision-making and the various coping strategies employed. The word clouds were particularly helpful during the initial stages of data analysis when visualising frequently occurring words or phrases that had the potential to develop into codes. At this stage, the researcher created a series of documents, which detailed each of the codes generated and the

associated data for these. In doing this, the researcher was able to evaluate whether the code's label was representative of the data within it, identify codes that could be combined, and establish whether codes needed to be further categorised. This document was then shared and discussed with the research team for reflective purposes; Collaboration with the research team focused on attaining deeper interpretations as opposed to achieving uniformity in meaning, as supported by RTA (Braun & Clarke, 2019; Byrne, 2022).

Once the coding stage was complete, the researcher began to generate potential themes across the data set. To do this, codes possessing similar meaning or context were grouped together and considered in relation to the broader research objectives. Careful consideration was given to what data the code captured, and how this related to the other codes that were generated from the data set. Through doing this, and comparing meaning, the researcher was able to group similar codes together and consider the overarching idea these captured. These meaningful groups of codes provided a pattern amongst the data, which were then developed into initial themes. Given the inductive approach to thematic analysis within the current thesis, themes were data-driven and derived through interpretive analysis (Braun & Clarke, 2006).

The next stage involved reviewing each of the themes that had been derived from the data. Braun and Clarke (2006) highlight this as a reflective and iterative process which is important when ensuring each theme accurately captures the data within. At this stage, the researcher created a further document detailing each of the themes. This comprised of each code within this theme, and each piece of data within the code, forming a visual material that could be reflected upon when inspecting each of the themes and the relevance of each code and piece of data within. The researcher utilised Braun and Clarke's (2006) two-stage process to review the themes. The first stage refers to the process of reviewing at the level of the

coded extracts. This involves referring back to the coded data to check whether the themes accurately capture the pattern that is presented. The researcher utilised the previously mentioned Word document to do this, reflecting upon each code and piece of data within the theme to determine its suitability. This enabled the researcher to move to the second stage of theme review. This stage explored the validity of each theme in relation to the entire data set and whether the themes represent the data set as a whole (Braun & Clarke, 2006). The researcher read through each transcript once more, confirming that the themes were relevant and applicable across the sample, and ensuring that no relevant codes had been missed. These steps ensured that each of the derived themes encompassed the data adequately. The researcher also used this stage to reflect upon their own understanding and interpretation of the data, and how this relates to each theme.

Once themes had been fully considered, the researcher sought to clearly articulate and define each of these themes. This stage is important when ensuring that each theme accurately embodies the meaning of the data within it (Braun & Clarke, 2006). To do this, the researcher followed Braun and Clarke's (2006) process, referring to each data extract and applying careful consideration as to why this was of importance and what its meaning implied. The researcher organised the data within each theme into a coherent narrative that warranted an in-depth understanding of what each theme represented. Braun and Clarke suggest that the theme titles need to be concise and clearly indicate the content of the theme. For most themes, the researcher opted to use quotes from the participants to capture the theme content. These were selected based on the researcher's interpretation as to which quote most accurately captured the wider narrative of the theme. For the themes that were not depicted by quotations, the researcher labelled these based on their interpretation of the data being captured within. Each theme was reviewed by the wider research team to ensure that

data was accurately captured. The final stage of RTA involves writing up the data and producing a report that clearly details the research findings. These are reported in Chapter 8.

2.6. Recruitment

As the researcher does not come from a nursing background, gaining trust and access from participants required a careful consideration of recruitment strategies. Social media served as a primary tool for engaging with and recruiting potential participants into each of the research studies. Social media platforms, including X, Facebook, LinkedIn and Instagram allowed the researcher to access a geographically diverse population whilst remaining cost-effective and time efficient (Arman, 2023). The research was well received by the nursing communities active on various platform's which enabled snowballing and greatly supported recruitment of the target population. However, whilst social media was effective in accessing larger numbers of participants, it also introduced its own limitations. The use of social media as a primary recruitment strategy may have excluded a large number of UK nursing professionals, making it inaccessible to certain communities and demographics. This may offer an explanation for why a predominantly White sample population was obtained for each of the research studies reported within this thesis, presenting a clear limitation. The researcher noted these limitations early on in the research project and employed targeted recruitment phases to increase engagement with specific communities.

2.6.1. Sample

Eligibility

The inclusion criteria across each chapter within the thesis ensured all participants were over the age of eighteen, practised as a nurse across the United Kingdom, and had been practising in the nursing profession for a minimum of 6 months. This criterion was selected to

ensure that nurses have sufficient knowledge, experience and autonomy to answer questions regarding their clinical decision-making (Cowin & Hengstberger-Sims, 2006).

Seniority categorisation

Across the thesis, nursing seniority was categorised based on the NHS banding system, with Band 6 and above being categorised as senior and Band 5 being considered a junior role. This classification aligns with the NHS agenda for change pay structure, whereby Band 6 nurses typically assume greater responsibility, leadership experience and involvement in decision-making processes. This distinction has also been used in existing nursing literature across the United Kingdom, further informing its use within the current thesis (Griffiths et al., 2024). However, it is acknowledged that there are limitations in classifying seniority solely by banding. Various other factors such as clinical experience, qualifications, role variation across organisations and trusts may all contribute towards clinical expertise and seniority. Whilst banding is a helpful tool for interpreting seniority classification, its limitations must be considered when seeking to understand any differences observed between junior and senior roles as nurses in the same band may have varied levels of autonomy and experience.

2.7. Quantitative Procedure

For each of the quantitative Chapters, an online invitation posted via various social media platforms (Twitter, Facebook, LinkedIn) was used to advertise the present study to prospective participants. Upon agreeing to take part, participants were presented with an information sheet and consent form. Once consent was obtained, participants were asked to complete a series of demographic questions before accessing the survey. The survey consisted of a number of different questionnaires (refer to individual chapters) and was administered via Qualtrics. Upon completion, participants were presented with a debrief form, detailing the

aims and purpose of the research, a range of support networks, as well as the researcher's

contact details should they wish to withdraw their data at any point.

2.8. Quantitative Measures

The following section identifies and describes the quantitative measures adopted

across each of the cross-sectional chapters (Chapters 1-4). The method section for each

chapter will refer to these descriptions and present the Cronbach alpha for each scale and

subscale within the respective chapter.

2.8.1. The Clinical Decision-Making in Nursing Scale (CDMNS-40; Jenkins, 1985).

The CDMNS-40 is a 40-item scale designed to capture nurses' perceptions of

clinical decision-making ability. The CDMNS-40 items are arranged into four

subscales: search for alternatives or options, canvassing of objectives and

values, the evaluation and re-evaluation of consequences, and searching for

information and unbiased assimilation of new information. The total score has

also been calculated for the purpose of analyses. Responses range from 1 (not

true at all) to 5 (always true), with a higher score indicating a greater

perception of clinical decision-making ability. Sample items include: 'Looking

for new information in making a decision is more trouble than it's worth'.

2.8.2. The Clinical Decision-Making in Nursing Scale-13 item (CDMNS-13; Miley

et al., 2023). The CDMNS-13 is a 13-item scale designed to capture nurses'

perceptions of clinical decision-making ability. The CDMNS-13 is a single-

unit scale originating from the 40-item scale described above (CDMNS-40).

Responses range from 1 (not true at all) to 5 (always true), with a higher score

indicating a greater perception of clinical decision-making ability. The total

score has been calculated for the purpose of analyses. Sample items include:

'Looking for new information in making a decision is more trouble than it's worth'.

2.8.3.   The Moral Distress-Revised Scale (MDS-R; Hamric et al., 2012). The MDS-R is a 21-item scale designed to measure moral distress across healthcare professionals. Participants are required to rate themselves against each item in terms of frequency and intensity to develop a total score. Responses range from 0 (never/none) to 4 (very frequently/ a great extent), with higher scores indicating a higher level of moral distress experience. Sample items include: 'I follow the family's wishes to continue life support even though I believe it is not in the best interest of the patient'.

2.8.4.   The Sussex-Oxford Compassion for the Self Scale (SOCS; Gu et al., 2020). The SOCS is a 20-item scale designed to measure self-reported compassion towards oneself. The SOCS items are arranged into 5 subscales: recognising suffering, understanding the universality of suffering, feeling for the person suffering, tolerating uncomfortable feelings, and acting or being motivated to act to alleviate suffering. Responses range from 1 (not true at all) to 5 (always true), with a higher score indicating higher levels of self-compassion. The total score has also been calculated for the purpose of analyses. Sample items include: 'When I'm upset, I try to stay open to my feelings rather than avoid them'.

2.8.5.   The Warwick Edinburgh Mental Wellbeing Scale Short-form (WEMWS; Tennant et al., 2007). The WEMWS is a 7-item scale designed to measure mental wellbeing. Responses range from 1 (none of the time) to 5 (all of the time), with a higher total score indicating greater mental wellbeing. The total

score has been calculated for the purpose of analyses. Sample items include: 'I've been feeling optimistic about the future'.

2.8.6. The Physical Health Questionnaire (PHQ; Spence et al., 1987). The PHQ is a 14-item scale designed to measure somatic health. Responses range from 1 (not at all) to 7 (all of the time), with a higher score indicating lower physical/somatic health. The total mean score has been calculated for the purpose of analyses. Sample items include: 'How often have you experienced headaches?'.

2.8.7. The Brief COPE Inventory (The brief COPE; Carver, 1997). The brief COPE inventory is a 28-item scale designed to assess various coping behaviours. These behaviours can be arranged into 14 different strategies: self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion, and self-blame. These behaviours were arranged further into three subscales: emotion-focused coping, problem-focused coping and dysfunctional coping. Responses range from 1 (I haven't been doing this at all) to 4 (I've been doing this a lot), with a higher total score indicating greater engagement with the associated coping style. Sample items include: 'I've been getting emotional support from others'.

2.8.8. The Demand-Control-Support Questionnaire (DCSQ; Theorell et al., 1988). The DCSQ is a 17-item scale designed to measure psychosocial stress in the workplace. The DCSQ items are arranged into three subscales: psychological demands, control-decision latitude, and social support at work. Responses range from 0 (strongly disagree/never) to 4 (strongly agree/often), with a higher total score indicating higher psychological demands, control-decision

latitude, and support at work, independently. Sample items include 'I have a choice in deciding what I do at work'.

2.8.9. Oldenburg Burnout Inventory (OBI; Demerouti, 2002). The OBI is a 16-item scale designed to assess the severity of work-related burnout. The OBI items are arranged into two subscales: Disengagement and exhaustion. Responses range from 1 (Strongly agree) to 4 (Strongly disagree), with a higher total score indicating higher levels of burnout.

2.8.10. The Grazing Questionnaire (GQ; Lane & Szabo, 2013). The GQ is an 8-item scale designed to measure behaviours and cognitions relating to grazing. Responses range from 1 (never) to 5 (all of the time), with a higher total score indicating greater grazing behaviours. Sample items include 'Do you find yourself taking extra helpings or picking at extra food once you've finished your main meal?'

2.8.11. The Salzberg Stress Eating Scale (SSES; Meule et al., 2018). The SSES is a 10-item scale designed to assess stress-eating tendencies. Responses range from 1 (I eat much less than usual) to 5 (I eat much more than usual), with a higher total score indicating greater engagement with eating when stressed. Sample statements include 'When I am under pressure…'

2.8.12. The International Physical Activity Questionnaire Short-form (IPAQ-SF; International Consensus Group, 1988, as reported in Craig et al., 2003). The IPAQ-SF consists of 7 questions designed to assess engagement with physical activity. The scale measures five different activity domains: work, transportation, housework, leisure-time activities, and time spent sitting. The IPAQ-SF questions are used to estimate the weekly median MET-minutes for

moderate and vigorous physical activity, walking activity, sitting activity, and total physical activity. Sample items include 'During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, digging, aerobics, or fast bicycling?'

2.8.13. The HEXACO Personality Inventory (HEXACO; Ashton & Lee, 2009). The HEXACO consists of 60 items designed to assess individual dimensions of personality. The HEXACO items are arranged into 6 subscales: honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience. Responses range from 1 (strongly disagree) to 5 (strongly agree), with a higher score indicating a higher prevalence of each personality dimension, independently. Sample items include 'I rarely hold a grudge, even against people who have badly wronged me'.

2.8.14. The Big-Three Perfectionism Scale Short-form (BTPS-SF; Feher et al., 2019). The BTPS-SF is a 16-item scale designed to assess self-report levels of perfectionism. The BTPS-SF items are arranged into three subscales: rigid perfectionism, self-critical perfectionism, and narcissistic perfectionism. Responses range from 1 (disagree strongly) to 5 (agree strongly), with a higher score indicating higher levels of perfectionism. Sample items include 'the idea of making a mistake frightens me'.

2.8.15. The Philotimo Scale (Mantzios, 2021). The philotimo scale is a 5-item scale designed to measure traits consistent with the Greek concept of Philotimo. Responses range from 1 (Not at all like me) to 5 (Extremely like me), with a higher score indicating greater traits of philotimo. Sample items include 'I find it principled to help others even if I get stuck in a difficult situation'.

2.9. Quantitative Data Analysis

The Statistical Package for Social Sciences v28 (SPSS) was used to analyse quantitative data across each of the Chapters. Descriptive statistics were run for each of the studies (Chapter 3-8) to determine the sample's characteristics, including age, gender, ethnicity, nursing speciality, years worked in the nursing profession, average hours worked each week, and banding level. All data was screened prior to inferential analyses to assess whether the assumptions were met regarding the existence of outliers, multivariate normality, linearity, and homogeneity of variance.

In Chapter 3, Pearson's bivariate correlations were conducted to assess initial relations between clinical decision-making, moral distress, physical health, mental wellbeing, work-related stressors, self-compassion, and coping behaviours. Secondly, self-compassion, and coping behaviours were explored as potential moderators upon the relationship between clinical decision-making and wellbeing. Finally, work-related stressors were explored as potential mediators of the relationship between clinical decision-making and wellbeing. All moderation and mediation analyses across each Chapter were conducted using the SPSS PROCESS Macro (Hayes, 2017) and p values $\leq .05$ were accepted as statistically significant.

In Chapter 4, exploratory factorial analyses were conducted to assess the internal reliability of the Clinical Decision-Making in Nursing Scale (Jenkins, 1985) and to identify any potentially problematic items. Further confirmatory factorial analyses were conducted to explore the efficacy of the scale in measuring clinical decision-making, as well as to test the efficacy of the revised clinical decision-making scale (CDMNS-13; Miley et al., 2023). Confirmatory factorial analyses were conducted on AMOS v24 (Analysis of a Moment Structures).

In Chapter 5, Pearson's bivariate correlations were conducted to assess initial relations between clinical decision-making, moral distress, burnout, self-compassion, stress-eating,

grazing, and physical activity. Further moderation effects were tested using self-compassion and grazing as moderators of the relationship between clinical decision-making and moral distress.

In Chapter 6, Pearson's bivariate correlations were conducted to assess initial relations between clinical decision-making, moral distress, self-compassion, personality, perfectionism, and philotimo. Further mediation effects were tested using personality dimensions and philotimo as potential mediators of the relationship between clinical decision-making and moral distress. Finally, moderation effects were tested using self-compassion as a moderator of the relationship between clinical decision-making and moral distress.

2.10. Ethical Considerations

Given the sensitive nature of the areas explored throughout the thesis, a number of preventative measures were adopted to safeguard both the research participants and researcher. The participant's wellbeing was a priority throughout the entirety of the thesis, and so several steps were taken both during the initial advertisement of the study as well as post-participation to maintain wellbeing. For each research study, participants received a thorough participant information sheet, detailing the purpose of the research, what their participation would involve, and inform them of their right to withdraw at any point. The use of a thorough participant information sheet informed participants of what areas would be explored and any potential risk they may face. Participants were encouraged to consider these before consenting to take part in the study and were also provided with the researcher contact details in order to ask any unanswered questions. Participants were also given a thorough debrief upon completion of the study, further highlighting their right to withdraw, the aims of the research and directing participants to support networks should they have experienced any distress.

The qualitative phase of the project posed several additional risks due to in-depth discussions around decision-making experiences, moral distress and wellbeing. Therefore, further steps were taken to mitigate any negative effect and maintain participants wellbeing throughout. The researcher was particularly mindful when questions centred around navigating challenging decisions and the impact of these on wellbeing, choosing to adopt a more flexible approach to questioning and giving the participant greater control over the direction and pacing of discussions. The researcher was also careful to observe any non-verbal cues given by participants throughout the interview, taking care to monitor body language, eye contact, hesitant pauses and tone of voice as an indication of participant risk. If any discomfort was observed the researcher asked whether they still wanted to continue and/or offered the participant a short break, although this was not exercised.

Another important element of creating a safe space for participants to discuss very complex and personal experiences was establishing a strong rapport. The researcher strived to create a respectful and compassionate environment whereby participants were able to engage in discussions with minimal distress. To establish this rapport, the researcher conducted brief introductions during the initial stages of the interview, introducing one's background and why this topic was being explored. The researcher continued to establish rapport throughout the interviews by utilising active listening techniques. The researcher used verbal affirmations, were receptive to responses and tailored questions to elicit in-depth discussions whilst still prioritising participant wellbeing. In doing this, the researcher was able to create a sense of psychological safety for participants, whereby they did not feel judged or harmed by the discussions that were had.

Whilst it was vital to maintain the physical and psychological wellbeing of all participants across the research, it was also of equal importance to protect the researcher's welfare when discussing complex issues around decision-making. To achieve this, the researcher set clear

boundaries between work and personal time, ensured that there was an adequate amount of time between each interview in order to process content and discussions and engaged with reflective practice between each interview. The researcher also met regularly with the wider research team to debrief after the interview to reflect on discussions, reflect on my experience of the interview and discuss any areas that were particularly challenging or difficult. Taking these precautions ensured that the researcher was able to remain present throughout the interviews and have compassionate discussions around emotionally complex areas with participants.

Ethical Approval

Each of the research studies (Chapters 3-8) received ethical approval from the Business, Law, and Social Sciences Ethical Review Committee of Birmingham City University. Each chapter presents the ethical approval code within each methodology section under 'ethical considerations'. Please refer to Appendix C for the approval letters obtained.

2.11. Timeline of research

The following tables represent the timeline of each chapter within the current thesis.

Table 2.1. Year 1 of the research project (2021/2022)

Timeline of Research	S	O	N	D	J	F	M	A	M	J	J	A
Year 1 (2021/2022)												
Literature search **Post Graduate Certificate in Research Practice**	▓	▓	▓	▓	▓							
Study 1 (Chapter 3)												
Literature search			▓	▓								
Preparing ethics application				▓	▓							
Ethical approval					▓	▓						
Data collection						▓	▓					
Data analysis							▓	▓				
Preparing as research paper								▓	▓			
Study 2 (Chapter 4)												
Literature search								▓	▓			
Preparing ethics application									▓	▓		

Timeline of Research	S	O	N	D	J	F	M	A	M	J	J	A
Ethical approval								▓				
Data collection									▓			
Data analysis												
Preparing as research paper									▓	▓	▓	
Study 3 (Chapter 5)												
Literature search						▓	▓	▓				
Preparing ethics application								▓	▓			
Ethical approval									▓	▓		
Data collection												
Data analysis										▓	▓	
Preparing as research paper												
Study 4 (Chapter 6)												
Literature search										▓	▓	
Preparing ethics application												
Ethical approval												
Data collection												
Data analysis												
Preparing as research paper												

Table 2.2. Year 2 of the research project (2022/2023)

	Year 2 (2022/2023)											
Timeline of Research	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**
Study 3 (Chapter 5)												
Literature search												
Preparing ethics application												
Ethical approval												
Data collection												
Data analysis												
Preparing as research paper		▓	▓									
Study 4 (Chapter 6)												
Literature search		▓										
Preparing ethics application												
Ethical approval			▓									
Data collection				▓								
Data analysis						▓						
Preparing as research paper							▓	▓				
Study 5 (Chapter 7)												
Literature search				▓	▓							
Preparing ethics application						▓						
Ethical approval							▓					
Data collection									▓	▓	▓	▓
Data analysis												
Writing as thesis chapter												

Table 2.3. Year 3 of the research project (2023/2024).

Timeline of Research	Year 3 (2023/2024)												Year 4 (2024)		
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
Study 5 (Chapter 7)															
Literature search															
Preparing ethics application															
Ethical approval															
Data collection															
Data analysis	▓														
Writing as thesis chapter		▓	▓	▓											
Dissemination Study (Chapter 8)															
Preparing ethics application and received Ethical Approval	▓	▓													
Data collection (online group)							▓	▓							
Data analysis								▓	▓						
Data collection (online forms)									▓	▓					
Data analysis										▓	▓				
Writing as thesis chapter															
Other dissemination															
Published research paper						▓									
Presented at research conference													▓		
Thesis writing and ongoing review	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓			
Review final thesis chapters													▓	▓	
Submit thesis															▓

CHAPTER 3: EXPLORING ASSOCIATIONS BETWEEN CLINICAL DECISION-MAKING WELLBEING, COPING BEHAVIOURS, WORK-RELATED STRESSORS AND SELF-COMPASSION AMONGST NURSING PROFESSIONALS.

3.1. Abstract

Background: Clinical decision-making is an essential component of the nursing role, one that has become increasingly complex due to the dynamic and ever-changing healthcare environment. As such, it is important to explore its impact on nurses' health and wellbeing, with consideration to different strategies to help mitigate any acknowledged negative effect. **Methods:** One hundred and forty-eight nursing professionals from across the United Kingdom were recruited to complete questionnaires on clinical decision-making, moral distress, psychological wellbeing, physical health, work-related stressors, coping behaviours and self-compassion. Moderation and mediation analyses were used to examine whether self-compassion and coping behaviours influenced the relationship between clinical decision-making and wellbeing. **Results:** Clinical decision-making was associated with physical and psychological wellbeing, and both self-compassion and coping behaviours moderated this relationship, independently. Furthermore, control decision-latitude mediated the relationship between clinical decision-making and physical health. **Conclusion:** Findings highlight the relationship between clinical decision-making and wellbeing outcomes across nursing professionals and further acknowledge the influential role of coping behaviours and self-compassion upon this relationship.

3.2. Introduction

The aim of this research chapter was to explore any initial interactions between nurses' clinical decision-making, health and wellbeing, ultimately forming the foundation of this thesis. With existing literature acknowledging relations between these factors across other demographics (Páez-Gallego et al., 2020; Ravneet & Kawaljit, 2021), it was important to further examine associations across a nursing sample. Further consideration was given to occupational stressors, including control decision-latitude, social support and psychological demands, and their role in exasperating (or minimising) any potential impact. Across the nursing workforce, occupational stressors appear to be heightened (Health & Safety Executive, 2020; Okuhara et al., 2021) and relate negatively to both clinical performance and wellbeing, independently (Babapour et al., 2022; Okuhara et al., 2021). Therefore, consideration has also been given to the role of coping behaviours and self-compassion when seeking to manage the impact of clinical decision-making. Findings seek to identify relationships between nurses' decision-making and wellbeing with the goal of devising possible strategies of support.

3.3. Background

Clinical decision-making is globally recognised as an essential competence across the nursing profession, having vital implications for the safety and quality of patient care (Thompson & Stapley, 2011). Nurses are required to make accurate decisions about patient diagnosis, intervention, and interactions, utilising their professional knowledge and experience as informants (Smith et al., 2008). Effective decision-making abilities not only support patient outcomes but also enhance healthcare workers' resilience and ability to adapt to unpredictable conditions (Bijani et al., 2021). Institutional resources, as well as interprofessional dynamics between colleagues have been identified as significantly

influential on nurses' decision-making (Ten Ham et al., 2017). The presence of professional

relationships and support from nursing colleagues is seen to enhance opportunities for

effective collaborative decision-making and enable nurses to better advocate for patient needs

(Merrick et al., 2014, see also Ten Ham et al., 2017). This is unsurprising given that

communication and collaboration between healthcare professionals is a critical component of

effective decision-making which appears to alter patient care outcomes (Barry & Edgman-

Levitan, 2012; Lee & Emanuel, 2013; Stiggelbout et al., 2012).

Occupational factors significantly contribute towards nurses' clinical decision-making

skills and abilities within the healthcare context, with workload (Li et al., 2018), resource

availability (Anton et al., 2021), and level of autonomy (Nibbelink & Brewer, 2018) all

playing a critical role in the accuracy and quality of the decisions that are made. Li et al.

(2018) found that having a shortage of experienced nurses available and a high workload

were among the most significant factors influencing the accuracy of patient diagnoses and the

quality of clinical decisions made; this in turn led to patient dissatisfaction and reduced care

quality. Anton et al. (2021) further highlighted the importance of effective workload

management in nurses' ability to make effective clinical decisions. Within this study,

experienced nurses described the importance of 'stacking' and prioritising patient information

in order to incorporate a holistic account of the patient's condition into their decision-making.

However, research suggests that effective teamwork and communication may counter the

impact of workload and positively influence clinical decision-making (Bijani et al., 2021;

Grover et al., 2017). Grover and colleagues (2017) found teamwork skills to significantly

facilitate clinical decision-making when the healthcare environment is busy, when there is a

large patient cohort, and when workload is subsequently increased. In addition to teamwork,

control over decisions and decision autonomy are seen to positively influence nurses'

decision-making. Nibbelink and Brewer (2018) suggest that autonomy and self-confidence

contribute positively towards nurses' clinical decision-making ability. When awarded control and autonomy within the professional environment, nurses report feeling psychologically empowered and exhibit greater satisfaction with their work (AllahBakhshian et al., 2017; Giles et al., 2017). It is therefore unsurprising that negative associations have been drawn between professional independence and the frequency of moral distress reported (Abdolmaleki et al., 2019).

Moral distress describes the psychological response to morally challenging situations and arises 'when one knows the right thing to do but is unable to pursue the right course of action due to institutional constraints' (Jameton, 1984, p.6). This experience is far from uncommon across nursing, where it has been deemed an inherent part of the nursing role (Mills & Cortezzo, 2020). A recent review of existing literature suggests that the frequency and severity of moral distress across nurses are high and demonstrates a critical problem for nursing professionals that needs to be addressed (Salari et al., 2022). Noting this high prevalence is important when considering the health and wellbeing of the nursing workforce, with moral distress predicting higher levels of burnout, anxiety, and post-traumatic stress disorder across nursing professionals (Lazzarin et al., 2012; Smallwood et al., 2021). It is therefore important to consider influential factors to help minimise any acknowledged negative effect on nursing professionals.

Causes and risk factors for moral distress are often understood as being patient-focused or nursing-focused (Burton et al., 2020). Patient-focused factors often centre around quality-of-life dilemmas, advocating for the patient and challenges managing the patients and patients' relations wishes. Nursing-focused factors on the other hand, tend to stem from not having a voice within the healthcare team, conflict with peers, and feeling as though integrity has been compromised in some way (Burton et al., 2020). It is important to consider whether clinical

decision-making relates to moral distress as a potential nursing-focused factor, as research is scarce in this area. Given the complex and dynamic nature of the nursing role, moral distress has been deemed an inherent experience that is unlikely to ever be removed (Davis & Batcheller, 2020). It is therefore important to consider potential areas to help nurses cope with the ethical challenges decision-making poses if wellbeing is to be supported and moral distress prevented.

Coping is defined as the thoughts and behaviours that are used to manage both internal and external stressors (Folkman & Moskowitz, 2004). Although there are many different coping strategies and styles, Carver (Carver, 1997; Carver et al., 1989) conceptualises coping behaviours as being either emotion-focused, problem-focused, or dysfunctional. Emotion-focused coping is reactive and attempts to manage a stressor through emotional regulation (Lazarus & Folkman, 1984). This style of coping has been seen to buffer the impact of occupational stressors and promote general health across a nursing sample (Kaffash et al., 2017), highlighting its protective nature in the face of workplace stress. Jang et al. (2019) support these findings, suggesting that emotion-focused coping strategies influenced the relationship between work-related stress and psychological wellbeing; However, they found that this form of coping was significantly more effective for those with less career experience when compared to those with more nursing experience. Consideration therefore needs to be given to an individual's length of service and depth of experience when seeking to understand effective coping strategies for nursing professionals. It is also important to note that emotion-focused coping strategies can also be maladaptive in nature, leading to undesirable consequences such as stress, anxiety, burnout, and post-traumatic stress disorder (Connor-Smith & Flachsbart, 2007; Howlett et al., 2015; Samson, 2019), a result of not addressing the underlying source of stress (Lazarus & Folkman, 1984). Therefore, whilst emotion-focused coping may offer immediate relief to stressors in the fast-

paced clinical environment, it is important to consider the long-term outcomes on healthcare workers' wellbeing and decision-making ability.

Problem-focused coping is an alternative coping style that utilises cognitive and behavioural strategies to address the underlying source of stress, including seeking information, generating potential solutions and taking action (Carroll, 2020; Siu et al., 2023). Existing literature highlights the benefits of problem-focused coping over emotion-focused coping for health and wellbeing (Kim & Yi, 2023; Rabenu et al., 2017), with it further being seen to reduce stress, anxiety, and depression across nursing students (Samson, 2019). Problem-focused coping has also been found to diminish the relationship between workload and job burnout (Woranetipo & Chavanovanich, 2021), mediate the relationship between work-related stress and psychological wellbeing (Jang et al., 2019) and predict lower levels of secondary traumatic stress across nursing samples (Hosaini & Ariapooran, 2014); these findings implicate the adoption of different coping styles in nurses' experience of the workplace and when managing elements of stress and distress. This may have important implications for the nursing profession, where individuals are expected to navigate excessive workloads and stressful decisions daily (Muir, 2004; Pipe et al., 2009; Kakemam et al., 2019). On the other hand, dysfunctional coping, referring to the strategies that offer an immediate yet short-lived relief from a stressor, has been linked to reduced psychological wellbeing and poor stress management (Holton et al., 2016; Ozoemena et al., 2021; Warchoł-Biedermann et al., 2021; Zimmerman et al., 2012). This strategy utilises more passive ways of coping, such as behavioural disengagement and denial to deal with the stressor (Carver, 1997). Whilst these can be used as a cathartic tool during the initial coping phase, they are often ineffective if used repeatedly, or across longer periods of time (Angelica et al., 2022; Carver, 1997; Carver et al., 1989). However, it is important to note that the relationship

between coping and nurses' clinical decision-making has been scarcely studied across existing literature and needs further exploration to support the conclusions drawn.

One area implicated in the uptake of adaptive coping strategies and the mitigation of stress is self-compassion (Ewert et al., 2021). Self-compassion describes the ability to embrace one's suffering with acceptance and self-kindness and has ultimately been labelled a resiliency factor (Neff, 2003a; Neff & McGehee, 2010). With its purpose serving to encourage a balanced perspective when experiencing failure or distress (Ewert et al., 2021), it is unsurprising that self-compassion demonstrates positive associations with psychological functioning and compassionate care across healthcare professions (Dunne et al., 2018; Hall et al., 2013; Rajabi et al., 2016; Andrews et al., 2020). Although research is limited when addressing its role in the context of clinical decision-making directly, its interaction with wider stressors offers valuable insight for the nursing profession. Sirois and Hirsch (2019) found self-compassion to influence both experiences and perceptions of stress. This suggests that self-compassion may have valuable implications for healthcare organisations, where stressful encounters are central to the nursing role. Furthermore, the success of self-compassion interventions in reducing stress and burnout across nursing professionals highlights the potential for its role in mitigating the impact of clinical decision-making on health and wellbeing (Eriksson et al., 2018). Eriksson and colleagues (2018) found mindfulness self-compassion interventions to reduce stress and burnout across nursing populations, with these reductions remaining in longitudinal analyses; Self-compassion may therefore offer a long-term solution to stress and burnout across nursing professionals. The observed success of self-compassion interventions upon various elements of nurses' wellbeing warrants further exploration when seeking to identify and address the impact of clinical decision-making on wellbeing.

Previous research has not yet explored relations between coping behaviours, work-related stressors, self-compassion, moral distress, and wellbeing within the context of nurses' clinical decision-making. Given that clinical decision-making is a fundamental expectation of the nursing role (Thompson & Stapley, 2011; Krishnan, 2018), it is important to recognise any potential impact on wellbeing, and possible strategies to mitigate any negative effect. The present study therefore seeks to explore relations between clinical decision-making and nurses' wellbeing, with reference to the moderating role of coping behaviours and self-compassion. A second aim of the present study is to explore the mediating role of work-related stressors to gain further insight into modifiable factors that can influence any acknowledged effect. It is hypothesised that clinical decision-making will relate to nurses' wellbeing within the present study, with both problem-focused coping and self-compassion positively influencing these relations. A second hypothesis suggests that possessing high control over decisions, receiving high levels of social support, and having reduced levels of psychological demands will all positively influence relations between clinical decision-making and wellbeing.

3.4. Method

Participants

One hundred and forty-eight participants were voluntarily recruited for the present study via social media platforms (Facebook, Twitter, LinkedIn). Participants did not receive any compensation for their participation in the study. The sample consisted of 131 females, and 17 males, with a mean age of 43 years ($SD = 10$). Participants' occupation status was obtained, with the majority of participants working in a senior banding position (66.2%) and practising full-time ($M = 35.89$, $SD = 6.76$). Participants' self-identified ethnicities were: White British ($n = 125$), Irish ($n = 4$), Black British ($n = 3$), British Indian ($n = 3$), and other ($n = 12$). See Table 3.1. for summary. Cohen's (1992) guidelines suggest that to achieve a

medium effect size, with alpha set at 0.01 and a power of 0.80, a minimum of 147

participants was required to conduct a regression analysis.

Table 3.1. Participant demographic information (*n* = 148).

Characteristic	n	%
Gender		
Female	131	88.5
Male	17	11.5
Mental health diagnosis		
Yes	40	27.0
No	107	72.3
Prefer not to say	1	0.70
Do you smoke?		
Yes	15	10.1
No	133	89.9
Ethnicity		
White-British	125	84.5
Irish	4	2.7
Black British	4	2.7
British Indian	3	2.0
Other	12	8.1
Banding level		
Junior	50	33.8
Senior	98	66.2

Descriptive statistics for continuous variables.		
	M	SD
Age	43.15	10.49
Years spent in profession	6.19	6.48
Hours practiced per week	35.89	6.76

Measures

Participant Demographic Form. Participants were asked to give details regarding their age, gender, ethnicity, occupational banding, and years spent in the nursing profession.

The Clinical Decision-Making in Nursing Scale (CDMNS-40; Jenkins, 1985). Please see Chapter 2 for a full description of the CDMNS-40. The present study demonstrated an alpha of α = .768 for the total score, α = .406 for search for alternatives and options, α = .432 for canvassing objectives and values, α = .616 for evaluating and reevaluating consequences, α = .387 for search for information and unbiased assimilation of new information.

The Clinical Decision-Making in Nursing Scale-13 item (CDMNS-13; Miley et al., 2023). Please see Chapter 2 for a full description of the CDMNS-13. The present study demonstrated an alpha of α = .716 for the total score. The CDMNS-13 is reported in parallel to the CDMNS-40 and will be presented in parentheses throughout the results section.

The Sussex-Oxford Compassion for the Self Scale (SOCS; Gu et al., 2019). Please see Chapter 2 for a full description of the SOCS. The present study demonstrated an alpha of α= .949 for the total score, α = .870 for recognising suffering, α = .805 for understanding the universality of suffering, α = .908 for feel for the person suffering, α = .844 for tolerating uncomfortable feelings, and α = .915 for being motivated to act to alleviate suffering.

Moral Distress Scale-Revised (MDS-R; Hamric et al., 2012). Please see Chapter 2 for a full description of the MDS-R. The present study demonstrated an alpha of α = .884 for the total score.

Warwick Edinburgh Mental Wellbeing Scale Short-form (WEMWS; Tennant et al., 2007). Please see Chapter 2 for a full description of the WEMWS. The present study demonstrated an alpha of α = .838 for the total score.

The Physical Health Questionnaire (PHQ; Spence et al., 1987). Please see Chapter 2 for a full description of the PHQ. The present study demonstrated an alpha of $\alpha = .891$ for the total score.

The Brief COPE Inventory (Brief COPE; Carver, 1997). Please see Chapter 2 for a full description of the brief COPE. The present study demonstrated an alpha of $\alpha = .851$ for problem-focused coping, $\alpha = .760$ for emotion-focused coping, and $\alpha = .714$ for dysfunctional coping.

The Demand Control Support Questionnaire (DCSQ; Theorell et al., 1988). Please see Chapter 2 for a full description of the DCSQ. The present study demonstrated an alpha of $\alpha = .700$ for psychological demands, $\alpha = .850$ for social support, and $\alpha = .615$ for control decision-latitude.

Procedure

Participants responded to an online invitation posted via social media to take part in the present study. They were then directed to an online survey and presented with an information sheet and consent form. Once consent had been obtained, participants were asked to complete a series of demographic questions, before being directed to the questionnaires (see measures listed above). The survey took approximately 20 minutes to complete. Upon completion, participants received a debrief form. Please refer to Chapter 2 for more details regarding the study procedure.

Ethical Considerations

This study received ethical approval from the Business Law and Social Sciences Ethics Committee at Birmingham City University (Miley/#9949/sub1/R(A)/2021/Nov/BLSSFAEC).

Data Analysis

A series of Pearson's bivariate correlations were conducted to explore the relationships between clinical decision-making, moral distress, mental wellbeing, physical

wellbeing, self-compassion, coping behaviours, and work-related stressors. Next, moderation analyses were conducted to explore the direct effect of self-compassion and coping behaviours, independently, upon the relationship between clinical decision-making and wellbeing factors (physical health, psychological wellbeing, moral distress). Finally, mediational analyses were conducted to explore any indirect effects between work-related stressors, clinical decision-making, physical health, and mental wellbeing.

3.5. Results

3.5.1. Correlations

Intercorrelations between clinical decision-making, moral distress, physical health, mental wellbeing, self-compassion, coping behaviours, and work-related stressors are presented in Table 3.2. Findings suggest that clinical decision-making ability was associated with greater mental wellbeing ($r = .380$, $p < .001$; CDMNS-13: $r = .375$, $p < .001$), but reduced physical health across the nursing sample ($r = .202$, $p < .014$; CDMNS-13: $r = .176$, $p = .032$). Further inspection of these findings revealed that the observed associations between clinical decision-making ability and physical health were significant for junior nurses (CDMNS-13: $r = .315$, $p = .026$) and non-significant for senior nurses ($r = .143$, $p = .160$; CDMNS-13: $r = .067$, $p = .511$). Furthermore, greater control decision-latitude was also associated with greater perceptions of decision-making ability ($r = .202$, $p = .014$; CDMNS-13: $r = .220$, $p = .007$). Both problem-focused ($r = .243$, $p = .003$; CDMNS-13: $r = .182$, $p = .026$) and emotion-focused coping ($r = .271$, $p < .001$; CDMNS-13: $r = .215$, $p = .009$) strategies were also significantly associated with greater decision-making ability. Associations with dysfunctional coping were non-significant.

Further correlation analyses revealed that dysfunctional coping behaviours were significantly associated with reduced physical health ($r = .243$, $p = .003$), reduced mental wellbeing ($r = -.374$, $p < .001$) and increased moral distress experience ($r = .243$, $p = .003$).

Self-compassion presented significant relationships with various wellbeing outcomes, clinical decision-making, and coping strategy employed. Self-compassion was not only associated with increased physical ($r = -.270$, $p < .001$) and mental wellbeing ($r = .503$, $p < .001$), but also demonstrated significant associations with each of the three coping strategies. This was in a positive linear direction for both emotion-focused and problem-focused coping, and in a negative linear direction for dysfunctional coping (see Table 3.2). Interestingly, it was only the *tolerating uncomfortable feelings* dimension of self-compassion that demonstrated significant associations with moral distress across this nursing sample ($r = .220$, $p = .007$).

Table 3.2. Intercorrelations between clinical decision-making, physical health, psychological wellbeing, moral distress, coping behaviours, and self-compassion (*n* = 148).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) CDMNS-13																	
(2) CDMNS-40	.854**																
(3) WEMBS	.375**	.380**															
(4) PHQ	.176*	.202*	-.129														
(5) MDS-R	.038	.034	-.044	.348**													
(6) PFC	.182*	.243**	-.098	.126	-.012												
(7) EFC	.215**	.271**	.081	.045	.066	.680**											
(8) DC	.004	.091	-.231**	.324**	.243**	.302**	.275**										
(9) SOCS	.097	.175*	.382**	-.270**	-.135	.240**	.252**	-.335**									
(10) SOCS-UUS	.235**	.243**	.207*	-.115	.080	.306**	.312**	.020	.525**								
(11) SOCS-FPS	.042	.123	.354**	-.229**	-.135	.174*	.193*	-.365**	.926**	.314**							
(12) SOCS-RS	.149	.206*	.292**	-.195*	-.106	.296**	.239**	-.176*	.790**	.479**	.596**						
(13) SOCS-TUF	.006	.079	.306**	-.310**	-.220**	.107	.114	-.411**	.900**	.252**	.870**	.597**					
(14) SOCS-MTA	.043	.127	.401**	-.242**	-.116	.177*	.240**	-.350**	.941**	.382**	.913**	.625**	.864**				
(15) DCSQ-PD	.031	.055	-.294**	.385**	.292**	.062	.031	.299**	-.218**	-.142	-.142	-.190*	-.206*	-.223**			
(16) DCSQ-SS	.147	.084	.323**	-.164*	-.098	-.110	.021	-.235**	.197*	.135	.161	.160	.155	.204*	-.280**		
(17) DCSQ-CDL	.220**	.202**	.240**	-.199*	-.031	-.041	.027	-.082	.163*	.194*	.171*	.062	.101	.167*	-.205*	.352**	

Note. CDMNS-40, Scores on the clinical decision-making in nursing scale-40; CDMNS-13, Scores on the clinical decision-making in nursing scale-13; WEMBS, Scores on the Warwick-Edinburgh mental wellbeing scale; PHQ; Scores on the physical health questionnaire; MDS-R – Scores on the moral-distress revised scale; PFC, scores on the problem-focused coping subscale of the brief COPE; EFC; scores on the emotion-focused coping subscale of the brief COPE; DC, scores on the dysfunctional coping subscale of the brief COPE; SOCS, Scores on the Sussex-Oxford compassion for self-scale; SOCS-UUS, understanding the universality of suffering subscale of the Sussex-Oxford compassion for self-scale; SOCS – RS, recognising suffering subscale of the Sussex-Oxford compassion for self-scale; SOCS – FPS, feel for person suffering subscale of the Sussex-Oxford compassion for self-scale; SOCS – TUF, tolerating uncomfortable feelings subscale of the Sussex-Oxford compassion for self-scale; SOCS – MTA, being motivated to act to alleviate suffering subscale of the Sussex-Oxford compassion for self-scale; DCSQ – PD, psychological demands subscale of the demand control support questionnaire; DCSQ – SS, social support subscale of the demand control support questionnaire; DCSQ – CDL, control-decision-latitude subscale of the demand control support questionnaire.
*Is statistically significant at p <.05
**Is statistically significant at p < .001

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3.5.2. Moderation Analyses

Further analyses of moderation effects explored self-compassion and coping behaviours as moderators of the observed relationships between clinical decision-making and wellbeing (physical health, mental wellbeing). The first moderation model used clinical decision-making (CDMNS-40) as the predictor, mental wellbeing as the dependent, and self-compassion as the moderator. Results revealed that it was only the recognising suffering dimension of self-compassion that significantly moderated the relationship between clinical decision-making and mental wellbeing ($F[3, 144] = 13.15$, $p < .001$, $R^2 = .215$). Significant variance was observed at all levels of recognising suffering (see Table 3.3).

Table 3.3. Conditional effects of the subscales of self-compassion on the relationship between CDMNS-40 and mental wellbeing ($n = 148$).

		Effect	p	95% CI	
				Lower	Upper
SOCS- Recognising suffering	-1 SD	.092	**.012**	.021	.163
	At the mean	.150	**<.001**	.088	.211
	+1	.207	**<.001**	.114	.301

Note: *SD* standard deviation, *CI* confidence intervals, *p* significance level, *β* regression coefficient
Bold indicates significance.

A second moderation model used clinical decision-making (CDMNS-40) as the predictor, physical health as the dependant, and self-compassion as the moderator. Results indicated that the self-compassion total score ($F[3, 144] = 10.16$, $p < .001$, $R^2 = .175$), understanding the universality of suffering ($F[3, 144] = 5.01$, $p = .003$, $R^2 = .095$), feel for person suffering *($F[3, 144] = 8.03$, $p = < .001$, $R^2 = .143$)*, tolerating uncomfortable feelings *($F[3, 144] = 11.24$, $p < .001$, $R^2 = .190$)*, and being motivated to act to alleviate suffering *($F[3, 144] = 9.09$, $p < .001$, $R^2 = .159$)* were all significant moderators. Simple slope analyses revealed that this was significant at average and high levels of each of these dimensions,

independently (see Table 3.4). Similar findings were observed when the CDMNS-13 was used as the independent variable (see Table 3.5).

A final moderation analysis looked at clinical decision-making (CDMNS-40) as the predictor, physical health as the dependent, and coping strategy as the moderators. Results indicated that both problem-focused coping (F[3, 144] = 5.53, p = .001, R^2 = .103) and emotion-focused coping (F[3, 144] = 3.86, p = .011, R^2 = .075) were significant moderators, with higher levels strengthening the positive association between clinical decision-making and physical health (see Table 3.4). Dysfunctional coping was not a significant moderator. Similar findings were observed when the CDMNS-13 was used as the independent variable. Both problem-focused coping (F[3, 144] = 5.14, p = .002, R^2 = .097) and emotion-focused coping (F[3, 144] = 2.97, p = .034, R^2 = .058) were significant moderators, with higher levels strengthening the positive association between clinical decision-making and physical health (see Table 3.5).

Table 3.4. Conditional effects of the subscales of self-compassion and coping behaviours on the relationship between CDMNS-40 and physical wellbeing ($n = 148$)

		Effect	p	95% CI	
				Lower	Upper
SOCS Total	-1 SD	.012	.195	-.006	.031
	At the mean	.026	**<.001**	.011	.042
	+1SD	.048	**<.001**	.025	.070
Feeling for the person suffering (SOCS)	-1 SD	.008	.400	-.011	.028
	At the mean	.024	**.003**	.009	.039
	+1 SD	.045	**<.001**	.022	.068
Tolerating uncomfortable feeling (SOCS)	-1 SD	.005	.613	-.015	.025
	At the mean	.027	**<.001**	.012	.043
	+1 SD	.050	**<.001**	.025	.074
Acting or being motivated to act to alleviate suffering for self (SOCS)	-1 SD	.011	.247	-.007	.029
	At the mean	.027	**<.001**	.012	.043
	+1 SD	.044	**<.001**	.023	.065
Understanding the universality of suffering (SOCS)	-1SD	.007	.587	-.018	.031
	At the mean	.028	**.001**	.011	.044
	+1SD	.042	**<.001**	.018	.065
Problem-focused coping	-1 SD	.002	.870	-.018	.021
	At the mean	.020	**.017**	.004	.036
	+1 SD	.043	**<.001**	.020	.066
Emotion-focused coping	-1 SD	.003	.771	-.019	.026
	At the mean	.016	.058	-.001	.033
	+1 SD	.036	**.001**	.015	.057

Note. **Bold** indicates significance.

Table 3.5. Conditional effects of the subscales of self-compassion and coping behaviours on the relationship between CDMNS-13 and physical wellbeing ($n = 148$)

		Effect	p	95% CI	
				Lower	Upper
SOCS Total	-1 SD	.019	.420	-.027	.064
	At the mean	.044	**.014**	.009	.079
	+1SD	.083	**.002**	.032	.134
Feeling for the person suffering (SOCS)	-1 SD	.013	.587	-.033	.059
	At the mean	.042	**.020**	.007	.078
	+1 SD	.081	**.003**	.029	.133
Tolerating uncomfortable feeling (SOCS)	-1 SD	.007	.774	-.040	.054
	At the mean	.045	**.011**	.010	.080
	+1 SD	.084	**.002**	.031	.136
Acting or being motivated to act to alleviate suffering for self (SOCS)	-1 SD	.012	.584	-.032	.056
	At the mean	.046	**.011**	.011	.081
	+1 SD	.080	**.001**	.033	.127
Problem-focused coping	-1 SD	-.012	.634	-.060	.037
	At the mean	.032	.083	-.004	.069
	+1 SD	.087	**<.001**	.038	.137
Emotion-focused coping	-1 SD	-.006	.838	-.064	.052
	At the mean	.025	.229	-.016	.065
	+1 SD	.070	**.004**	.023	.118

Note. **Bold** indicates significance.

3.5.3. Mediation Analyses

The present study also explored the direct and indirect effect of control decision-latitude upon clinical decision-making (CDMNS-40) and physical health using mediation analyses (see Figure 3.1). Findings suggest that clinical decision-making ability indirectly relates to physical health, through its relationship with control decision-latitude. Clinical decision-making significantly predicted control decision-latitude ($b = .043$, $t = 2.49$, $p =$

.014), as scores on clinical decision-making ability increased, scores on control decision-latitude increased which related to control decision-latitude significantly predicting physical health (b = -.117, t = -3.11, p = .002). A 95% bias-corrected confidence interval based on 5000 bootstrap samples indicated that there was an indirect effect (b = -.005) which did not cross zero (CI = -.011, -.001). Findings were consistent with a full mediation. Similar findings were reported for the CDMNS-13 (see Figure 3.2).

Figure 3.1. The mediating effect of control decision-latitude in the relationship between CDMNS-40 and physical health.
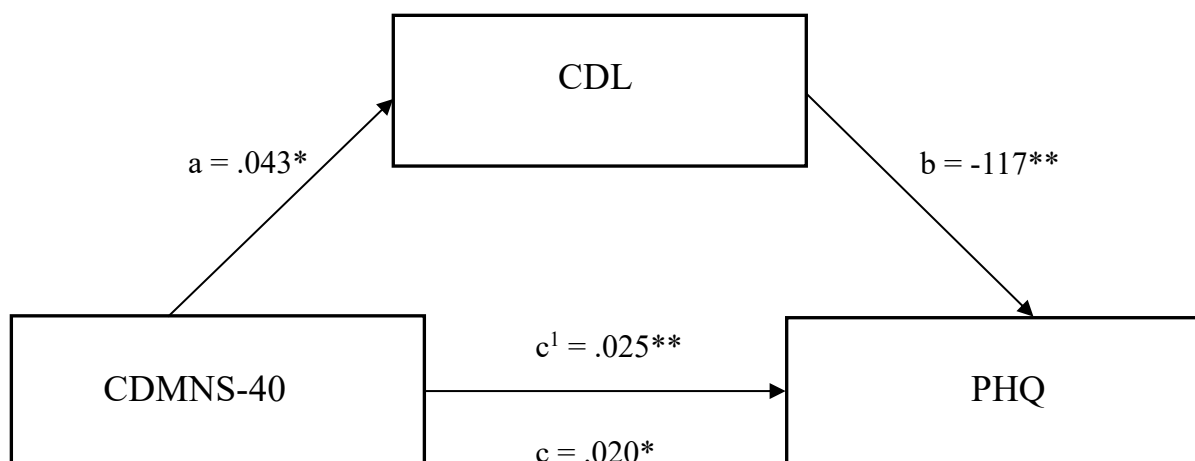
Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon control decision-latitude; b is the effect of control decision-latitude on physical health; c^1 is the direct effect of clinical decision-making on physical health: c is the total effect of clinical decision-making on physical health. * p < 0.05, ** p < 0.01. *Further note: CDL – Control decision-latitude subscale of the Demand Control Support Questionnaire; CDMNS-40 – Clinical decision-making in Nursing Scale; PHQ – Physical health questionnaire (higher scores represent greater physical health issues).*

Figure 3.2. The mediating effect of control decision-latitude in the relationship between CDMNS-13 and physical health.
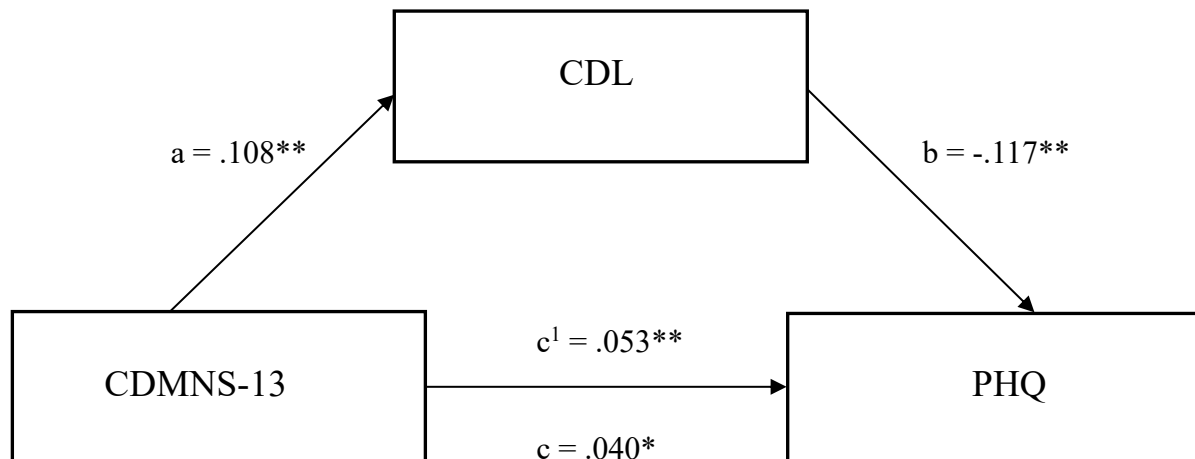
Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon control decision-latitude; b is the effect of control decision-latitude on physical health; c^1 is the direct effect of clinical decision-making on physical health: c is the total effect of clinical decision-making on physical health. * $p < 0.05$, ** $p < 0.01$. *Further note: PHQ – Physical health questionnaire (higher scores represent greater physical health issues).*

3.6. Discussion

There were two main aims of the present study. The first aim was to explore the relationship between clinical decision-making and nurses' wellbeing outcomes. The second aim was to examine the role of coping behaviours and self-compassion in the context of this relationship, to identify potential areas of support for the nursing profession. Initial findings supported predictions, with clinical decision-making ability predicting greater mental wellbeing across the nursing population. This aligns with research into the broader concept of decision-making, whereby decision-making strategies and competency have been linked to greater wellbeing and health outcomes (Páez-Gallego et al., 2020; Ravneet & Kawaljit,

2021). However, conflicting findings were reported regarding its relationship with physical health. Within the present study, higher clinical decision-making ability was associated with reduced physical wellbeing, opposing initial predictions. This can be explained by the level of responsibility that accompanies decision-making in a healthcare setting. Nurses report that being more confident in an area means that you are more likely to be rostered into that role more frequently (Fry & MacGregor, 2014). Therefore, nurses demonstrating more positive perceptions of their clinical decision-making ability may be more frequently involved in complex patient care decisions, where greater competency is required (Nursing & Midwifery Council, 2015). These complex care decisions often involve greater levels of responsibility, and greater responsibility can manifest as enhanced levels of stress (Dewa et al., 2011). Stress has been seen to present negative physical health symptoms, including headaches, chest pain, as well as pathological conditions and disease (National Health Service, 2022; Yaribeygi et al., 2017). These physical manifestations of stress may be exacerbated in physically demanding roles, such as nursing, where there is a culture of long shift patterns, reduced opportunities for breaks, and where compassion for patients is prioritised over self-care (Dall'ora et al., 2022; Egan et al., 2019; Egan et al., 2023; Monaghan et al., 2018). The increase in stress that accompanies having greater levels of responsibility, may therefore explain the relationship observed between clinical decision-making and physical health in the present study.

Further inspection into the associations drawn between clinical decision-making and physical health revealed that nurses' seniority was influential upon this relationship. Notably, greater perceptions of decision-making ability related to reduced physical health across junior nurses but not for those in senior banded positions. These findings offer insight into the relevance of banding and seniority when seeking to understand nurses' experience of clinical decision-making. The observed interactions may be understood by the level of experience

possessed by nurses in more junior bands, and the influence that this has on one's ability to cope or manage complex decisions. Research suggests that nurses with less experience are more likely to engage in negative coping behaviours when compared to those with more experience (Beier et al., 2023); negative coping is associated with increased psychological stress (Schäfer et al., 2020), which further relates to a range of different physical health issues (National Health Service, 2022; Yaribeygi et al., 2017). This may therefore offer an explanation for why clinical decision-making related to lower levels of physical health across junior nursing roles and why this was not observed across more senior positions.

Given the associations drawn between clinical decision-making and physical health, it was important to consider various elements that may influence this relationship. One area that was explored in the present study was coping behaviours. Results revealed that both emotion-focused and problem-focused coping are associated with greater decision-making ability. This aligns closely with Khaled's (2021) findings, where such coping strategies were seen to reduce decision-making difficulties through enhanced psychological resilience. Dysfunctional coping on the other hand was associated with increased moral distress experience and predicted significantly lower levels of physical and mental wellbeing in the present study. These findings were unsurprising and align closely with existing literature on dysfunctional coping and wellbeing outcomes, whereby such strategies predict elevated levels of stress, enhanced psychological distress and reduced wellbeing (Ozoemena et al., 2021; Warchoł-Biedermann et al., 2021; Zimmerman et al., 2012).

Further moderation analyses revealed that both emotion-focused and problem-focused coping strategies significantly influenced the relationship between clinical decision-making and physical health. High levels of engagement with these coping strategies, independently, strengthened the observed relationship between these factors. Whilst this supports what is known about the maladaptive nature of emotion-focused coping (Connor-Smith & Flachsbart,

2007; Howlett et al., 2015), it opposes existing literature on the protective nature of problem-focused coping for health and wellbeing across nursing samples (Samson, 2019). Problem-focused coping relies on the ability to address and remove the underlying source of stress to be effective (Carroll et al., 2020; Lazarus & Folkman, 1984) and cannot be successful in circumstances where the stressor cannot be controlled or eliminated (Carver, 2011). The unexpected findings regarding problem-focused coping can therefore be further understood by the context and nature of the stressors faced in a clinical environment. Decision-making is central to the nursing role, and so is a potential source of stress that is not possible to eliminate (Krishnan, 2018). This may explain why problem-focused coping strengthens negative relations between clinical decision-making and physical health in the present study. Further consideration should therefore be given to the context and nature of the stressor when seeking to explore effective coping styles across the nursing profession.

The role of self-compassion was also examined in relation to clinical decision-making, physical health, and mental wellbeing. Moderation effects between the subscales of self-compassion and wellbeing suggest that different elements of self-compassion contribute to different wellbeing outcomes. Specifically, recognising suffering was associated with higher mental wellbeing through nurses' clinical decision-making. These findings support the positive associations drawn between self-compassion and wellbeing across existing literature (Dunne et al., 2018; Durkin et al., 2016; Hall et al., 2013; Bailis et al., 2021). Contrary to the positive associations drawn between recognising suffering and mental wellbeing, the relationship between self-compassion and physical health appeared more complex. Notably, average and high levels of feeling for the person suffering, being motivated to act to alleviate suffering, understanding the universality of suffering, as well as tolerating uncomfortable feelings, were found to strengthen the negative impact of clinical decision-making upon nurses' physical health outcomes. This may be explained through the role of self-kindness

when being self-compassionate (Mantzios & Egan, 2017; Egan & Mantzios, 2018). If an individual understands being kind to themselves as relieving psychological distress through consuming high-calorie food, alcohol, and reducing physical activity instead of taking care of their body, having higher self-kindness and self-compassion may lead to worse physical health. Such implications of individual differences are significant in practising self-compassion, and it is important to consider this when seeking to minimise the effect of clinical decision-making on nurses' wellbeing. An equilibrium between body and mind when being kind to oneself may form potential interventions that are worth exploring in future research.

A final mediation analysis revealed that the relationship between clinical decision-making ability and physical health was explained through the mediating role of control decision-latitude. This finding aligns with existing research, where control and autonomy over decision-making have been found to influence individual wellbeing outcomes and work performance (Fallman et al., 2018). The present study builds upon these findings further, extending this relationship to clinical decision-making directly. It is therefore recommended that healthcare organisations seek to promote and encourage nurses' control and autonomy when making decisions in the clinical environment. Through enhancing this, nurses may feel more satisfied and confident in their decisions, ultimately reducing any negative influence decision-making ability may have upon individual wellbeing.

A final finding within the current study revealed significant flaws in the reliability and internal consistency of the Clinical Decision-Making in Nursing scale (Jenkins, 1985). Despite being widely used across existing nursing literature and having been adapted for use across a range of different languages and cultures (Baumberger-Henry, 2005; Canova et al., 2016; Davoodi et al., 2022; Lavoie et al., 2023), the scale's performance within the current study highlighted significant shortcomings of the scale. Cronbach alpha reliability scores for

each of the four subscales were significantly below the 0.70 value considered to be acceptable (Ursachi et al., 2015). Existing literature supports these findings with Kouravand et al. (2021) identifying significant structural issues with item loading for each of the four constructs, and Lavoie et al. (2023) further emphasising the demand for a revised decision-making scale. Findings highlight the need for further examination into the internal structure of the clinical decision-making in nursing scale (Jenkins, 1985), if conclusions are to be considered reliable.

Limitations

Three limitations were identified within the current study. First, a large proportion of the sample identified as female (88.5%), and of White-British origin (84.5%). The Nursing and Midwifery Council (2022b) report that 89% of nurses on the nursing register identify as female, and 71.9% as White; therefore, whilst the sample was gender-representative of the UK nursing force, it was not representative of ethnicity. With race and ethnicity both being seen to influence experiences of self-compassion and moral distress (Breathett et al., 2019; British Medical Association, 2021), it is important to replicate the current study on a more ethnically diverse sample. This would provide further support for the current findings, whilst also allowing conclusions to be generalised beyond the scope of this sample.

Second, the cross-sectional nature of the present study prevents inference of causality. Whilst demonstrating several important relationships between clinical decision-making, wellbeing, self-compassion, and coping strategies, it was not possible to infer further details about this interaction. Future research should therefore seek to build upon these findings, utilising a more experimental design to allow further investigation and inference from this relationship.

Finally, the Clinical Decision-Making in Nursing scale (Jenkins, 1985) did not perform as anticipated. Despite being a widely used and cross-culturally validated tool

utilised to measure nurses' clinical decision-making (Baumberger-Henry, 2005; Canova et al., 2016; Davoodi et al., 2022; Edeer & Sarikaya, 2015; Jenkins, 1985), reliability scores within the present study raised significant concerns in relation to its four subscales. Cronbach alpha values for each of the subscales were significantly below the widely accepted value of 0.70 (Ursachi et al., 2015), highlighting internal inconsistencies and reliability issues. Further studies would benefit from a more consistent measure of clinical decision-making to strengthen the conclusions drawn. The CDMNS-13 has been reported in parallel to the original clinical decision-making scale to address concerns around scale reliability and further validate the conclusions reached.

Conclusion

The findings from the present study suggest that clinical decision-making is indeed associated with nurses' physical and psychological wellbeing. These findings also provide evidence that problem-focused coping may strengthen the negative impact of clinical decision-making on nurses' physical health and so should be used with caution by healthcare professionals, particularly in circumstances where the stressor cannot be eliminated. Additionally, findings suggest that whilst self-compassion may be a useful tool in supporting nurses' mental wellbeing, it may strengthen the negative impact of clinical decision-making on nurses' physical health. Therefore, any proposed self-compassion interventions need to be cognisant of elements of self-compassion, such as self-kindness, that may appear to promote prioritisation of psychological wellbeing over physiological wellbeing. Further research is required to explore the impact of self-compassion subscales in a more controlled experimental environment. Finally, the present study emphasises the importance of control decision-latitude in supporting the relationship between clinical decision-making and wellbeing. It is recommended that managerial roles seek to support and enhance nurses'

autonomy during decision-making, to aid both decision-making ability and reduce any negative impact upon physical health and wellbeing.

3.7. Chapter Summary

Chapter 3 identified important relationships between clinical decision-making and nurses' wellbeing and the influential role of role coping behaviours, self-compassion and control decision-latitude. Below is a summary of the key findings and practical implications for nursing practice and wellbeing.

Key Findings

- Greater clinical decision-making ability relates to greater psychological wellbeing. This relationship was strengthened when nurses were self-compassionate.

- Greater clinical decision-making ability relates to lower perceived physical health. This relationship was strengthened when nurses engaged with emotion-focused coping strategies, problem-focused coping strategies and self-compassion. However, possessing greater control over decision-making weakened the negative relationship between clinical decision-making and physical health.

- The subscales of the clinical decision-making in nursing scale (Jenkins, 1985) underperformed and demonstrated low internal consistency and reliability.

Practical Implications

- When seeking to manage the impact of clinical decision-making upon wellbeing, nurses should avoid the use of problem-focused coping strategies. Although problem-focused coping behaviours are commonly recognised as being protective of wellbeing, the nature of the nursing role means that nurses are unable to eliminate the underlying source of stress. Therefore, nurses should seek to engage with other forms of coping which may prove more effective.

- When seeking to manage the impact of clinical decision-making on psychological wellbeing, nurses should increase engagement with self-compassion. Notably, being aware and recognising suffering when navigating complex clinical decision-making may act as a buffer against any negative effect. However, given that other dimensions of self-compassion can strengthen the negative impact of clinical decision-making on physical health, careful consideration should be given when recommending and engaging with its use. Emphasis should be placed on the recognising suffering dimension (awareness) of self-compassion as opposed to the self-kindness and common-humanity elements which may strengthen the impact of clinical decision-making on physical health.

- Healthcare organisations should seek to increase nurses' autonomy where possible and empower nurses to make clinical decisions within their roles. This appears to weaken the negative impact of clinical decision-making on nurses' physical health.

CHAPTER 4: DEVELOPMENT AND REVISION OF THE CLINICAL DECISION-MAKING IN NURSING SCALE.

4.1. Abstract

Background: Clinical decision-making is a vital part of the nursing role, one that greatly influences the quality of patient care. Being able to measure this concept is imperative when furthering understanding and support for the decision-making process, and yet, existing measurement tools are criticised for their reliability and poor model fit. The present study addresses these issues by developing and validating a short version of the clinical decision-making in nursing scale (CDMNS-40), a widely used measure of clinical decision-making (Jenkins, 1985). **Methods:** A series of factor analyses were conducted to explore the factor loadings and internal consistency of the CDMNS-40 ($n = 324$). **Results:** Exploratory factor analyses revealed that the CDMNS-40 demonstrated low factor loading and reliability. Further confirmatory factorial analyses identified 13 items that loaded highly onto one factor and demonstrated a good model fit (CDMNS-13). The CDMNS-13 exhibited greater internal consistency than the original scale. **Conclusions:** These findings provide evidence that the CDMNS-13 offers a brief and reliable measure of clinical decision-making. The results suggest that this modified version of the clinical decision-making scale offers a more robust measure than the CDMNS-40 to assess nurses' clinical decision-making ability.

4.2. Introduction

Findings from Chapter 3 raised significant concerns regarding the internal consistency of the Clinical Decision-Making in Nursing scale (CDMNS-40; Jenkins, 1985). Despite this scale being the most studied, most adapted, and most translated clinical decision-making scale in nursing (Lavoie et al., 2023), reliability scores for each of the four subscales were significantly below the acceptable threshold (Ursachi et al., 2015). Since then, several studies have criticised the reliability of the four proposed subscales and further highlighted its inadequate model fit (Duarte & Dixe, 2021; Kouravand et al. 2021; Lavoie et al., 2023). Given that clinical decision-making is a central component of the current thesis, it was considered imperative to develop and adopt a measurement tool that reliably captures nurses' perceptions of clinical decision-making ability.

4.3. Background

Clinical decision-making is a central aspect to the nursing role, one that greatly influences the quality of healthcare provided (Novalia et al., 2022). Nurses are required to make decisions regarding patient diagnosis, intervention, and interactions (Smith et al., 2008) utilising patient observations, professional policies, and research evidence to guide their judgements (Standing, 2020; Tanner, 2006; Thompson et al., 2004). Early theories of decision-making suggest that decisions are heavily influenced by one's own perceptions and that environmental factors, personal goals, and individual values all contribute toward this (Simon, 1959). The influence of such subjective factors is problematic given that errors in decision-making ultimately result in poorer patient outcomes and even patient death (Nibbelink & Brewer, 2018; Tourangeau et al., 2006). Therefore, if patient health and wellbeing are to be supported, it is important to accurately assess nurses' decision-making skills and abilities.

Clinical decision-making across the nursing profession is typically assessed using the clinical decision-making in nursing scale (CDMNS-40; Jenkins, 1985). The CDMNS-40 has 40 items designed to measure four different components of decision-making in nursing: search for alternatives or options, canvassing of objectives and values, evaluation and re-evaluation of consequences, and search for information and unbiased assimilation of new information (Jenkins, 1985). Whilst the scale demonstrates adequate psychometric abilities across a range of different languages and cultures, the reliability of its subconstructs has been questioned (Baumberger-Henry, 2005; Canova et al., 2016; Davoodi et al., 2022; Edeer & Sarikaya, 2015; Jenkins, 1985). Research has found subscale reliability scores to be between 0.51-0.58 (Baumberger-Henry, 2005), independently, falling significantly below acceptable reliability (Ursachi et al., 2015). These findings have been supported in subsequent cross-cultural validation studies, with subscale reliability values being as low as 0.21 (Kouravand et al., 2021). It is suggested that values below 0.70 indicate that the scale has low reliability (Ursachi et al., 2015). Kouravand et al. (2021) also suggest that the original model was not a good fit, with a significant number of items not loading well together (see also, Duarte & Dixe, 2021). This reveals that the clinical decision-making scale and its four-factor structure does not uphold very well across various translations and may have an internal problem regarding reliability and consistency. This may therefore explain why many studies opt to report the CDMNS-40 total score, with little reference to each of the subscales (Alba, 2018; Ciftci et al., 2020); the original scale development paper also fails to report or capture the reliability scores for each of the four subscales (Jenkins, 1985). This poses the question as to whether the four-factor structure is helpful, or whether the research field would benefit from a more consistent single-factor scale.

When researchers use the overall score, a further area of concern and consideration is the length of a single-factor scale, and the potential impact on participant responses. The

CDMNS-40 consists of 40 statements, designed to capture nurses' perceptions of clinical decision-making ability (Jenkins, 1985). Sharma (2022) reports that a survey of between 25-30 items can be administered within a 30-minute time frame, which is sufficient in maintaining participants' attention and preventing fatigue. Loss of attention in the case of long-length questionnaires can at times influence answers given and may lead to increased non-responsiveness (see also, Herzog & Bachman, 1981, Kost & da Rosa, 2018). In comparison, shorter surveys, designed carefully to capture the target research areas have been deemed equally reliable, whilst also producing high response and completion rates when compared to longer surveys (Kost & da Rosa 2018). Therefore, a careful assessment and revision of the 40-item CDMNS-40 may allow for a shorter scale, with fewer questions to avoid participant fatigue and support more reliable responses. The present study therefore sought to explore the reliability and validity of the original CDMNS-40, with the goal to develop a revised shorter scale that is structurally equivalent to the original 40-item scale, and that represents the unidimensional concept of clinical decision-making.

4.4. Method

Participants

A total of 330 participants were recruited for the present study using volunteer and snowball sampling. Participants were introduced to the study by an online advertisement posted on various social media platforms (Facebook, Twitter, LinkedIn). The sample consisted of 256 females and 68 males, with a mean age of 40 years ($SD = 11.7$). A large proportion of the sample was White-British ($n = 266$) and came from a range of different nursing specialities, including adult health ($n = 60$), community ($n = 47$), and parent/child health ($n = 34$). The sample was made up of both junior nurses ($n = 184$; 56.8%) and senior nurses ($n = 140$; 43.2%), who worked an average of 33 hours each week ($M = 32.9$, $SD = 10.9$). Six individuals indicated that they did not meet the inclusion criteria and were

excluded from the final analysis ($n = 324$). A sample of 300 participants is deemed sufficient when conducting a factorial analysis (Comrey & Lee, 2013).

Measures

Participant Demographic Form. Participants were asked to give details regarding their age, gender, ethnicity, occupational banding, and years spent in the nursing profession.

The Clinical Decision-Making in Nursing Scale (CDMNS-40; Jenkins, 1985). Please see Chapter 2 for a full description of the CDMNS-40. The present study demonstrated an alpha of $\alpha = .795$ for the total score, $\alpha = .389$ for search for alternatives and options, $\alpha = .547$ for canvassing objectives and values, $\alpha = .582$ for evaluating and reevaluating consequences, $\alpha = .312$ for search for information and unbiased assimilation of new information

Procedure

Participants responded to an online invitation posted via social media to take part in the present study. They were then directed to an online survey where they were provided with an information sheet and asked to provide consent. Once consent had been obtained, participants were asked to complete a series of demographic questions, before being directed to the questionnaires (see measures listed above). Upon completion, participants received a debrief form. Please refer to Chapter 2 for more details regarding the study procedure.

Ethical Considerations

This study received ethical approval from the Business Law and Social Sciences Ethics Committee at Birmingham City University (Miley/#10414/sub1/Am/2022/Aug/BLSSFAEC).

Data Analysis

Exploratory factor analysis (EFA), with principal axis factor extraction and oblique rotation was performed. To evaluate factor extraction, scree plots, Eigenvalue (>1), and item

loading greater than 0.40 was used. Upon identifying the factor structure, Cronbach's α

internal consistency coefficients were calculated for each of the subscales, as well as the

overall score. Further confirmatory factor analyses were conducted for this one factor,

second-order model which included indexes of: a Chi-squared by degree of freedom (χ^2

CMIN/df) ratio < 5; root mean square error of approximation (RMSEA) < 0.08; Adjusted

Goodness of Fit Index (AGFI), the Goodness of Fit Index (GFI), Tucker–Lewis Index (TLI),

Comparative Fit Index (CFI), and Incremental Fit Index (IFI) > 0.9; Parsimony Normed Fit

Index (PNFI) > 0.5 (Bentler & Bonett, 1980; Hooper et al., 2008; Kline, 2015).

4.5. Results

Initial reliability scores were assessed using Cronbach alpha values for the CDMNS-

40 total score, as well as the subscales that were specified during the author's development of

the scale. The search for alternatives or options subscale produced a score of $\alpha = .39$,

canvassing of objectives and values produced a score of $\alpha = .55$, evaluation and re-evaluation

of consequences a score of $\alpha = .58$, and search for information and unbiased assimilation of

new information a score of $\alpha = .31$, thus not indicating an internally consistent scale.

Initial analyses confirmed that the assumptions for factor analysis were met. The

Kaiser-Meyer-Olkin measure of sampling adequacy was .82, and Bartlett's Test of Sphericity

($p < .001$), indicating that this analysis strategy was suitable. The principal axis factorial

analysis revealed eleven factors with Eigenvalues above the recommended cut-off (Cattell,

1966; Kaiser, 1960) which explained 56.7% of the total variance (see Table 4.1). An

inspection of the scree plot supported the existence of the 11 factors, suggesting that the 40

items load onto 11 subscales (see Table 4.2). This violates the theoretical assumption of the

four-factor structure of the scale, and so items were individually excluded to enhance scale

consistency and reliability. Oblimin rotation was performed assessing that there would be an

overall correlation between the subscales as all the items have been selected to measure

clinical decision-making. The analysis indicated weak loadings for several of the items.

Through step-by-step elimination of weak loading items, as described by Field (2013), a

revised 13-item, single-factor model was developed (see Table 4.3).

Table 4.1. Eigenvalues, percentages of variance and cumulative percentages for factors of the CDMNS-40 items (*n* = 324)

Component	Eigenvalue	% of variance	Cumulative (%)
1	**6.44**	**16.10**	**16.10**
2	**3.37**	**8.44**	**24.54**
3	**2.10**	**5.26**	**29.80**
4	**2.04**	**5.10**	**34.91**
5	**1.59**	**3.98**	**38.89**
6	**1.45**	**3.63**	**42.52**
7	**1.30**	**3.26**	**45.78**
8	**1.24**	**3.11**	**48.88**
9	**1.07**	**2.68**	**51.57**
10	**1.05**	**2.62**	**54.19**
11	**1.02**	**2.54**	**56.73**
12	.979	2.45	59.17
13	.951	2.38	61.55
14	.908	2.27	63.82
15	.882	2.21	66.03
16	.838	2.10	68.12
17	.784	1.96	70.08
18	.753	1.88	71.97
19	.749	1.87	73.84
20	.711	1.78	75.61
21	.689	1.73	77.34
22	.667	1.67	79.00
23	.640	1.60	80.60
24	.619	1.55	82.15
25	.592	1.48	83.63
26	.568	1.42	85.05
27	.557	1.39	86.44
28	.534	1.34	87.78
29	.512	1.28	89.06
30	.498	1.25	90.31
31	.476	1.19	91.50
32	.455	1.14	92.63
33	.448	1.12	93.76
34	.435	1.09	94.84
35	.407	1.02	95.86
36	.390	.974	96.83
37	.350	.875	97.71
38	.338	.845	98.55
39	.310	.776	99.33
40	.268	.671	100.00

Table 4.2. Factor Loadings and Communalities for CDMNS-40, 40-item, second order model (*n* = 324)

| | Factor Loading | | | | |
	1	2	3	4	Communality
1. If the clinical decision is vital and there is time, I conduct a thorough search for alternatives.	.223	**.495**	-.005	-.105	.267
2. When a person is ill, his or her cultural values and beliefs are secondary to the implementation of health services.	**.387**	.184	-.189	.255	.252
3. The situational factors at the time determine the number of options that I explore before making a decision.	.062	.133	.207	**-.446**	.242
4. Looking for new information in making a decision is more trouble than it's worth.	**.553**	.261	-.221	.260	.431
5. I use books or professional literature to look up things I don't understand.	.271	**.349**	.002	.012	.171
6. A random approach for looking at options works best for me.	**.527**	-.027	-.277	-.054	.343
7. Brainstorming is a method I use when thinking of ideas for options.	-.098	**.455**	.053	.022	.249
8. I go out of my way to get as much information as possible to make decisions.	.214	**.612**	-.198	-.145	.426
9. I assist clients in exercising their rights to make decisions about their own care.	**.537**	.418	-.012	-.154	.411
10. When my values conflict with those of the client, I am objective enough to handle the decision making required for the situation.	**.514**	.369	.204	-.145	.426
11. I listen to or consider expert advice or judgment, even though it may not be the choice I would make.	**.544**	.367	-.041	-.280	.432
12. I solve a problem or make a decision without consulting	.-.015	-.095	**-.756**	.034	.592

anyone, using information available to me at the time.					
13. I don't always take time to examine all the possible consequences of a decision I must make.	.301	.248	**-.417**	.080	.283
14. I consider the future welfare of the family when I make a clinical decision which involves the individual.	.165	**.471**	-.023	-.204	.251
15. I have little time or energy available to search for information.	.279	**.365**	-.318	.077	.273
16. I mentally list options before making a decision.	.300	**.438**	.083	-.198	.277
17. When examining consequences of options I might choose, I generally think through "If I did this, then...".	.241	**.522**	-.137	-.099	.307
18. I consider even the remotest consequences before making a choice.	.122	**.661**	.013	-.058	.455
19. Consensus among my peer group is important to me in making a decision.	.005	-.171	.298	**.584**	.470
20. I include clients as sources of information.	.351	**.474**	.013	-.058	.301
21. I consider what my peers will say when I think about possible choices I could make.	.092	-.225	.268	**.521**	.415
22. If an instructor recommends an option to a clinical decision-making situation, I adopt it rather than searching for other options.	.356	.110	-.107	**.587**	.487
23. If a benefit is really great, I will favour it without looking at all the risks.	**.492**	.214	-.126	.278	.348
24. I search for new information randomly.	.184	**-.351**	-.093	-.119	.220
25. My past experiences have little to do with how actively I look at risks and benefits for decisions about clients.	**.540**	-.032	-.138	.043	.313

Item					
26. When examining consequences of options I might choose, I am aware of the positive outcomes for my client.	**.520**	.392	.186	-.320	.499
27. I select options that I have used successfully in similar circumstances in the past.	.123	-.003	.169	**-.600**	.406
28. If the risks are serious enough to cause problems, I reject the option.	.101	.163	-.017	**-.471**	.242
29. I write out a list of positive and negative consequences when I am evaluating an important clinical decision.	**-.396**	.341	-.100	-.014	.358
30. I do not ask my peers to suggest options for my clinical decisions.	.280	.102	**-.629**	-.192	.491
31. My professional values are inconsistent with my personal values.	**.420**	-.042	-.195	.023	.210
32. My finding of alternatives seems to be largely a matter of luck.	**.598**	.087	-.357	-.027	.439
33. In the clinical setting I keep in mind the course objectives for the day's experience.	-.046	**.404**	.029	-.261	.223
34. The risks and benefits are the farthest thing from my mind when I have to make a decision.	**.782**	.106	-.200	-.018	.624
35. When I have a clinical decision to make, I consider the institutional priorities and standards.	.038	**.348**	.057	-.259	.172
36. I involve others in my decision making only if the situation calls for it.	-.162	.056	**.567**	-.170	.351
37. In my search for options, I include even those that might be thought of as "far out" or not feasible.	.006	**.448**	.021	.001	.210
38. Finding out about the client's objectives is a regular part of my clinical decision making.	**.544**	.408	.068	-.070	.414

39. I examine the risks and benefits only for consequences that have serious implications.	**.430**	.090	-.178	.213	.244
40. The client's values have to be consistent with my own in order for me to make a good decision.	**.651**	.007	-.043	.035	.439
Proportion of variance explained	16.10	8.44	5.26	5.10	
Cumulative variance explained	16.10	24.54	29.80	34.91	

Note. **Bold** indicates highest factor loading.

Table 4.3. Factor Loadings and Communalities for CDMNS-40, 40-item, single order model (*n* = 324)

	Factor loading	Communality
1. If the clinical decision is vital and there is time, I conduct a thorough search for alternatives.	.417	.174
2. When a person is ill, his or her cultural values and beliefs are secondary to the implementation of health services.	.387	.150
3. The situational factors at the time determine the number of options that I explore before making a decision.	.120	.014
4. Looking for new information in making a decision is more trouble than it's worth.	.555	.309
5. I use books or professional literature to look up things I don't understand.	.373	.139
6. A random approach for looking at options works best for me.	.427	.183
7. Brainstorming is a method I use when thinking of ideas for options.	.136	.019
8. I go out of my way to get as much information as possible to make decisions.	.494	.244
9. I assist clients in exercising their rights to make decisions about their own care.	.624	.390
10. When my values conflict with those of the client, I am objective enough to handle the decision making required for the situation.	.555	.308
11. I listen to or consider expert advice or judgment, even though it may not be the choice I would make.	.618	.382
12. I solve a problem or make a decision without consulting anyone, using information available to me at the time.	.037	.001
13. I don't always take time to examine all the possible consequences of a decision I must make.	.396	.157
14. I consider the future welfare of the family when I make a clinical decision which involves the individual.	.371	.138
15. I have little time or energy available to search for information.	.423	.179
16. I mentally list options before making a decision.	.444	.197
17. When examining consequences of options I might choose, I generally think through "If I did this, then...".	.446	.199
18. I consider even the remotest consequences before making a choice.	.436	.190

19. Consensus among my peer group is important to me in making a decision.	-.162	.026
20. I include clients as sources of information.	.499	.249
21. I consider what my peers will say when I think about possible choices I could make.	-.113	.013
22. If an instructor recommends an option to a clinical decision-making situation, I adopt it rather than searching for other options.	.292	.085
23. If a benefit is really great, I will favour it without looking at all the risks.	.472	.223
24. I search for new information randomly.	-.007	5.325E-5 (.00005325)
25. My past experiences have little to do with how actively I look at risks and benefits for decisions about clients.	.410	.168
26. When examining consequences of options I might choose, I am aware of the positive outcomes for my client.	.586	.344
27. I select options that I have used successfully in similar circumstances in the past.	.117	.014
28. If the risks are serious enough to cause problems, I reject the option.	.194	.038
29. I write out a list of positive and negative consequences when I am evaluating an important clinical decision.	-.124	.015
30. I do not ask my peers to suggest options for my clinical decisions.	.358	.128
31. My professional values are inconsistent with my personal values.	.323	.104
32. My finding of alternatives seems to be largely a matter of luck.	.545	.297
33. In the clinical setting I keep in mind the course objectives for the day's experience.	.176	.031
34. The risks and benefits are the farthest thing from my mind when I have to make a decision.	.674	.455
35. When I have a clinical decision to make, I consider the institutional priorities and standards.	.209	.044
36. I involve others in my decision making only if the situation calls for it.	-.156	.024
37. In my search for options, I include even those that might be thought of as "far out" or not feasible.	.217	.047
38. Finding out about the client's objectives is a regular part of my clinical decision making.	.607	.369

39. I examine the risks and benefits only for consequences that have serious implications.	.377	.142
40. The client's values have to be consistent with my own in order for me to make a good decision.	.502	.252
Proportion of variance explained	16.10	
Cronbach alpha	.795	

A confirmatory factor analysis (CFA) confirmed that the 40-item, second-order model that assessed the subscales as indicated by the original developers of the scale leading to a latent variable assessing the overall score of the CDMNS-40 was not a good fit for the proposed model, CMIN/df = 2.727; RMSEA = .073; AGFI = .660, GFI = .695, TLI = .493, CFI = .521, IFI =, .529, PNFI = .392. A second CFA also confirmed that the 40-item, first-order model was not a good model fit, CMIN/df = 2.735; RMSEA = .073; AGFI = .662, GFI = .695, TLI = .490, CFI = .516, IFI = .523, PNFI = .390. Contrary, the removal of items 1-3, 7, 8, 12, 14, 15, 17-19, 21, 22- 25, 27-37, as indicated as being weak in the loading in both EFA and CFA proposed a better fit: CMIN/df = 1.789; RMSEA = .049; AGFI = .922, GFI = .944, TLI = .912; CFI = .927, IFI = .928, PNFI = .709; all indicating a good model fit (see Table 4.4).

Figure 4.1. CFA standardised loadings on a single-order factor of the CDMNS-13
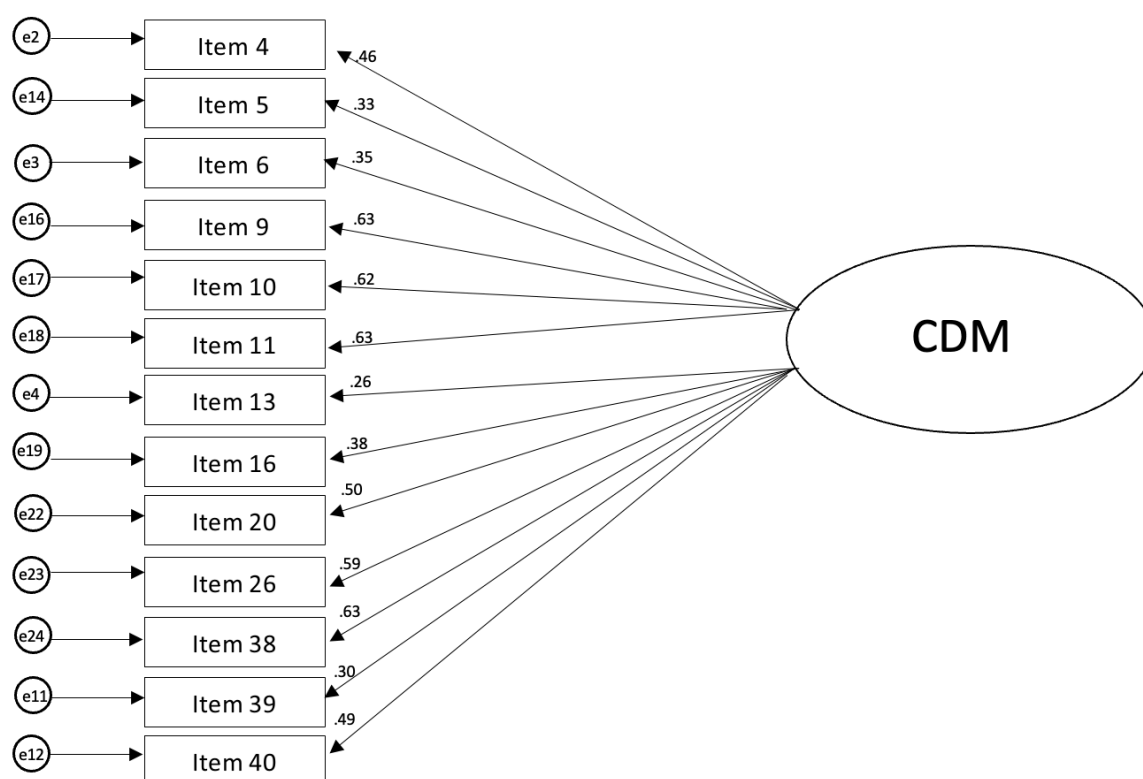
Table 4.4. Goodness of fit statistics for each model.

Model	CMIN	df	GFI	AGFI	CFI	PGFI	RMR	RMSEA [90% CI]
Model 1 (40-item, second order)	2206.87	736	.695	.660	.521	.624	.079	.073 [.069;.077]
Model 2 (40-Item, single order)	2023.96	780	.695	.662	.516	.627	.079	.073 [.068;.077]
Model 3 (13-item, single order)	116.26	65	.944	.922	.927	.675	.047	.049 [.035; .064]

The reliability of the proposed 13-item model (CDMNS-13) was assessed using

Cronbach alpha values, which revealed a score of $\alpha = .78$. The alpha value obtained in the

present study is within the acceptable range, surpassing the commonly acknowledged

threshold of 0.7. The alpha coefficient stands at a closer proximity to 0.8, indicating a robust

internal consistency within the measurements (Field, 2013; Ursachi et al., 2015, Worthington

& Whittaker, 2006). The CDMNS-13 therefore indicates an internally consistent scale, where

each item loads onto one single factor well. It has been suggested that dropping items can

alter the factor structure, and so a further EFA was conducted on the revised scale, as per

Worthington & Whittaker's (2006) suggestion. This revealed that all items loaded highly, i.e.,

higher than 0.40, except for items 5, 13, 39, which had a loading of, respectively, 0.39, 0.34,

and 0.36 (see Table 4.5).

Table 4.5. 13-item model factor loadings.

Scale Items	Factor loading
4. Looking for new information in making a decision is more trouble than it's worth	.549
5. I use books or professional literature to look up things I don't understand	.398
6. A random approach for looking at options works best for me.	.432
9. I assist clients in exercising their rights to make decisions about their own care.	.666
10. When my values conflict with those of the client, I am objective enough to handle the decision making required for the situation.	.652
11. I listen to or consider expert advice or judgment, even though it may not be the choice I would make.	.665
13. I don't always take time to examine all the possible consequences of a decision I must make.	.335
16. I mentally list options before making a decision.	.438
20. I include clients as sources of information.	.555
26. When examining consequences of options I might choose, I am aware of the positive outcomes for my client.	.638
38. Finding out about the client's objectives is a regular part of my clinical decision making.	.668
39. I examine the risks and benefits only for consequences that have serious implications.	.362
40. The client's values have to be consistent with my own in order for me to make a good decision.	.557
Proportion of variance explained (%)	29.67
Cronbach's alpha	.776

4.6. Discussion

The aim of the present study was to develop and validate a short and reliable version of the CDMNS-40 which overcomes the previously reported limitations regarding subscale reliability (Baumberger-Henry, 2005; Duarte & Dixe, 2021; Edeer & Sarikaya, 2015; Kouravand et al., 2021; Miley, 2024b). There were several key findings that led to the development of the 13-item model. Firstly, the four-factor nature proposed by Jenkins (1985) was disputed, with initial analyses identifying the presence of 11 different factors. Loading of items was also not as predicted, with several items loading rather poorly, and not in the factors as described previously. The internal consistency of the subscales provided no evidence that there could be any usage of the subscales in any regard that could prove to be scientific and reliable. These findings support Kouravand et al. (2021) conclusions, who removed a significant number of items from the scale during their validation study in the Persian language, due to their low factor loadings. Secondly, although the number of scale items were reduced significantly, the shortened version demonstrated a sufficient model fit with good internal consistency, comparable, if not greater, than that of the original CDMNS-40. It is therefore suggested that the CDMNS-13 offers a viable alternative to the original CDMNS-40.

When accounting for the varied reliability reports of the CDMNS-40 in existing literature, is important to note that the original scale was developed in the United States. Therefore, the CDMNS-40 may have underperformed when applied to UK nurses due to significant contextual differences in healthcare systems, education, professional expectations and organisational and patient priorities (Ferlie & Shortell, 2003; Quam & Smith, 2005). Specifically, questions around financial implications of care and medical insurance are somewhat redundant when exploring UK nurses' decision-making, thus accounting for the

low reliability observed. Additionally, the scale was developed in 1985; Given how far the

nursing role has developed in recent years due to technological advancements and the aging

population (Mun & Kim, 2016; Price et al., 2017), it is likely that the original scale may not

capture the key evolving elements contributing towards nurses' decision-making. These

contextual variations offer suggestion as to why the reliability of the original scale may be

reduced across contemporary UK nursing professionals.

The reality in existing literature is that most researchers are using the overall score of

the 40 items (Alba, 2018; Ciftci et al., 2020), and having a single factor appears redundant

when considering psychometric measurements that are currently used in similar fields (Miller

et al., 1993; White, 2014). Utilising such an extensive number of items, if not used for

subscale exploration, offers little value to the clinical field, given that it creates participant

fatigue (Sharma, 2022). Participant fatigue not only reduces the reliability of answers

recorded, but it also limits responsivity (Kost & da Rosa, 2018). This is a clear advantage of

the shorter CDMNS-13, whilst also minimising restrictions on other scales used within

research and clinical assessments. This will be particularly helpful across the healthcare field

when seeking to further understanding into nurses' clinical decision-making; a more concise

scale allows for the use of more materials and exploration of various factors in relation to

decision-making within a research context.

Limitations

Whilst this research offers valuable insight into the reliability of the widely used

CDMNS-40, there are important limitations to acknowledge. Firstly, much of the sample for

this study was White-British, meaning that whilst the revised 13-item scale may be a good fit

across this demographic it requires validating across more diverse ethnic samples. Future

research should seek to validate this scale on a more diverse ethnic sample to further the

validity of its use in the clinical field. It is also important to acknowledge that the present

study utilises the same data set to conduct both the EFA and CFA, with the intention of exploring any possible factor solutions with and without any prior assumptions. Whilst Worthington and Whittaker (2006) recommend the use of two separate data sets to enhance validity, it is not uncommon to observe this method widely across research (Corral-Verdugo et al., 2021; Mengmei et al., 2022; Shan & Tsai, 2011). Future research should seek to replicate these findings on additional datasets to further support these findings and address other elements of validity.

Furthermore, the sample size used to conduct both EFA and CFA analyses is a potential limitation within the present study. Future research would benefit from a larger sample size to further validate the conclusions reached. However, White (2023) highlights the importance of considering participant accessibility when determining the appropriate sample size for factor analysis. White acknowledges that studies using a specific target population, as opposed to more general population samples tend to utilise a smaller sample size. Given that the current sample was limited to qualified nursing professionals across the United Kingdom, the smaller sample may be considered reasonable. Finally, the 13-item version of the CDMNS-40 demonstrated significant improvements in communalities, highlighting the impact of item selection on the overall reliability of measurements. Still, we encourage researchers to carefully evaluate and report communalities, as well as assess internal consistency measures such as alpha or omega coefficients, to contribute to the advancement of methodological rigour of the CDMNS-13.

Conclusion

Overall, the present findings indicate that the shortened, 13-item CDMNS can be used as an efficient alternative to the full 40-item CDMNS. The CDMNS-13 may offer benefits in clinical and non-clinical research where time and cost-efficiency are required. In addition, this revised scale also eliminates any issues surrounding subscale reliability in the original

CDMNS-40, removing any uncertainty as to subscale interpretation; The CDMNS-13 provides a brief, valid and reliable measurement of clinical decision-making that can be used by researchers investigating clinical decision-making across nursing.

4.7. Chapter Summary

Chapter 4 identified significant flaws with the Clinical Decision-Making in Nursing scale (Jenkins, 1985). Below is a summary of the key findings and practical implications for the nursing field.

Key Findings

- Examination into the scales internal consistency and reliability revealed that the Clinical Decision-Making in Nursing scale (Jenkins, 1985) was not a reliable measure of nurses' clinical decision-making.

- The subscales of the Clinical Decision-Making in Nursing scale fell significantly below the widely accepted value of 0.70.

- The current chapter identified a revised scale which more reliably captures nurses' clinical decision-making ability. A careful revision of the scale led to the development of a 13-item alternative measure which demonstrated a good model fit, whereby each item loaded highly.

Key Implications

- The generation of a revised scale which more reliably captures nurses' clinical decision-making ability has important implications for the nursing research field. The use of this scale will strengthen the reliability and validity of conclusions reached thus supporting applicability to practice.

- The Clinical Decision-Making in Nursing scale - 13 provides a significantly shorter measure of clinical decision-making. This will allow future researchers to examine clinical decision-making alongside an array of other variables to further

understand nurses' decision-making whilst also minimising the effect of

participant fatigue.

CHAPTER 5: EXPLORING THE ROLE OF HEALTH-PROMOTING BEHAVIOURS AND SELF-COMPASSION ON THE RELATIONSHIP BETWEEN CLINICAL DECISION-MAKING AND NURSES' WELLBEING.

5.1. Abstract

Background: Clinical decision-making is a fundamental component of the nursing role, one that places great responsibility upon those involved. Understanding its impact on nurses' health and wellbeing is imperative when seeking to support nurses with clinical decision-making. The current study explores the relationship between clinical decision-making and wellbeing, with further consideration of the role of health-promoting behaviours and self-compassion when mitigating any acknowledged negative effect. **Method:** One hundred and forty-three nursing professionals from across the United Kingdom were recruited to complete questionnaires on clinical decision-making, moral distress, burnout, grazing, stress-eating, physical activity and self-compassion. Correlation and moderation analyses were used to examine whether self-compassion and health-promoting behaviours influenced the relationship between clinical decision-making and moral distress. **Results:** Clinical decision-making was indeed associated with moral distress across the nursing sample. Both grazing and self-compassion moderated this relationship, independently. **Conclusion:** Findings highlight the relationship between nurses' clinical decision-making and moral distress and further acknowledge the role of health-promoting behaviours and self-compassion on this relationship.

5.2. Introduction

Given the noted associations between clinical decision-making, mental wellbeing and physical health reported in Chapter 3, the current research Chapter sought to further explore potential elements of support. Both self-compassion and health-promoting behaviours have been explored extensively in existing literature, relating directly to health and wellbeing outcomes across a number of demographics (Chehrazi et al., 2021; Gedik, 2019; Rink et al., 2021). Both health-promoting behaviours and self-compassion can be used as an adaptive form of coping and can reduce the impact of stressors on the mind and body (Happell et al., 2013; Mohebbi et al., 2019; Rangel et al., 2023). However, nurses face significant barriers to engaging with these, a result of high workloads, irregular shift patterns, and the prioritisation of patient needs (Chong & Shorley, 2021; Caruso, 2014; Egan et al., 2019; Uchendu et al., 2020). It is therefore important to examine nurses' engagement with various health-promoting behaviours and self-compassion and consider their role in managing the impact of clinical decision-making upon nurses' health and wellbeing.

5.3. Background

Nurses are involved in every area of patient care and are responsible for assessing, monitoring and following up with patients in order to promote health and wellbeing (Norful et al., 2017). Given nurses' holistic involvement in each element of the care process, nurses are often a central pillar of the patient's healthcare experience, working closely with the patient, the patient's family and the wider interdisciplinary team (Jackson et al., 2022). Within the nursing role, clinical decision-making is fundamental to providing high-quality care, requiring individuals to make accurate decisions in the face of increasingly complex situations across healthcare services (Ayed et al., 2021). Effective decision-making requires nurses to be knowledgeable, have access to relevant information sources and to be supported within the working environment (O'Neill et al., 2005). Having inadequate support for clinical

decision-making and being unable to make accurate decisions, however, can lead to nurses missing opportunities to support patients (Abu Arra et al., 2023; Potter et al., 2021) and increase the risk of clinical errors (Tomlinson, 2015). Such errors can negatively impact the patient, their family, involved clinicians and the healthcare facility (Ellahham, 2019). It is therefore important to explore factors contributing towards nurses' clinical decision-making in order to prevent clinical errors and minimise risk to patients, patients' families and clinicians.

Clinical decision-making places a large responsibility on nursing professionals as it can determine patient outcomes and mortality (Kim et al., 2015 as cited in Oh et al., 2022; Thompson et al., 2013; Tourangeau et al., 2006). The Nursing and Midwifery Code (Nursing & Midwifery Council, 2018) states that nurses are personally accountable for the decisions and actions used in their practice and that each decision must be adequately justified in line with their training and guidance. Issues may arise when an individual's perceived responsibilities do not align with a nurses' internal values, a notion consistent with the concept of moral distress (Wolf et al., 20121). Moral distress describes the psychological response that occurs when nurses are unable to pursue what they believe to be the correct course of action because of external influences beyond their control (Jameton, 1984; Mehlis et al., 2018). This experience is often characterised by feelings of powerlessness and frustration and is far from uncommon across the nursing profession (Arends et al., 2022). Salari et al. (2022) suggest that the frequency and severity of moral distress is a serious problem across nursing professionals. McAndrew et al. (2018) suggest that nurses may react to moral distress by having psychological and stress-related reactions. These conclusions are corroborated by a wealth of literature whereby higher levels of moral distress are linked to lower levels of resilience (Clark et al., 2021), increased departure from the nursing profession

(Almutairi et al., 2019), as well as increased levels of depression (Colville et al., 2019), and burnout (Eche et al., 2023) across nursing professions.

Moral distress has been identified as a key contributor and root cause of burnout amongst clinicians (Rushton et al., 2015; Dzeng & Curtis, 2018). Burnout is defined as the state of physical or emotional exhaustion stemming from chronic, unresolved, or occupation-related stress (World Health Organisation, 2019a) and relates to higher levels of anxiety (Koutsimani et al., 2019) and suicide ideation (Shanafelt et al., 2011). Burnout can also increase mental distance and presence from one's job (World Health Organisation, 2019a), leading to higher patient infection, greater patient dissatisfaction, and a higher incidence of medication errors amongst healthcare professionals (Hall et al., 2016; van Bogaert et al., 2014). Further associations have been drawn with decision-making specifically, with burnout predicting more avoidant and irrational decision-making styles (Michailidis & Banks, 2016). Therefore, if nurses' decision-making and wellbeing are to be supported, it is important to identify modifiable areas to minimise burnout and moral distress experiences.

Health-promoting behaviours describe the self-initiated actions taken to control and improve health outcomes and are considered major factors for the maintenance and improvement of wellbeing (Mirghafourvand et al., 2015; Mo & Winnie, 2010). There are a number of different health behaviours, including physical activity, nutrition, getting enough sleep and health responsibility, all of which can contribute towards a healthier lifestyle and personal resiliency (Pender et al., 2006; Tabrizi et al., 2024). In particular, physical activity and nutrition have been identified as important health-promoting behaviours which contribute towards a reduction in stress (Abe et al., 2024; Hill et al., 2022), reduced anxiety (Aucoin et al., 2021; Wolf et al., 2021), and a reduction in work-related fatigue (de Vries et al., 2016; Padilla et al., 2021). Despite this, research suggests that although nurses promote health-promoting behaviours within their practice, their personal engagement with these behaviours

is low (Davies, 2020; Kyle, 2022; Malik et al., 2011). Reasons for this centre around the demands of the nursing role; working long hours and having limited break periods were barriers to nurses' healthy eating behaviours and physical activity (Torquati et al., 2016). Uchendu et al. (2020) support this further, with occupational stress, high workload, shiftwork and the lack of protected breaks all impacting on nurses' engagement with health-promoting behaviours. It is therefore important to explore these behaviours further in order to promote nurses' health and wellbeing and examine their role in relation to clinical decision-making.

Physical activity describes any bodily movement produced by skeletal muscles that results in energy expenditure (Caspersen et al., 1985) and is linked to lower levels of burnout, reduced emotional stress, and greater psychological wellbeing across a number of populations (Cooper & Barton, 2016; Naczenski et al., 2017). Across healthcare professionals and nurses in particular, engagement with physical activity can predict improved physical, emotional and mental health (Cocchiara et al., 2019), whereas low engagement predicts increased burnout (Portero de la Cruz et al., 2020). Cheung and Yip (2015) report significant associations between physical activity, stress and nurses' wellbeing, with lower levels of physical activity relating to higher levels of depression, increased stress and increased sleep problems across a nursing sample. Further associations have been drawn between physical activity and resilience, with individual competence and autonomy mediating this relationship (Xu et al., 2021). These findings suggest that physical activity may be influential on nurses' experience of clinical decision-making, where clinical competency is essential (Nursing & Midwifery Council, 2010). Further research is required to explore the role of physical activity in relation to clinical decision-making and wellbeing if conclusions are to be generalised and nurses' resilience and wellbeing are to be supported.

Alongside physical activity, eating behaviours are a second lifestyle factor that predict long-term health outcomes across nursing professionals (Priano et al., 2018). Healthy eating

practices are particularly important for buffering the impact of stressors on wellbeing and have been linked to lower levels of burnout, depression, anxiety, and post-traumatic stress disorder, independently (Alexandrova-Karamanova et al., 2016; Hall et al., 2015; Luong et al., 2021). However, evidence suggests that nurses tend to turn to unhealthy eating behaviours to cope with feelings of stress and accommodate the shift-work nature of the role (Almajwal, 2016). Notably, higher levels of stress are associated with increased consumption of ultra-processed and hyperpalatable food (Cortes et al., 2021; Yau & Potenza, 2013) and increased emotional eating (Sapian & Shamsudin, 2021). Irregular work schedules and inadequate workplace facilities on the other hand have been seen to encourage nurses to skip meals (Almajwal, 2016; Gupta et al., 2019; Nicholls et al., 2017). This is problematic as skipping meals has been linked to greater grazing tendencies (Northwell Health, 2020).

Grazing is defined as the unplanned, uncontrolled and repetitive eating of small amounts of food (Lane & Szabó, 2013) and is unrelated to hunger sensations (Conceição et al., 2014). Grazing behaviours have been linked to an increased body mass index, increased risk of eating disorder, depression and anxiety, as well as lower physical and mental health-related quality of life (Spirou et al., 2023). Heriseanu et al. (2023) also report an overlap between grazing and problematic lifestyle behaviours, with greater engagement in grazing relating to more problematic alcohol use and increased smoking. This was understood through the uncontrolled and impulsive elements of grazing and highlights the role of grazing when supporting a healthy lifestyle. However, research on grazing is limited, particularly in nursing professions, and has not yet been explored in relation to work-related stressors such as clinical decision-making and moral distress. Hence, it is important to consider the role of grazing and eating behaviours within the context of clinical decision-making context and moral distress, with further consideration to elements that can promote healthier eating practices.

An area implicated in the uptake of healthier lifestyle decisions, particularly regarding physical activity and eating practices is self-compassion (Hussain et al., 2022; Mantzios et al., 2018b; Phillips & Hine, 2021). Self-compassion can be defined as being understanding toward the self during times of suffering and is understood by its three core elements: self-kindness, common-humanity, and mindfulness (Neff, 2003a, b). Recent findings suggest that self-compassion is not only negatively related to grazing (Mantzios et al., 2018a) but also predicts greater physical health and health behaviour (Egan et al., 2019; Phillips & Hine, 2021). It has also been found to positively predict daily eating behaviour through the reduction of perceived stress (Li et al., 2020). Given these positive associations, it is unsurprising that self-compassion has been repeatedly linked to greater wellbeing amongst nursing students and professionals, predicting increased mental health (Joneghani et al., 2023), increased resilience (Kotera et al., 2021) and lower levels of job stress and related burnout (Sugawara et al., 2023). Steen et al. (2021) conclude that self-compassion can help reduce work-related stressors, including anxiety, compassion fatigue and burnout amongst nursing and midwifery professionals. Despite its relation to work-related stressors, there is little research exploring its relation to moral distress and clinical decision-making, highlighting a gap in the literature that should be explored.

Previous research has not yet explored relations between health-promoting behaviours, moral distress, burnout and self-compassion within the context of nurses' clinical decision-making. Given that clinical decision-making is recognised as a core clinical competency of the nursing role (Johansen & O'Brien, 2016), it is important to explore any potential impact on wellbeing, with consideration of different elements that could help support nurses through the decision-making process. The current study therefore seeks to explore associations between clinical decision-making, moral distress and burnout across a nursing sample, and further consider the moderating role of health-promoting behaviours

(physical activity, stress-eating, grazing) and self-compassion. It is hypothesised that clinical decision-making will relate to nurses' experience of burnout and moral distress within the present study, with self-compassion positively influencing these relations. A second hypothesis suggests that both eating behaviours and physical activity will significantly influence the relationship between clinical decision-making and wellbeing.

5.4. Method

Participants

One hundred and fifty-two participants were recruited for the present study using volunteer and snowball sampling. Participants were introduced to the study by an online advertisement posted on various social media platforms (Facebook, Twitter, LinkedIn). The sample consisted of 134 females and 18 males, with a mean age of 42 years ($SD = 9.7$). A large proportion of the sample were White-British ($n = 136$) and came from a range of different nursing specialities, including adult health ($n = 33$), psychiatric/mental health ($n = 20$), critical care ($n = 17$), community ($n = 15$), other ($n = 67$). The sample consisted of both junior (46.1%, $n = 70$) and senior (53.9%, $n = 82$) nurses, who worked an average of 37 hours each week ($M = 36.91$, $SD = 7.42$). See Table 5.1 for summary. Cohen's (1992) guidelines suggest that to achieve a medium effect size, with alpha set at 0.01 and a power of 0.80, a minimum of 141 participants were required to conduct a regression analysis.

Table 5.1. Participant demographic information

Characteristic	*n*	*%*
Gender		
Female	134	88.2
Male	18	11.8
Do you smoke?		
Yes	15	9.9
No	137	90.1
Ethnicity		
White-British	136	89.5
Irish	6	3.9
Other	10	6.6
Banding		
Senior	82	53.9
Junior	70	46.1
Speciality		
Adult health	33	21.7
Psychiatric/Mental health	20	13.2
Community	15	9.9
General medicine/surgery	9	5.9
Critical care	17	11.2
Oncology	9	5.9
Parent/Child health	9	5.9
Other	112	26.3

Descriptive statistics for continuous variables	M	SD
Age	42.41	9.7
BMI	29.35	7.96
Years spent in profession	17.68	11.59
Hours practiced per week	36.91	7.42
Weekly alcohol consumption	6.02	6.95

Measures

Participant Demographic Form. Participants were asked to give details regarding their age, gender, ethnicity, occupational banding, years spent in the nursing profession, as well as several questions regarding health behaviours (smoking, alcohol intake).

The Clinical Decision-Making in Nursing Scale – 13 item (CDMNS-13; Miley et al., 2023). To measure nurses' perceived clinical decision-making ability, the CDMNS-13 was used. Please see Chapter 2 for a full description of the CDMNS-13. The present study demonstrated an alpha of $\alpha = .710$ for the total score.

Sussex Oxford Compassion for the Self Scale (Gu et al., 2019). To measure self-compassion, the SOCS was used. Please see Chapter 2 for a full description of the SOCS. The present study demonstrated an alpha of $\alpha = .937$ for the total score, $\alpha = .864$ for recognising suffering, $\alpha = .763$ for understanding the universality of suffering, $\alpha = .874$ for feel for the person suffering, $\alpha = .798$ for tolerating uncomfortable feelings, and $\alpha = .881$ for being motivated to act to alleviate suffering.

The Moral Distress Scale-Revised (MDS-R; Hamric et al., 2012). To measure moral distress experience, the MDS-R was used. Please see Chapter 2 for a full description of the MDS-R. The present study demonstrated an alpha of $\alpha = .933$ for the total score.

Oldenburg Burnout Inventory (OBI; Demerouti, 2002). To measure burnout, the OBI was used. Please see Chapter 2 for a full description of the OBI. The present study demonstrated an alpha of $\alpha = .904$ for the total score, $\alpha = 831$ for disengagement, and $\alpha = .861$ for exhaustion.

The Salzburg Stress Eating Scale (SSES; Meule et al., 2018). To measure stress-eating behaviours, the SSES was used. Please see Chapter 2 for a full description of the SSES. The present study demonstrated an alpha of $\alpha = .931$ for the total score.

The Grazing Questionnaire (GQ; Lane & Szabó, 2013). To measure grazing behaviours, the GQ was used. Please see Chapter 2 for a full description of the GQ. The present study demonstrated an alpha of $\alpha = .905$ for the total score.

The International Physical Activity Questionnaire-Short Form. (IPAQ-SF; International Consensus Group, 1988, as cited by Craig et al., 2003). To measure engagement with physical activity, the IPAQ-SF was used. Please see Chapter 2 for a full description of the GQ.

Procedure

Participants responded to an online invitation posted via social media to take part in the present study. They were then directed to an online survey. They were then provided with a detailed information sheet, before being directed to a consent form. Once consent had been obtained, participants were asked to complete a series of demographic questions, before being directed to the questionnaires (see measures listed above). Upon completion, participants received a debrief form. Please refer to Chapter 2 for more details regarding the study procedure.

Ethical Considerations

This study received ethical approval from the Business Law and Social Sciences Ethics Committee at Birmingham City University (Miley/#10345/sub1/R(C)/2022/Feb/BLSSFAEC).

Data Analysis

Descriptive statistics including means, standard deviations, and frequencies were obtained to describe the characteristics of the sample. A series of Pearson's bivariate correlations were conducted to explore the relationships between clinical decision-making, moral distress, burnout, grazing, stress-eating, physical activity, and self-compassion.

Moderation effects were determined using grazing and self-compassion as potential moderators.

5.5. Results

5.5.1. Correlations

Intercorrelations between clinical decision-making, moral distress, burnout, self-compassion, stress-eating, grazing, and physical activity are presented in Table 5.2. Findings suggest that greater clinical decision-making ability was associated with lower levels of moral distress ($r = -.218$, $p = .007$) but was not associated with burnout ($r = -.065$, $p = .426$). Further inspection into health-promoting behaviours revealed that clinical decision-making ability demonstrated negative associations with both stress eating ($r = -.198$, $p = .014$) and grazing ($r = -.194$, $p = .016$), independently. This suggests that higher levels of grazing and stress eating are associated with reduced perceptions of clinical decision-making ability and skill. Additionally, moderate physical activity related positively with clinical decision-making ($r = .176$, $p = .03$) meaning that as engagement with moderate physical activity increases, so do perceptions of clinical decision-making ability. Both walking and vigorous physical activity demonstrated non-significant associations with clinical decision-making ability (see Table 5.2).

Further correlation analyses revealed that increased moral distress experience was associated with higher levels of burnout ($r = .532$, $p < .001$) and lower levels of self-compassion ($r = -.341$, $p = .001$). This relationship remained significant across each of the self-compassion subscales (see Table 5.2). Finally, higher scores on the MDS-R were associated with higher levels of stress-eating ($r = .169$, $p = .037$) and grazing ($r = .281$, $p < .001$).

Table 5.2. Bivariate correlations of the relationships between all clinical decision-making, moral distress, burnout, self-compassion, stress-eating, grazing and physical activity.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
(1) CDMNS-13																	
(2) MDS-R	-.218**																
(3) OBI	-.065	.532**															
(4) OBI - D	-.117	.489**	.922**														
(5) OBI - E	-.003	.494**	.924**	.704**													
(6) SOCS	.001	-.341**	-.572**	-.435**	-.620**												
(7) SOCS-RS	.053	-.253**	-.364**	-.242**	-.429**	.807**											
(8) SOCS-UUS	.241**	-.197*	-.232**	-.166*	-.262**	.518**	.455**										
(90) SOCS-FPS	-.046	-.310**	-.560**	-.448**	-.585**	.924**	.653**	.315**									
(10) SOCS- TUF	-.019	-.352**	-.584**	-.463**	-.616**	.887**	.612**	.300**	.831**								
(11) SOCS-MTA	-.128	-.259**	-.518**	-.390**	-.565**	.866**	.543**	.291**	.820**	.742**							
(12) SSES	-.198*	.169*	.151	.145	.135	-.009	-.121	.051	-.014	.019	.045						
(13) GQ	-.194**	.281**	.310**	.244**	.327**	-.251**	-.189*	-.108	-.218**	-.265**	-.216**	.511**					
(14) IPAQ - W	.053	-.023	-.094	-.064	-.110	.142	.058	.020	.147	.145	.175*	.123	-.107				
(15) IPAQ - M	.180*	-.134	-.153	-.141	-.142	.220**	.216**	.075	.203*	.207*	.166*	-.003	-.144	.248**			
(16) IPAQ – V	.041	-.095	-.069	-.025	-.103	.053	.035	.010	.028	.078	.055	.074	-.111	.287**	.358**		
(17) IPAQ - T	.110	-.109	-.139	-.095	-.158	.177*	.125	.043	.160*	.187*	.175*	.097	-.162*	.725**	.671**	.783**	

Note. CDMNS-13 = 13-item Clinical Decision-making in Nursing Scale; CDMNS-40 = 40-item Clinical Decision-making in Nursing Scale; MDS-R = Moral-distress Scale-revised; OBI = Oldenburg Burnout Inventory total; OBI-D = Oldenburg Burnout Inventory-Disengagement; OBI-E = Oldenburg Burnout Inventory-Exhaustion; SOCS = Sussex-Oxford Compassion for Self-scale total; SOCS-RS = Sussex-Oxford Compassion for the Self-scale-Recognising Suffering; SOCS-UUS = Sussex-Oxford Compassion for the Self-scale-Understanding the Universality of Suffering; SOCS – FPS = Sussex-Oxford Compassion for the Self-scale - Feeling for the Person Suffering; SOCS-TUF = Sussex-Oxford Compassion for the Self Scale- Tolerating Uncomfortable Feelings; SOCS-MTA = Sussex-Oxford Compassion for the Self-scale - Motivated to Act to Alleviate suffering; SSES = Salzburg Stress-eating Scale; GQ = Grazing Questionnaire; IPAQ-W; Walking METS per week on the International Physical Activity Questionnaire; IPAQ-M = Moderate physical activity METS per week on the International Physical Activity Questionnaire; IPAQ – V - Vigorous METS per week on the International Physical Activity Questionnaire; IPAQ–T = Total METS per week for physical activity.

*Is statistically significant at p <.05

**Is statistically significant at p < .001

144

5.5.2. Moderation Analyses

The first moderation model used CDMNS-13 as the predictor, moral distress as the dependant, and grazing as a moderator. Grazing behaviours significantly moderated the relationship between clinical decision-making and moral distress ($F(3, 147) = 6.14$, $p < .001$, $r^2 = .111$). Simple slope analyses revealed that average and high levels of grazing weakened the relationship between these variables, suggesting that the negative relationship between clinical decision-making and moral distress becomes significant as grazing scores increase (see Table 5).

A second model used CDMNS-13 as the predictor, moral distress as the dependant, and the tolerating uncomfortable feelings dimension of self-compassion as a moderator. Results revealed that the tolerating uncomfortable feelings subscale significantly shifted the relationship between clinical decision-making and moral distress, being a significant moderator ($F(3, 147) = 9.99$, $p < .001$, $r^2 = .169$). Simple slope analyses revealed that average and low levels of tolerating uncomfortable feelings significantly weakened the relationship between clinical decision-making and moral distress, suggesting that the relationship only becomes significant when self-compassion scores decrease (see Table 5.3).

Table 5.3. Conditional effects of the subscales of self-compassion and grazing on the relationship between CDMNS-13 and moral distress (*n* = 151)

		β	p	95% CI	
				Lower	Upper
Tolerating uncomfortable feeling (SOCS)	-1 SD	-4.62	**<.001**	-7.28	-1.96
	At the mean	-2.46	**.007**	-4.26	-.668
	+1 SD	-.846	.506	-3.35	1.66
Grazing	-1 SD	-.006	.996	-2.49	2.48
	At the mean	-2.39	**.014**	-4.28	-.502
	+1 SD	-3.99	**.001**	-6.34	-1.63

Note: *SD* standard deviation, *CI* confidence intervals, *p* significance level, *β* regression coefficient
Bold indicates significance.

5.6. Discussion

There were two main aims of the current study. The first aim was to explore the relationship between clinical decision-making and nurses' wellbeing, looking specifically at moral distress and burnout. The second aim was to examine the role of health-promoting behaviours and self-compassion in the context of this relationship to identify areas of support for nursing professionals. Initial findings supported predictions, with increased clinical decision-making ability predicting lower levels of moral distress. These findings align closely with findings from existing literature on decision-making, where adaptive decision-making strategies and high decision-making competency have been seen to positively influence health and wellbeing outcomes (Páez-Gallego et al., 2020; Ravneet & Kawaljit, 2021). The present study builds upon these findings in a clinical environment and extends its implications to moral distress experience directly. These findings are also consistent with the results of Chapter 3, whereby greater clinical decision-making ability was associated with

increased psychological wellbeing. Chapter 3 highlighted alternate relationships between physical health and psychological wellbeing when explored in the context of clinical decision-making; findings from the current chapter build upon these, suggesting that perhaps psychological outcomes, such as mental wellbeing and moral distress can be shielded through possessing greater decision-making ability.

Given the associations drawn between clinical decision-making and moral distress, the present study investigated potential areas that may influence the strength of these associations. Results revealed that both stress-eating and grazing were significantly associated with both clinical decision-making and moral distress, independently, although only grazing presented as a significant moderator. Specifically, higher levels of grazing behaviours had a greater moderating effect on the relationship between clinical decision-making and moral distress, suggesting that higher levels of grazing indeed strengthen this negative interaction. Although there is limited research on the effect of grazing on wellbeing across the nursing demographic, Heriseanu and colleagues (2019) found that frequency of grazing was associated with lower mental health-related quality of life. Grazing categorised as being compulsive has also been associated with a wealth of negative health outcomes, including anxiety, depression, and eating disorders (Spirou et al., 2023; Heriseanu et al., 2019). This alignment of previous research to present findings suggests that grazing behaviours should be considered when designing an intervention to support nurses' wellbeing whilst navigating the everyday decision-making and moral aspects of their work. Perhaps integrating regular breaks would allow sufficient time for more regulated eating behaviours and reduce the role of clinical decision-making in nurses' experience of moral distress.

The role of self-compassion was also examined in relation to clinical decision-making and moral distress. Existing research emphasises the positive influence of self-compassion on wellbeing, stress, and life satisfaction (Stutts et al., 2018; Li et al., 2021). Past research is

consistent with the findings of the present study, where higher levels of self-compassion were associated with lower levels of both moral distress and burnout, independently. These findings also aligned closely with the interactions observed in Chapter 3 whereby self-compassion was associated with greater mental wellbeing. Further moderation effects revealed that the *tolerating uncomfortable feelings* dimension of self-compassion influences the associations drawn between clinical decision-making and moral distress. Notably, this dimension of self-compassion had a greater influence on the negative relationship between clinical decision-making and moral distress when reported levels were average or low. This suggests that possessing low, or average levels of self-compassion weakens the negative association between clinical decision-making and moral distress. These findings lend insight into the multidimensional nature of self-compassion, recognising that enhancing certain elements may be more effective than others in supporting nurses through the decision-making process. This knowledge should be integrated into potential support strategies when seeking to promote nurses' wellbeing.

Limitations

The present study has three limitations to consider. First, the majority of the sample were White-British (89.5%), resulting in ethnic under-representation when compared to national statistics (Baker, 2022). Research suggests that ethnicity can influence one's experience and susceptibility to moral distress (Range & Rotherham, 2010), and so it is important that the current study is replicated on a more diverse population. This would ensure that the conclusions drawn can be generalised beyond white ethnic groups. Second, the cross-sectional nature of this study makes it difficult to infer cause and effect. Whilst this was beyond the scope of the current study, future research should utilise a more experimental design to allow for causal inferences to be made about the role of health-promoting behaviours and self-compassion on the relationship between clinical decision-making and

moral distress. Finally, the IPAQ-SF was used to measure nurses' physical activity levels, measuring walking, moderate, vigorous and sitting behaviours. Whilst this scale is a widely used and valid measure of physical activity (Blake et al., 2017; Mc Sharry & Timmins, 2016; Micalos et al., 2017), it is possible that some questions possessed a lack of clarity that may have influenced participants responses. The question 'How many hours/minutes do you spend sitting in a day?' was particularly ambiguous and responses ranged from 90 minutes to 20 hours. Given the variation in responses, it can be inferred that participants were not completely clear on the boundaries that were defined, and whether this included sleeping hours. This is a flaw with the IPAQ-SF that must be considered when interpreting findings around physical activity. It is recommended that future research use a well-defined physical activity measure in order to accurately capture the role of physical activity in relation to clinical decision-making and moral distress.

Conclusion

In summary, these data contribute to existing knowledge on the impact of clinical decision-making across the nursing profession; both health-promoting behaviours and self-compassion demonstrate significant associations with clinical decision-making and moral distress, which should be considered in potential intervention strategies. Given the interaction between grazing and moral distress, we highlight the importance of systemic support, in terms of break scheduling and meal opportunities. Supporting nurses in establishing healthier eating habits, and reducing grazing behaviours, may offer promising potential in the mitigation of moral distress. Additionally, the role of self-compassion in predicting reduced moral distress experience through clinical decision-making may be another element considered for potential intervention and support. If nurses possess the skills and resources to practice self-compassion, they will be better equipped to manage the impact of clinical decision-making. With moral distress being deemed an inherent part of the nursing role,

strategies like these, which are more individual-focused, may offer long-term relief from the demands of nursing. The current study suggests that both self-compassion and health-promoting behaviours should be considered in the mitigation of moral distress if nurse wellbeing is to be supported.

5.7. Chapter Summary

Chapter 5 identified important relationships between clinical decision-making and moral distress and further highlights the influential role of self-compassion and eating behaviours. Below is a summary of the key findings and practical implications for nursing practice and wellbeing.

Key Findings

- Greater perceptions of clinical decision-making relate to lower levels of moral distress across nursing professionals.

- Frequently engaging with grazing behaviours weakens the relationship between clinical decision-making and moral distress.

- Possessing lower levels of self-compassion weakens the relationship between clinical decision-making and moral distress.

Practical Implications

- Nursing professionals should seek to minimise their grazing behaviours to reduce the impact of clinical decision-making on wellbeing. If nurses were to engage in healthier eating habits, for instance preparing full nutritious meals, it can be inferred that nurses would be less likely to eat small amounts of food repetitively throughout the day, thus strengthening associations between clinical decision-making and moral distress, and supporting wellbeing.

- Findings offer insight for healthcare organisations seeking to support and maintain the wellbeing of nursing staff. Nursing staff require protected breaks to consume

full nutritious meals as opposed to repetitively eating smaller amounts of food throughout the shift. Healthcare organisations should seek to schedule protected break periods for all members of staff and ensure that the necessary number of qualified staff are available to cover if any staffing shortfalls arise.

- Given that lower levels of self-compassion were seen to weaken the observed relationship between clinical decision-making and moral distress, it is recommended that nurses seek to be more self-compassionate to counteract this effect. It is recommended that nurses seek to recognise one's feelings and respond kindly during these times as opposed to being harsh and critical of suffering to reduce the impact of clinical decision-making on wellbeing.

CHAPTER 6: EXPLORING THE ROLE OF PERSONALITY, PERFECTIONISM AND SELF-COMPASSION ON THE RELATIONSHIP BETWEEN CLINICAL DECISION-MAKING AND NURSES' WELLBEING.

6.1. Abstract

Background: Clinical decision-making is a central component of the nursing role. Exploration into the impact of clinical decision-making on nurses' wellbeing is limited in existing research. Individual differences play an important role in how an individual responds to an event and decision-making more broadly, so it is important to explore the role of individual differences within the context of clinical decision-making directly. **Methods:** One hundred and forty-three nurses from across the United Kingdom completed an online questionnaire, measuring clinical decision-making, moral distress, personality, perfectionism, philotimo, and self-compassion. Correlation, linear regression, and mediation analyses were used to explore the relationships between these constructs within the present sample. **Results:** Correlation analyses revealed that clinical decision-making was associated with moral distress across the nursing sample. Mediation analyses revealed that openness to experience and philotimo significantly mediated the relationship between clinical decision-making and moral distress. Furthermore, linear regression analyses revealed that self-compassion related to moral distress in senior nurses but not junior-banded nursing roles. **Conclusion:** Findings highlight the importance of individual differences when considering the relationship between clinical decision-making and moral distress across nursing populations.

6.2. Introduction

Findings from Chapters 3 and 4 highlight significant associations between clinical decision-making and nurses' wellbeing. Chapter 3 revealed that nurses' seniority was influential upon the relationship between clinical decision-making and physical health, suggesting that experiences are not uniform and may vary from one professional to another. The current study sought to explore this notion further, examining the role of individual differences when seeking to understand the impact of clinical decision-making and its variation across nursing professionals. Existing literature suggests that personality and factors unique to the individual are influential upon one's response to work-related stressors (Semmer & Meier, 2009), tolerance of psychological distress (Warbah et al., 2007), as well as the coping style engaged with (Chen et al., 2022b; Fornés-Vives et al., 2019). The current Chapter therefore seeks to explore the role of individual differences in relation to the impact of clinical decision-making directly, with the goal of furthering understanding of nurses' varied experience of clinical decision-making.

6.3. Background

Clinical decision-making is an important element of the nursing role, requiring nurses to identify, evaluate and implement the best strategy to optimise patient care quality and wellbeing outcomes (Johansen & O'Brien, 2016). Nurses are required to utilise several sources of information to drive these decisions, namely their clinical experiences, professional knowledge, professional values, and clinical intuition (Melin-Johansson et al., 2017; Moyo et al., 2016; Oh et al., 2022). The professional values that drive these decisions are heavily determined by personal values, which are influenced by one's family, culture, and environment (Habeeb, 2022), meaning that these elements have an important role in nurses' decision-making. Abdelhadi et al. (2020) concur that the personal traits of the nurse, including values, motivation, and commitment can all influence clinical decision-making. It

is therefore inferred that decision-making is not uniform across healthcare professionals, and decisions will vary depending on the nurses' characteristics and environment. Given the subjectivity of decision-making, it is unsurprising that nurses can at times feel like they must go against their own moral values and conscience when navigating decisions (Grönlund et al., 2015). Such perceived discrepancies between one's moral conscience and the action that is carried out have been labelled ethical dilemmas and have been linked to moral distress across nursing professions (Haahr et al., 2020; Rainer et al., 2018; Rathert et al., 2016).

Moral distress describes the negative feelings that arise when one makes a moral decision but is unable to act upon this and implement it into reality (Morley et al., 2017; Wilkinson, 1987). Moral distress has been identified as a frequent and severe problem across the nursing population (Salari et al., 2022), one that is linked to reduced workplace engagement (Clark et al., 2021), higher workplace distress (Dodek et al., 2019), increased job burnout (Karakachian & Colbert, 2019) and reduced wellbeing (Lamiani et al., 2017). Further associations have been drawn between moral distress, compassion fatigue, and turnover intention, highlighting the wider impact moral distress can have on the quality of patient care and professional quality of life (Austin et al., 2017; Mohammadi et al., 2014). Given the unique ethical element that distinguishes moral distress from other forms of distress, and its focus on morality and integrity (Epstein & Hamric, 2009), philotimo may offer further understanding of the construct. Philotimo is the 'commitment to unconditional selfless acts that are aligned to a sense of moral identity' (Mantzios, 2021) and places emphasis on an individual's social and moral virtues (Hatzimalonas, 2018). A person embodying philotimo possess several key traits and tends to be virtuous, dependable, and dedicated to fulfilling their obligations and duties (Hatzimalonas, 2018). This emphasis on virtuousness and responsibility may offer valuable insight into nurses' experiences and susceptibility to moral distress, and the internal process that directs nurses' clinical decision-making.

Acknowledging one's values and sense of morality in moral distress experience and nurses' decision-making highlights the importance of individual differences when looking at nurses' experiences. Personality refers to an individual's pattern of thinking, feeling, and behaving and aligns with one's traits, values, self-concept, and emotional patterns (American Psychological Association, 2024). Evidence suggests that personality is predictive of adaptive coping and individual wellbeing, with more emotion-driven personality types such as neuroticism having a tendency to manage feelings through more emotion-focused strategies, a result of their high emotional reactiveness (Fornés-Vives et al., 2019). Research suggests that emotion-focused strategies can be maladaptive in nature, resulting in higher levels of occupational stress and burnout (Cybulska et al., 2022; Howlett et al., 2015); this may offer an explanation for why neuroticism relates to higher levels of depression and anxiety across nursing professionals (Odachi et al., 2022). Moreover, research suggests that those individuals possessing higher traits of neuroticism tend to have a lower tolerance for psychological distress when compared to other personality types (Warbah et al., 2007), highlighting the role of individual differences when exploring susceptibility to distress and wellbeing outcomes. Contrary to this, openness to experience, extraversion and agreeableness have all been associated with greater coping flexibility (Chen et al., 2022b), offering an explanation for their association with reduced anxiety, depression and lower stress-related negative effect (Gong et al., 2020; Kang et al., 2023; Leger et al., 2016). It is therefore important to consider the role of individual differences when recognising variation in wellbeing outcomes as a result of clinical decision-making and moral responsibilities.

One trait in particular that has been implicated in stress and wellbeing outcomes is perfectionism. Perfectionism is a personality trait that strives for excessively high standards and is accompanied by the tendency to critically evaluate oneself and others (Fang & Liu, 2022; Frost et al., 1990). Perfectionism is commonly regarded as a multidimensional concept,

which can lead to both adaptive and maladaptive outcomes (Stoeber et al., 2020). Maladaptive perfectionism describes the setting of unattainable and inflexibly high standards that promotes uncertainty about one's capabilities (Enns et al., 2002) and is therefore categorised by its self-doubting behaviours and elevated fear of mistakes (Kung & Chan, 2014). It is therefore unsurprising that maladaptive perfectionism is associated with higher stress (Ashby & Gnilka, 2017), increased decision-making difficulties (Chen et al., 2022a), higher stress reactivity (Flett et al., 2016), and reduced psychological wellbeing (Limburg et al., 2017; Patterson et al., 2021). Further associations have been drawn between perfectionism and moral distress experience, with trait perfectionism increasing individual risk for developing moral distress from moral conflicts (Montoya et al., 2019, see also Crane et al., 2015). Adaptive perfectionism on the other hand, involves setting high personal goals and standards, whilst retaining an ability to be satisfied by one's behaviours and taking a flexible approach when these are not achieved (Enns et al., 2002). Being able to accommodate shortfalls in this way positively influences psychological wellbeing, supports relations with others, and promotes job engagement (Fallahchai et al., 2019; Tziner & Tanami, 2013). It is therefore important to recognise the multidimensional nature of perfectionism and explore elements to support more adaptive characteristics of the construct.

Previous research highlights the value of self-compassion when predicting lower levels of maladaptive perfectionism (Kawamoto et al., 2023; Linnett & Kibowski, 2020), when promoting adaptive coping behaviours (Ewert et al., 2021) and when supporting nurses' wellbeing (Kotera et al., 2021; Rushforth et al., 2023; Steen et al., 2021). Self-compassion describes being kind and understanding towards oneself during times of suffering, and in the face of mistakes, failures, and inadequacies (Neff & Dahm, 2015). The concept is defined by three core elements: mindfulness, common humanity, and self-kindness (Neff, 2003a,b) and has been identified as a buffer to negative emotions and experiences (Neff et al., 2007). A

recent review found that self-compassion reduces work-based stressors, including anxiety, burnout, and compassion fatigue, with authors highlighting the need for further education on self-compassion when seeking to support nurses' wellbeing (Steen et al., 2021). In an earlier study, Ferrari et al. (2018) found that self-compassion moderated the relationship between maladaptive perfectionism and depression and suggest that self-compassion interventions may be helpful in minimising the impact of this form of perfectionism on wellbeing. Exploration into the effectiveness of self-compassion interventions on wellbeing outcomes offers further evidence of the potential benefits of self-compassion. Bluth et al. (2021) explored the efficacy of a self-compassion intervention when reducing stress and depression across nursing assistants; Findings suggest that a three-month intervention increased levels of self-compassion, and significantly reduced levels of stress and depression. Similarly, Franco and Christie (2021) found that even a one-day self-compassion intervention increased compassion for others, resilience, compassion-satisfaction, and resulted in significant reductions in burnout, anxiety, and stress in nursing professionals. Further reductions in secondary traumatic distress have also been noted across nursing professionals in existing literature (Rushforth et al., 2023). Despite the acknowledged positive effect of self-compassion, research suggests that nurses face significant barriers to being self-compassionate (Egan et al., 2019) and require permission from others and themselves to direct compassion and kindness towards themselves (Andrews et al., 2020). Andrews and colleagues suggest that being unable to do this affected wellbeing and nurses' management of their emotions.

Previous research has not yet directly explored relations between personality, perfectionism, philotimo, self-compassion and moral distress within the context of nurses' clinical decision-making. Given that clinical decision-making is a central aspect of the nursing role, it is important to consider its impact on wellbeing, and potential elements that

may predict or mitigate any negative effect. Therefore, the present study sought to explore

relations between clinical decision-making and moral distress experience across nursing

professionals, with reference to the moderating effect of self-compassion, and the mediating

effect of personality, perfectionism, and philotimo. It was hypothesised that both personality

and self-compassion would significantly influence the relationship between clinical decision-

making and wellbeing.

6.4. Methods

Participants

One hundred and forty-three participants were voluntarily recruited for the present

study using social media platforms (Facebook, Twitter, LinkedIn). The sample consisted of

131 females, 11 males and 1 non-binary participant ($M^{age} = 43$, $SD = 11$). Participants'

occupation status was obtained, with the majority of participants working in a senior banding

position (62%, $n = 89$) and practising full-time ($M = 35.34$, $SD = 7.97$). Participants' self-

identified ethnicities were: White British ($n = 127$), Irish ($n = 5$), Asian Indian ($n = 2$), Other

($n = 9$). Please see Table 6.1 for summary. Cohen's (1992) guidelines suggest that to achieve

a medium effect size, with alpha set at 0.01 and a power of 0.80, a minimum of 134

participants were required to conduct a regression analysis.

Table 6.1. Participant demographic information (*n* = 143).

Variable	Participants (*n* = 143)	
Gender		
Female	131	
Male	11	
Non-binary	1	
Ethnicity		
White-British	127	
Irish	5	
Asian Indian	2	
Other	9	
Banding		
Senior	89	
Junior	54	
Descriptive statistics for continuous variables (*n* = 143)		
	M	SD
Age	45.50	9.68
Years spent in the profession	6.18	6.86
Hours practiced per week	35.93	7.23

Materials

Participant demographic questionnaire. Participants were asked to provide details regarding their age, gender, ethnicity, professional banding, how many hours worked in the nursing profession each week, and how many years they have spent in the nursing role.

The Clinical Decision-Making in Nursing scale-13 item (CDMNS-13; Miley et al., 2023). Please see Chapter 2 for a full description of the CDMNS. The present study demonstrated an alpha of α = .693.

The Moral Distress Scale-Revised (MDS-R; Hamric et al., 2012). Please see Chapter 2 for a full description of the MDS-R. The present study demonstrated an alpha of α = .888 for the total score.

Sussex-Oxford Compassion for the Self Scale (SOCS; Gu et al., 2019). Please see Chapter 2 for a full description of the SOCS. The present study demonstrated an alpha of α = .921, α = .850 for recognising suffering, α = .775 for understanding the universality of suffering, α = .825 for feeling for the person suffering, α = .802 for tolerating uncomfortable feelings, and α = .851 for acting or being motivated to act.

The HEXACO Personality Inventory (HEXACO-PI-R; Ashton & Lee, 2009). Please see Chapter 2 for a full description of the HEXACO-PI-R. The present study demonstrated an alpha of α = .683 for honesty-humility, α =.609 for emotionality, α = .837 for extraversion, α = .737 for agreeableness, α = .708 for conscientiousness, α = .758 for openness to experience. Further inspection into the low reliability observed for the honesty-humility facet of personality revealed that item 42 was problematic. We therefore removed this item from the subscale to increase the observed reliability to .690. Similarly, further inspection into the emotionality subscale revealed that items 5 and 53 were problematic. We therefore removed these items from the subscale to increase the observed reliability to α = .695.

The Big Three Perfectionism Scale Short-form (BTPS-SF; Feher et al., 2019). Please see Chapter 2 for a full description of the BTPS-SF. The present study demonstrated an alpha of α =.918 for rigid perfectionism, α = .885 for self-critical perfectionism, α = .800 for narcissistic perfectionism.

The Philotimo Scale (Mantzios, 2021). Please see Chapter 2 for a full description of the BTPS-SF. The present study demonstrated an alpha of α = .871.

Procedure

Participants responded to an online invitation posted via social media to take part in the present study. They were then directed to an online survey, where they were provided with an information sheet and asked to provide consent. Once consent had been obtained, participants were asked to complete a series of demographic questions, before being directed to the questionnaires (see measures listed above). Upon completion, participants received a debrief form. Please refer to Chapter 2 for more details regarding the study procedure.

Ethical Considerations

Ethical approval was obtained from the Business, Law and Social Sciences ethics committee at Birmingham City University (Miley/#10414/sub2/R(C)/2022/Apr/BLSSFAEC).

Data Analysis

Descriptive statistics including means, standard deviations, ranges, and frequencies were obtained to explore participant characteristics. Pearson's bivariate correlations were used to assess any initial relationships between clinical decision-making, moral distress, self-compassion personality, perfectionism, and philotimo. Further linear regression analyses were conducted to explore the strength of the observed relationships. Finally, the mediating effects of personality and philotimo were determined. Significance was achieved when confidence intervals did not zero.

6.5. Results

6.5.1. Correlation Analyses

Pearson's bivariate correlation coefficient was employed to explore relations between clinical decision-making, moral distress, personality, perfectionism, philotimo, and self-compassion (presented in Table 6.1). Significant negative associations were drawn between clinical decision-making and moral distress ($r = -.274$, $p < .001$), suggesting that as perceived clinical decision-making ability increases, moral distress experience decreases. Moreover, significant positive associations were drawn between various elements of personality and

clinical decision-making; honesty humility ($r = .252$, $p = .002$), conscientiousness ($r = .314$, $p < .001$), openness to experience ($r = .209$, $p = .012$), and philotimo ($r = .332$, $p < .001$). This suggests that possessing higher traits of these personality dimensions, and philotimo, are associated with increased perceptions of clinical decision-making ability, independently. Significant negative associations were drawn between clinical decision-making and narcissistic perfectionism ($r = -.209$, $p = .012$), meaning that greater perceptions of clinical decision-making ability were associated with lower levels of narcissistic perfectionist traits.

Interestingly, self-compassion did not demonstrate significant relations with clinical decision-making or moral distress within the present study. Upon further inspection, the banding level of participants appeared to influence the significance. In senior nursing roles, clinical decision-making demonstrated significant positive associations with the understanding the universality of suffering dimension of self-compassion ($r = .421$, $p < .001$), meaning that being more self-compassionate in this way related to greater perceptions of clinical decision-making ability. Similarly, significant negative associations were drawn between self-compassion and moral distress ($r = -.317$, $p = .002$), and this remained significant for each self-compassion subscale. This suggests that higher self-compassion relates to lower levels of moral distress. However, self-compassion was not significantly associated with clinical decision-making or moral distress in junior nursing roles.

Table 6.2. Correlation matrix presenting initial relationships between clinical decision-making, moral distress, self-compassion, personality, perfectionism and philotimo ($n = 143$).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
(1) CDMNS-13																		
(2) MDS-R	-.274**																	
(3) SOCS	.113	-.150																
(4) SOCS-RS	.149	-.141	.733**															
(5) SOCS-UUS	.377**	-.124	.501**	.407**														
(6) SOCS-FPS	-.042	-.106	.874**	.483**	.235**													
(7) SOCS- TUF	.036	-.124	.870**	.512**	.217**	.787**												
(8) SOCS-MTA	.015	-.097	.866**	.456**	.294**	.781**	.751**											
(9) Honesty-Humility	.252**	-.086	.066	.122	.225**	-.101	.032	.038										
(10) Emotionality	-.079	.174*	-.274**	-.108	-.045	-.279**	-.317**	-.271**	.153									
(11) Extraversion	.140	-.085	.506**	.163	.251**	.553**	.507**	.458**	-.084	-.215**								
(12) Agreeableness	.161	-.091	.172*	.092	.127	.105	.187*	.162	.311**	-.033	.219**							
(13) Conscientiousness	.314**	-.106	.022	.085	.084	-.027	.007	-.040	.155	-.020	-.004	.101						
(14) Openness	.209*	.132	.059	.019	.114	.067	.025	.025	.061	-.011	.122	.062	.089					
(15) Philotimo	.332**	.103	.030	.044	.205*	-.011	.007	-.075	.212**	-.042	.126	.131	.079	.128				
(16) RP	.102	.124	-.131	-.024	-.106	-.120	-.126	-.134	-.124	.120	-.121	-.105	.365**	.148	.192*			
(17) SCP	.077	.103	-.482**	-.209*	-.178*	-.541**	-.438**	-.459**	.024	.294**	-.505**	-.173*	.165*	-.001	.111	.600**		
(18) NP	-.209*	.140	.001	-.013	-.195*	.120	.010	.021	-.405**	-.005	.052	-.439**	.050	-.038	-.149	.442**	.212**	

Note. CDMNS-40 – Scores on the clinical decision-making in nursing scale- 40 item; CDMNS-13 - Scores on the clinical decision-making in nursing scale-13 item; MDS-R – Scores on the Moral-distress Scale-revised; SOCS – Total score on the Sussex-oxford Self-compassion Scale; SOCS-RS – Scores on the Recognising Suffering dimension of the Sussex-oxford Self-compassion scale; SOCS- UUS – Scores on the Understanding the Universality of Suffering dimension of the Sussex-oxford Self-compassion Scale; SOCS – FPS – Scores on the Feeling for the Person Suffering dimension of the Sussex-oxford self-compassions scale; SOCS-TUF – Scores on the Tolerating Uncomfortable Feelings dimension of the self-compassion scale; SOCS-MTA – Scores on the being Motivated to Act to Alleviate suffering dimension of the Sussex-oxford Self-compassion Scale; Honesty-Humility – Subscale of the HEXACO-SF; Emotionality - Subscale of the HEXACO-SF; Extraversion - Subscale of the HEXACO-SF; Agreeableness - Subscale of the HEXACO-SF; Openness – Openness to experience subscale of the HEXACO-SF; Philotimo – Scores on the Philotimo Questionnaire; RP – Rigid Conscientiousness - Subscale of the Big-three Perfectionism Scale-short form; SCP – Self-critical subscale of the Big-three Perfectionism Scale-short form; NP – Narcissistic perfectionism subscale of the Big-three Perfectionism Scale-short form

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6.5.2. Regression Analyses

Exploring differences between junior and senior banded nursing roles in greater detail, a regression model was utilised to explore the predictive capability of self-compassion upon moral distress experience in senior nurses. Moral distress was entered as the outcome variable, and the self-compassion subscales were used as independent predictors. The model obtained was statistically significant [F (5, 83) = 3.41, p = .008] and the predictive capacity calculated through adjusted R^2 was .170. Results revealed that both understanding universality of suffering (B = -6.92, t = -2.23, p = .029) and tolerating uncomfortable feelings (B = -7.31, t = -2.06, p = .043) demonstrated significant predictive abilities.

Table 6.3. Summary of the predictive capability of self-compassion upon moral distress in the senior nursing sample (n = 89).

| Variable	B	SE	Standardised B	t	Significance	95% Confidence interval for B Lower	Upper
SOCS-RS	-1.58	2.70	-.071	-.586	.560	-6.94	3.78
SOCS-UUS	-6.92	3.11	-.240	-2.23	**.029**	-13.09	-.744
SOCS-FPS	6.11	4.28	.273	1.43	.157	-2.40	14.62
SOCS-TUF	-7.31	3.55	-.335	-2.06	**.043**	-14.38	-.250
SOCS-MTA	-2.97	3.91	-.129	-.760	.450	-10.75	4.81

Note. SOCS-RS, recognising suffering subscale of the Sussex-Oxford compassion towards self-scale; SOCS-UUS, understanding the universality of suffering subscale of the Sussex-Oxford compassion towards self-scale; SOCS-FPS, feel for person suffering subscale of the Sussex-Oxford compassion towards self-scale; SOCS-TUF, tolerating uncomfortable feelings subscale of the Sussex-Oxford compassion towards self-scale; SOCS-MTA, being motivated to act to alleviate suffering subscale of the Sussex-Oxford compassion towards self-scale.

   Bold figures indicate significance, p < .05

6.5.3 Mediation Analyses

Further analyses were conducted to explore the mediating effects of various personality dimensions and philotimo on the relationship between clinical decision-making and moral distress. For the first model, clinical decision-making was entered as the predictor variable, moral distress was entered as the outcome variable, and the personality dimension 'openness to experience' was entered as a potential mediator. Findings suggest that clinical decision-making indirectly relates to moral distress, through its relationship with openness to experience. Clinical decision-making significantly predicted openness to experience ($b = .029$, $t = 2.54$, $p = .012$, 95% CI: .006, .051), as scores on clinical decision-making ability increased, scores on openness to experience increased which related to clinical decision-making significantly predicting moral distress ($b = -3.84$, $t = -3.39$, $p < .001$, 95% CI: -6.08, -1.60). The 95% confidence interval based on 5000 bootstrap samples was above zero (.025, 1.32), indicating an indirect effect ($b = .579$).
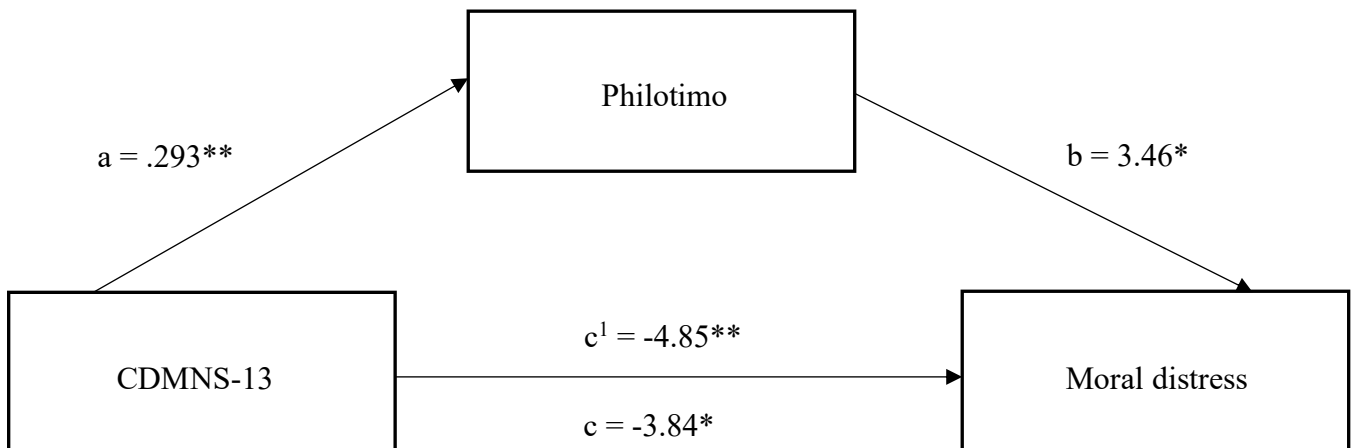
Figure 6.1. The mediating effect of openness to experience in the relationship between clinical decision-making (CDMNS-13) and moral distress.
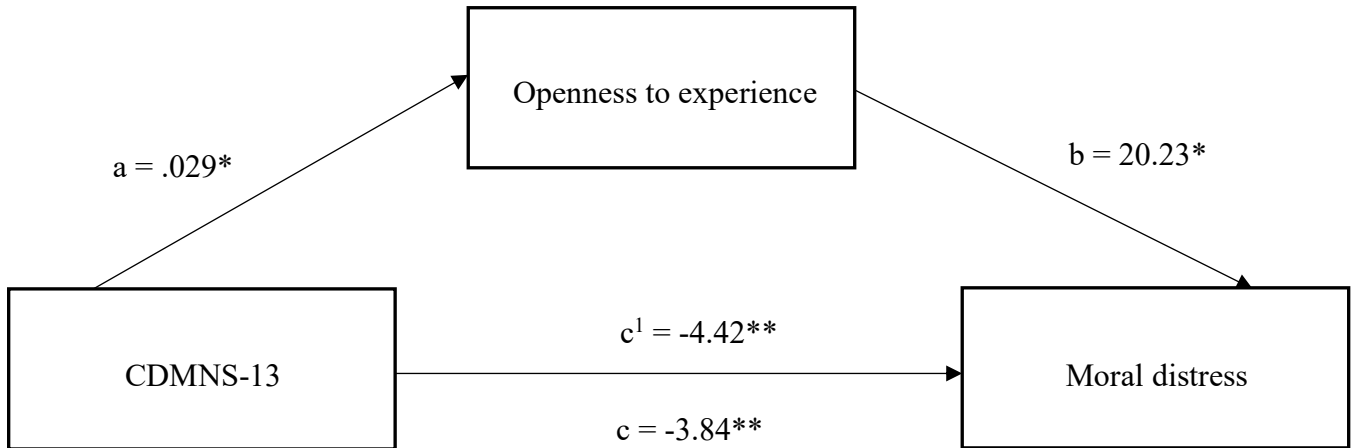
Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon openness to experience; b is the effect of openness to experience on moral distress; c^1 is the direct effect of clinical decision-making on moral distress: c is the total effect of clinical decision-making on moral distress. $*\ p < 0.05$, $**\ p < 0.01$.

A second mediation model was used to explore the direct and indirect effects of clinical decision-making on moral distress via philotimo. For this model, clinical decision-making was entered as the predictor variable, moral distress was entered as the outcome variable, and philotimo was entered as a potential mediator. Findings suggest that clinical decision-making indirectly relates to moral distress, through its relationship with philotimo. Clinical decision-making significantly predicted philotimo ($b = .293$, $t = 4.17$, $p < .001$), as scores on clinical decision-making ability increased, scores on philotimo increased which related to clinical decision-making significantly predicting moral distress ($b = -3.84$, $t = -3.39$, $p < .001$, 95% CI: -6.08, -1.60). The 95% confidence interval based on 5000 bootstrap samples was above zero (.250, 1.90), indicating an indirect effect ($b = 1.01$).

Figure 6.2. The mediating effect of philotimo in the relationship between clinical decision-making (CDMNS-13) and moral distress.

Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon philotimo; b is the effect of philotimo on moral distress; c^1 is the direct effect of clinical decision-making on moral distress: c is the total effect of clinical decision-making on moral distress. $* p < 0.05$, $** p < 0.01$.

6.6. Discussion

The aim of this research was to explore the relationships between clinical decision-making, moral distress, personality, perfectionism, philotimo, and self-compassion across nursing professionals. There is currently little research into the relationship between nurses' clinical decision-making and wellbeing, and the present study offers novel insight into various elements that can influence these potential associations. Within the present study, a series of correlation analyses offered valuable insight into the relations between personality and perceived clinical decision-making ability. Notably, it was the elements of personality focused on integrity, morality, and responsibility, such as honesty-humility, conscientiousness, openness to experience, and philotimo, that were all associated with

greater decision-making ability. This aligns with existing literature on decision-making more broadly where personality has been found to influence the quality of decisions and the type of decision-making style adopted (Erjavec et al., 2019; Othman et al., 2020). This highlights the role of individual differences when exploring nurses' clinical decision-making ability directly.

Secondly, findings suggest that clinical decision-making was indeed associated with nurses' moral distress experience. This aligns with the findings of Chapter 3 and 4 whereby clinical decision-making was associated with greater psychological wellbeing and lower levels of moral distress across nursing samples. Findings are further supported by existing literature which highlights the relationship between decision-making and wellbeing more broadly, outside of a clinical environment (Páez-Gallego et al., 2020; Ravneet & Kawaljit, 2021). The findings of the present study therefore extend the acknowledged association between decision-making and wellbeing within a clinical environment and further highlight its link to nurses' experience of moral distress. Subsequent mediation analyses revealed that the *openness to experience* facet of personality explained the observed relationship between clinical decision-making and moral distress. This suggests that having traits consistent with openness to experience, such as being inquisitive, having intellectual curiosity, having a willingness to accept challenges, and being open to trying new things (Costa & McCrae, 1992; McCrae, 1993, McCrae & Greenberg, 2014) may reduce the negative association between nurses' clinical decision-making and experience of moral distress. This offers valuable insight into why the impact of decision-making is not uniform across nursing professionals and explains variation in levels of moral distress; Perhaps some individuals are more susceptible to these experiences because of their decision-making due to their personality type and individual traits. Understanding individual differences within this context is important when considering strategies of support and methods to prevent moral distress arising as a result of clinical decision-making.

A second mediation analysis revealed an interesting relationship between clinical decision-making, moral distress, and philotimo. Possessing traits consistent with philotimo explained the relationship between clinical decision-making and moral distress, suggesting that being virtuous, and having the desire to do right by oneself and others (Mantzios, 2021) may reduce the negative associations observed between clinical decision-making and wellbeing. This is unsurprising given that philotimo encompasses core virtues of respect, honesty, benevolence, and moral responsibility (Mantzios, 2021); These elements have been linked to various dimensions of wellbeing, including health outcomes, authentic fulfilment, and genuine happiness (Aghababaei & Arji, 2014; Aghababaei et al., 2016; Martela & Ryan, 2016; Torka, 2019; Weziak-Bialowolska et al., 2021). With Philotimo being a Greek concept, it remains relatively unexplored within literature across the United Kingdom (UK), and so the present study offers a novel understanding of how philotimo relates to clinical decision-making and its impact on wellbeing across nurses in the UK.

Contrary to the findings of previous thesis chapters (chapter 3 and 5), self-compassion did not relate to clinical decision-making or moral distress within the present study. This differs from existing research, where self-compassion relates to greater decision-making competency and a wide range of wellbeing outcomes (Bailis et al., 2021; Homan, 2016; McKay & Walker, 2021). Upon examining this finding further, results revealed that self-compassion related to nurses' experience of moral distress in senior banded nurses, but not in more junior banded roles; Findings highlight fundamental differences between nursing professionals when seeking to address issues surrounding moral distress. A potential explanation for the observed findings is one's level of experience and engagement with reflection. Joy et al. (2023) found that senior-banded nurses tend to be more reflective and possess a heightened awareness of self-compassion. It is therefore suggested that the fundamental differences surrounding self-compassion and seniority within the present study may be a result of experience and

reflective practice. Perhaps healthcare organisations should enhance reflective opportunities across the nursing sector, to promote self-compassion and further sustain the benefits this entails. However, self-compassion remained a non-significant moderator of the relationship between clinical decision-making and moral distress across the senior-banded nursing sample. A possible explanation for this, as well as for the noted variation from Chapters 3 and 5 findings, stems from the industrial strike action that occurred across the nursing profession during the period of this study. Research suggests that in order to be self-compassionate, nurses require a 'stable base' where they feel secure in the workplace and are granted permission to be self-caring and compassionate towards themselves (Andrews et al., 2020). The industrial action across the National Health Service during the period of this study saw the largest nurse strike in NHS history (Reed, 2022), and evoked major changes in the healthcare profession that had not been seen or experienced before (Booth, 2022); It is suggested that these changes influenced the level of stability and security surrounding the nursing role and prevented nurses from being self-compassionate. Therefore, the unexpected findings regarding self-compassion, clinical decision-making, and moral distress should be considered in light of industrial action across the nursing workforce.

Limitations

There were important limitations to the present study that should be considered. Firstly, when exploring differences between junior and senior-banded nursing positions, the sample sizes did not reach desirable power estimates for further regression analyses (Cohen, 1992). It is therefore important to replicate the present study on a larger sample of senior nurses to further validate the conclusions drawn surrounding self-compassion and its relation to clinical decision-making and moral distress. Secondly, the majority of the sample identified themselves as 'White-British' ($n = 127$). Given the diversity of the UK nursing profession in

reality, it is important that future research seeks to capture the experiences of different ethnicities when exploring relations between clinical decision-making and moral distress.

Conclusion

The findings from the present study should inform future research and practice when seeking to support nurses with clinical decision-making. The role of individual differences is made clear, with openness to experience and philotimo offering an explanation for the observed relationship between clinical decision-making and moral distress. The present study highlights the importance of being open and inquisitive to new ideas, and encompassing traits consistent with philotimo (honesty, integrity, moral responsibility) when reducing negative relations between decision-making and wellbeing. It is important for future research to consider individual traits and personality when looking at the impact decision-making may have on wellbeing and when devising strategies of support to mitigate any negative effect.

6.7. Chapter Summary

Chapter 6 identified important relationships between clinical decision-making and moral distress and further highlighted the influential nature of personality and philotimo constructs. Below is a summary of the key findings and practical implications for nursing practice and wellbeing.

Key Findings

- Greater perceptions of clinical decision-making ability relate to lower levels of moral distress.
- Personality explains the relationship between clinical decision-making and moral distress. Being open to new experiences and having traits consistent with philotimo (selflessness, honesty, being reliable) can reduce the likelihood of experiencing moral distress because of clinical decision-making.

Practical Implications

- Healthcare organisations can use findings to identify and support nurses more susceptible to moral distress as a result of making clinical decisions within their role. Organisations and management may use optional personality tests to identify individuals at risk of moral distress and use this insight to provide tailored support and accommodate additional needs.

- Nursing professionals should seek to approach clinical decision-making with an open mind to minimise moral distress experience.

CHAPTER 7: EXAMINING NURSES' EXPERIENCE OF CLINICAL DECISION-MAKING: A QUALITATIVE INVESTIGATION OF COPING BEHAVIOURS, HEALTH-PROMOTING BEHAVIOURS AND SELF-COMPASSION.

7.1. Abstract

Background: Nurses are required to make clinical decisions on a day-to-day basis within the nursing role. Decision-making more broadly has been linked to psychological wellbeing and professional quality of life. There are few qualitative explorations into nurses' experience of clinical decision-making, its impact on health and wellbeing and any coping strategies employed to manage its effect. **Method:** Twenty-three nursing professionals from across the United Kingdom took part in a semi-structured interview. Interviews explored nurses' experiences of clinical decision-making, its impact on health and wellbeing, and any coping strategies employed to mitigate its effect. Data was analysed using a thematic analysis, following Braun and Clarke's six sequential steps. **Results:** Three themes were conceptualised, providing insight into nurses' involvement in clinical decision-making, the impact this involvement had on nurses' health and wellbeing, and the role of coping behaviours and self-compassion when managing this effect. The first theme, 'we're not doctors handmaidens anymore' explored how the nursing role has progressed over recent years, with reference to increasing levels of autonomy and responsibility. The second theme, 'managing the impact of clinical decision-making' portrays how clinical decision-making can influence individual wellbeing and work-life balance, and different strategies used to mitigate any negative effect. The final theme 'we're trained to listen to what other people are telling us to do' explores existing training and education opportunities, whilst recognising what areas could further support nurses with their decision-making. **Conclusion:** Findings identify significant changes in autonomous decision-making for nursing professionals and highlight the need for further organisational support to help nurses manage this.

7.2. Introduction

The previous quantitative Chapters within the current thesis (Chapters 3-6) were largely exploratory and identified a direct relationship between clinical decision-making and nurses' wellbeing. These Chapter's also highlighted the relevance of coping behaviours, perceived control over decision-making, eating behaviours, self-compassion and individual differences when seeking to understand the observed relationship. It is important to explore these initial relationships in further detail to gain a comprehensive understanding of how and why these elements relate to one another in a practical environment. The current Chapter utilised semi-structured interviews to discuss nurses' lived experience of clinical decision-making, adding contextual understanding to the relationships observed in the previous quantitative Chapters.

7.3. Background

Clinical decision-making is a central aspect of the nursing role, one that requires the integration of knowledge and experience to best inform patient care (Banning, 2008). Such decisions require high levels of critical thinking and efficient clinical decision-making skills (Rababa & Al-Rawashdeh, 2021). It is important that nurses observe, filter, and synthesise information about each patient to inform these decisions to ensure that the best quality of patient care is provided (White, 2003; Smith et al., 2008). The complexity of situations and decisions faced within the healthcare environment has increased significantly over recent years, due to technological advancements, an ageing population, as well as increased demand on facilities and resources (Alonso et al., 2015; Drotz & Poksinska, 2014; Hansson et al., 2008; NHS England, 2021, Rafferty & Griffin, 2006). The COVID-19 pandemic in particular was an event that shaped the nursing role, with nurses having to adapt to increased work demands and provide patient care without adequate resources or managerial support (Martin et al., 2023; Sperling, 2021). Nurses reported having a greater involvement in hospital affairs

as well as improved nurse-physician relations during this period (Jingxia et al., 2022). Due to the growing complexity of the nursing role, nurses report having greater levels of responsibility and autonomy over patient care (Simmons, 2010; Chan, 2013). It is therefore important to consider nurses' experiences of this organisational shift and its implications on wellbeing and practice.

Research suggests that decision-making is a skill that directly influences psychological wellbeing (Bisquerra & Pérez, 2012). Privitera (2020) found that possessing low levels of autonomy over decision-making and an inability to influence the working environment contributed negatively towards clinician wellbeing and burnout experience. More specifically, Miley et al. (2024a, b) highlight the link between nurses' clinical decision-making and experience of moral distress, with greater perceptions of decision-making ability relating to reduced moral distress experience. With moral distress relating to greater levels of anxiety, depression, emotional exhaustion, and burnout syndrome (Petrișor et al., 2021; Kok et al., 2023; Villagran et al., 2023), it is important to explore the potential implications of clinical decision-making upon nurses' wellbeing more directly.

Given the potential impact decision-making poses for nurses' wellbeing, it is important to explore strategies used to cope with decision-making and potential experiences of distress. Coping behaviours, defined as the behavioural responses employed to manage perceived internal or external stressors have been seen to influence individual wellbeing across the nursing profession (Lazarus & Folkman, 1984; McFadden et al., 2021; Savic et al., 2019). Coping behaviours are often categorised as being either problem-focused or emotion-focused (Carver, 1997; Carver et al., 1989). Emotion-focused coping attempts to regulate the emotional response to stressors, and includes strategies such as searching for distractions, venting to peers, and experiencing denial (Ben-Zur, 2020, Carver, 1997; Carver et al., 1989). Whilst offering short-term relief from perceived stressors, such strategies are often

considered maladaptive in nature and are therefore linked to poorer mental health outcomes across healthcare professionals (Owen et al., 2023, Theodoratou et al., 2023). However, evidence suggests that some emotion-focused coping strategies, including positive reframing, and acceptance can help individuals adjust to complex situations, and support progression towards more problem-focused coping (Carver et al., 1989). Problem-focused coping behaviours tend to address the underlying source of stress to minimise its impact on wellbeing, and include strategies such as problem-solving, planning, and removing the source of the stress (Carroll, 2020); as a result, these are often labelled more adaptive coping strategies, and lead to greater health outcomes (Fischer et al., 2021).

Research into adaptive coping strategies found that positive coping behaviours, including active coping and help-seeking, had a positive impact on staff wellbeing and a better quality of working life (McFadden et al., 2021). Moreover, Savic et al. (2019) found that social support, hobbies, exercise, mindfulness, and sleep practices were all coping strategies that benefited nurses' wellbeing. However, they found that experiencing sleep difficulties hindered the effective use of such coping strategies, ultimately exacerbating poorer health outcomes. It is therefore important to consider practical issues surrounding the coping strategies that are used if nurses' wellbeing is to be supported.

It is also important to consider the role of self-compassion when looking at the ways in which individuals cope and manage emotions. Self-compassion involves being aware and understanding of one's suffering and adopting a kinder approach towards oneself during these times (Neff, 2003a, b). Being kind to oneself in this way has been associated with more adaptive styles of coping, the reduction of stress, and a wide range of positive health outcomes (Ewert et al., 2021; Phillips & Hine, 2021). Specifically, Sirois and colleagues (2015) found that self-compassion was associated with lower levels of stress through the coping style used. Conclusions suggest that when adaptive coping strategies are used by self-

compassionate individuals, better coping outcomes are achieved, thus highlighting the importance of being self-compassionate when seeking to optimise the outcome of effective coping strategies. Moreover, evidence suggests that self-compassion helps reduce work-based stressors, including anxiety, compassion fatigue, and burnout, whilst also relating positively to work engagement, and job performance within the nursing community (Joneghani et al., 2023; Steen et al., 2021). However, organisational factors have been seen to influence nurses' ability to be self-compassionate, with work demands, irregular break patterns, and prioritisation of patient care preventing nurses from extending compassion towards themselves (Egan et al., 2019). It can therefore be inferred that practical issues, organisational factors, and organisational support must be considered to optimise coping outcomes and overall wellbeing.

The links between adaptive coping behaviours, self-compassion, organisational support and wellbeing have been explored more broadly across existing literature (McFadden et al., 2021; Phillips & Hine, 2021; Savic et al., 2019), however, the potential link to clinical decision-making has not been explored in detail. Exploring these concepts within the context of nurses' decision-making would further understanding of its impact upon wellbeing and identify potential areas of support across the nursing profession. The present study sought to explore nurses' experience of the decision-making process, with reference to potential coping strategies used to mitigate its impact on wellbeing.

7.4. Method

Participants

All participants ($n = 23$, $M_{age} = 42.0$, $SD = 11.7$) were qualified in the nursing profession across the United Kingdom. The majority of the sample were Female ($n = 17$) and currently worked in a senior nursing position ($n = 18$). Participants had worked an average of 19 years in the nursing profession. Participants were recruited over a 4-month period and data

collection was concluded once data saturation had been achieved. See Table 7.1 for

participant demographic information.

Table 7.1. Participant demographic information (*n* = 23).

Pseudonym	Age	Gender	Ethnicity	Banding	Years in nursing profession
Jack	35	Male	White British	Senior	14
Claire	46	Female	White European	Senior	25
Jessica	56	Female	White British	Senior	39
Sophie	49	Female	White British	Senior	25
Mary	53	Female	White British	Senior	35
Bethany	46	Female	White British	Senior	27
Kiran	45	Female	Asian Indian	Junior	23
Henry	34	Male	White British	Senior	13
Louise	52	Female	White British	Senior	30
Helen	41	Female	White British	Senior	19
Chloe	29	Female	White-Irish	Senior	8
Ben	35	Male	White British	Senior	14
Omar	22	Male	White other	Junior	1
Maya	32	Female	British Bangladeshi	Senior	7
Freya	24	Female	White British	Junior	3
Tia	40	Female	Black British	Junior	1.67
Jenny	57	Female	White British	Senior	18
Yasmin	27	Female	British Indian	Senior	4.5
Robert	47	Male	White Irish	Senior	28
Hazel	40	Female	White British	Senior	11
Katie	58	Female	White British	Senior	40
Arthur	65	Male	White British	Senior	47
Hattie	34	Female	White European	Junior	1

Semi-structured Interviews

Semi-structured interviews were used to explore nurses' experience of clinical decision-making, its impact on wellbeing, as well as the coping strategies used to minimise any acknowledged effect. Semi-structured interviews are considered a flexible interview strategy, allowing researchers to ask participants a set of pre-determined questions, and follow responses up with relevant queries (Adams, 2015; Jamshed, 2014). The flexible nature of this style of interviewing is more reflective of the conversational exchange observed in a natural setting, making the process less formal and putting participants at ease (Jennings, 2005). It can be inferred that removing the formality of the interview promotes a positive environment where participants feel more comfortable discussing potentially sensitive topics such as clinical decision-making. The interviews were guided by an interview schedule (see Appendix D), designed to establish rapport with participants whilst also ensuring that the intended research topics were explored thoroughly. The semi-structured nature of the interview allowed for greater flexibility when exploring these key topic areas, which is particularly useful when discussing personal experiences and sensitive issues, such as clinical decision-making and its impact on wellbeing (DeJonckheere & Vaughn, 2019). This flexibility allowed the researcher to probe with follow-up questions where necessary but also adapt the questions to suit each participant individually. The questions included within the guide were derived from the findings of previous studies (Miley, 2024b, Miley et al., 2024a, b), allowing an exploration of the following important areas: the impact of decision-making, the use of coping behaviours to manage any acknowledged impact, and future opportunities for support in greater detail.

During the initial stages of the interview, participants were asked more general questions surrounding the types of clinical decisions that they make within their role, thus

offering context for the researcher, whilst also allowing participants to adjust to the interview environment (e.g., can you tell me about the decisions that you make within your role?). As the interview progressed, participants were asked to delve into more detailed discussions surrounding clinical decision-making, detailing their personal experiences of clinical decision-making, how they found making decisions, how they coped with making decisions, and the impact they felt decision-making had on their wellbeing, if any (e.g., how would you typically cope or manage your feelings if you have made a particularly difficult decision?). The researcher ensured that a positive and trusting atmosphere was created during the interview by creating a judgement-free zone and allowing participants to speak without interruption. Being attentive and open to the interviewee's point of view is crucial when establishing a positive interview environment and establishing rapport with participants (DeJonckheere & Vaughn, 2019; Lavee & Itzchakov, 2023). To conclude the interview, participants were asked closing questions to summarise earlier discussions and offer further insight into areas that had not been discussed previously within the interview (e.g., Is there anything that you would like to add that we have not already covered?).

Procedure

Participants responded to an advert of the study that had been shared on various social media platforms by the research team (X, Facebook, LinkedIn). The advert detailed the process of the study, and the researcher's contact details; participants were encouraged to contact the researcher should they wish to take part. Upon registering their interest, a participant information sheet, consent form, and brief demographic questionnaire were sent via email, and an interview date was arranged. The interviews took place via Microsoft Teams and lasted between 24-76 minutes ($M = 50.73$). Once the interview was concluded, participants were sent a thorough debrief form, describing the process of withdrawal,

researcher contact details, and listing several support networks should they require further guidance upon conclusion of the study.

Ethical Considerations

Ethical approval was obtained from the Business, Law and Social Sciences ethics committee at Birmingham City University (Miley/#11242/sub3/R(B)/2023/Feb/BLSSFAEC).

Data Analysis

Data collection continued until it was agreed amongst the research team that data saturation had been achieved. The interviews were recorded via Microsoft Teams and transcribed verbatim. Thematic analysis (TA) was used to analyse data, utilising Braun and Clarke's (2006) recommended steps. TA describes an analysis strategy whereby patterns of meaning are identified across data to allow an in-depth understanding of a particular research area (Clarke & Braun, 2017). TA was selected due to its ability to provide a rich, detailed, and complex account of data, whilst also accommodating a wide range of epistemological approaches (Braun & Clarke, 2006). The researcher took an interpretative approach to analysis due to its acknowledgement of subjective human experiences, and the idea that there are multiple realities depending upon the individual (Chowdhury, 2014). Taking this approach recognises that participants may have a unique interpretation and experience of clinical decision-making which could be explored in detail through a TA. The first step of TA involved familiarisation of the data. Whilst transcribing, the researcher noted any initial observations, before reading and re-reading the transcripts thoroughly. In the next stage, the researcher used latent coding to understand and label nurses' experiences of decision-making across each of the transcripts. Each of these codes was evaluated by the wider research team and revised to ensure that they accurately represented the data set (Braun & Clarke, 2019). During the next stage, the developed codes were grouped into potential themes. During this step, the researchers worked together to establish which codes were similar in content and

when combined highlighted a pattern across the data; these codes were then categorised together to form a theme. The themes were confirmed once all researchers agreed that they accurately represented the data, ensuring reliability. The themes were then relabelled and refined to best represent the codes and data grouped within.

Reflexivity

Given the interpretive approach to data analysis, it is important to consider the researcher's role within the present study. Reflexivity offers clarity into the researcher's interpretation of participant accounts and allows for critical evaluation of potential biases and assumptions (Braun & Clarke, 2022; Olmos-Vega et al., 2023).

Reflecting upon my underlying assumptions, I acknowledge that I am not qualified in the nursing profession, I have not worked within a clinical environment, and I do not possess first-hand experience in clinical decision-making. At times, participants referenced matters that I, having not worked within a clinical environment was not familiar with. When this occurred, I prompted participants to explain these elements in further detail, offering contextual support so that I could gather further insight into individual accounts, and ensure data clarity.

7.5. Results

Three overarching themes were developed, providing insight into participant's experiences of decision-making within their clinical roles (see Table 7.2). The first theme 'we're not doctors handmaidens anymore' explored how the nursing role has progressed over recent years, with reference to increasing levels of autonomy and responsibility, as well as greater involvement in clinical decisions. The second theme, 'managing the impact of clinical decision-making' portrays how clinical decision-making can influence individual wellbeing and work-life balance, and explores the strategies used to mitigate any acknowledged negative effect. The final theme 'we're trained to listen to what other people are telling us to

do' explores existing training and education opportunities, whilst recognising what areas could further support nurses with their decision-making. Themes are discussed in the following section.

Table 7.2. Development of codes to themes.

Themes	We're not doctors handmaidens anymore	Managing the impact of clinical decision-making	We're trained to listen to what other people are telling us to do
Codes	Nursing role is autonomous	Perceptions of clinical decision-making	Existing training/organisational support with clinical decision-making
	Perceptions of responsibility/ autonomy	Impact of clinical decision-making	Lack of clarity surrounding the nursing role
	Nurses are trusted practitioners	Support as a form of coping	Seniority influences support with clinical decision-making
	Consequences of decisions	Self-compassion as a way of coping	Nursing role has evolved
	Importance of documenting decisions		Future training/ support recommendations

Theme 1: 'We're not doctors handmaidens anymore'

The first theme acknowledges that the nursing role has changed significantly over recent years, with nurses adopting greater responsibility and having an increased involvement in clinical decision-making. Participants described significant changes to the levels of autonomy and basic structuring of the role, with these developments generally being judged favourably. Katie, a nurse with 40 years of experience, describes significant changes to

various elements of the nursing role throughout her career, starting initially with the journey to becoming a nurse, and encompassing the level of autonomy and responsibility now held.

[Katie, a senior nurse with 40 years of experience] *Because nursing has developed, we're not doctors handmaidens anymore, we're autonomous practitioners and the hospital nurses are as autonomous practitioners as we are in general practice. And things have changed so much since I started nursing. I mean you don't do your state finals anymore, you do a degree, it's completely different.*

Katie highlights the level of education now required to enter the nursing profession, implying that newly qualified nurses now have a comprehensive understanding of nursing skills and responsibilities even during the initial stages of their careers. These changes continue into the nursing role, with nurses no longer being seen as 'doctors' handmaidens.' Nurses are now becoming autonomous practitioners who are able to take an active role in patient care, without reliance on other healthcare professions to direct and approve each decision that is made. It is therefore unsurprising that trust in nurses' clinical judgements and decisions has increased with time, as nurses are now recognised as autonomous practitioners, who have the knowledge and experience to navigate their own clinical decisions and behaviours.

Interestingly, the COVID-19 pandemic, beginning in 2020, was identified as an event that significantly increased levels of professional responsibility and autonomy across nursing professionals. Participants described an 'all hands on deck' approach, whereby nurses were encouraged to make decisions independently and implement these in patient care. Henry

discusses the shift in autonomy and how the usual restrictions, policies and guidance were disregarded to manage the increased demands and workload.

[Henry, a senior nurse with 13 years of experience] *It certainly gave us permission to just do it. I think we removed a ton of red tape in the NHS when COVID came, because you just had to do it, make those decisions, rather than ask for permission.*

The decisions made during this time were made more complex by the extent of demands, insufficient knowledge surrounding the virus, and limitations placed on resources. Despite this, nurses were required to navigate clinical decisions quickly and independently whilst having the patient's best interest at the forefront. Hazel describes how newly qualified and junior nurses were also required to step up and make these decisions, despite this not being a noted responsibility of the role.

[Hazel, a senior nurse with 11 years of experience] *Erm, so yeah, and it was across the board, it wasn't just the sisters and the charge nurses in ED, it was the band 5's that were making those decisions as well, which really wasn't the best. But at the time we were battling staff pressures like everybody else, we were inundated with patients, there was no bed capacity.*

Nurses were therefore required to adapt to novel situations quickly and take a more independent approach to clinical decision-making during this period. Participants acknowledge that these experiences aided confidence and independence when navigating clinical decision-making. The skills acquired during this period are generally reflected upon favourably and have positively influenced their practice. Omar, a newly qualified nurse during the latter end of the COVID-19 pandemic, describes the positive impact that this had

on his practice and his independence when navigating clinical decisions. He goes on to state that he has 'seen it all already' suggesting that the COVID-19 pandemic has equipped him with a wide range of complex clinical experiences and that he will no longer be surprised by any situations that arise. It suggests that Omar has encountered all the decisions and challenges that nursing has to offer and feels better prepared to make decisions independently because of these experiences.

[Omar, a junior nurse with 1 year experience] *Personally at least, I think I'm more of an independent decision-maker, I've kind of seen it all already if that makes sense.*

Most participants indicated that they felt they were in autonomous nursing roles, and that they held ultimate responsibility over the decisions that they made. Having this responsibility was generally described positively across the data, with personal gratification coming from seeing the positive impact of their decisions and feeling trusted by other colleagues. Chloe identifies this as an important element of the role that promotes her satisfaction in the nursing profession.

[Chloe, a senior nurse with 8 years of experience] *So you're just learning all the time, but that autonomy for me is so brilliant, it's probably the thing that I like most.*

Louise discusses the satisfaction that comes with being an autonomous nursing practitioner but also emphasises its importance for patient care. Louise acknowledges the unique relationship that nurses hold with patients, due to the familiarity and rapport that has been established whilst providing care. Nurses' in-depth understanding of the patient's condition, as well as patient preferences therefore allows nurses to make decisions that best

represent the patients' needs. For this reason, it is important for nurses to be in an autonomous position where they are able to implement or put forward their clinical decisions using this information.

[Louise, a senior nurse with 30 years of experience] *Yeah. Yeah, I do. I enjoy it. I really enjoy it, and I think it's important. So, I think it's important for nursing, it's important for my patients, the patients in the department, because they, and I understand what they need in a way that nobody else in the trust does, or in the healthcare landscape really. I think it's important and I enjoy it.*

However, for some, the accountability that accompanies having such high levels of autonomy and responsibility was an adjustment that came with its challenges. Whilst nurses recognised that they had the skills and knowledge to navigate these decisions, they at times desired input from other colleagues and were not completely confident navigating the decision alone. Hazel discusses her the high levels of responsibility held within her role and suggests that adapting to high levels of autonomy can be 'overwhelming'.

[Hazel] *Uh, yes, and it was quite overwhelming when I first started, once I'd started working on my own.*

Sophie also acknowledges the challenges that accompany an autonomous nursing role and highlights the accountability of things going wrong as an area of concern. This was not uncommon across the nursing sample, where 'things going wrong' and subsequent consequences appeared to be at the forefront when navigating clinical decisions. Specifically,

fear of litigation and the blame culture within the healthcare service were determinants of when and what decisions were made, but also nurses' experience of decision-making.

[Sophie, a senior nurse with 25 years of experience] *You do feel that weight of responsibility that you're kind of working to the top of your license and that, yeah, if something goes wrong, then you know, the ultimate responsibility is with you. And that's, yeah, that's quite a responsibility.*

Robert describes the systemic blame-culture present within the National Health Service, and how this can influence on the decisions that are made and implemented into reality. He highlights that the healthcare service is unforgiving when things do not go to plan, insinuating that perhaps mistakes are not used as a learning opportunity, but rather as a reflection of one's competency and ability to make decisions. Such beliefs were shared by other participants, with Henry justifying and rationalising his decisions in preparation for the potential coroner report. It appears that nurses prepare for blame and potential legal proceedings when navigating clinical decisions.

[Robert, a senior nurse with 28 years of experience] *I'm not down on the NHS, I like working in the NHS, I just don't think it's very forgiving when something doesn't go to plan. I think we say that we work in a no blame culture, but I completely disagree. I think it's; I think the NHS inherently thrives upon being a blame culture and finger pointing*

[Henry, a senior nurse with 13 years of experience] *Can you justify it? Can you rationalise it? Make sure it's documented as well. It's your action-decision rationale, isn't it? As long as you*

can stand by that, then no coroners going to argue with that are they? Because that's also what people are frightened of isn't it? That's in your head, isn't it?

It is therefore unsurprising that documentation was of utmost importance to most participants, not only as a strategy to communicate and provide information for other members of the healthcare team but also as evidence and justification of their decisions and behaviours in the case of things going wrong. Tia emphasises the importance of documentation with every decision and action that is carried out. She suggests that without it, there is no evidence of specific events occurring.

[Tia, a junior nurse with 1 and a half years of experience] *And certainly, anything you do, make sure you document it. If you didn't document it, it did not happen.*

Participants suggest that their word would not be trusted if an incident were to occur, hence their emphasis on documentation. Linking back to the earlier point, where Robert suggests that healthcare organisations are unforgiving when things go wrong, nurses' stance on documentation appears to be a line of defence if needed. Whilst nursing professionals have become trusted practitioners regarding making decisions, there remains some uncertainty as to whether they will be trusted and supported on occasions where these decisions go wrong.

[Louise, a senior nurse with 30 years of experience] *I am aware that my senior leaders, nursing leaders, don't understand my role and it makes me feel insecure that were, God forbid, something to happen, I'm not sure of the level of support I would receive…but otherwise I enjoy the autonomy.*

Louise, a senior nurse, is unsure of the support available from senior nursing roles and describes a sense of vulnerability because of this. She discusses how the ambiguity surrounding available support limits her enjoyment of being an autonomous practitioner. Having support whilst navigating clinical decisions is clearly a factor that shapes nurses' experience of autonomy, which is important to consider given the ongoing changes within the nursing role. Given the uncertainty around support when things do not go to plan, it again is unsurprising that many nurses emphasised the importance of documenting all behaviours and decisions. Ensuring that their decisions and behaviours were documented appears to be of priority when rationalising and justifying decisions.

[Kiran, a junior nurse with 23 years of experience] *So, I often have to stay back to complete, because I don't like to leave too many things or because you have to do the documentation, otherwise if something goes wrong you will, it will be on your head.*

Kiran reinforces the notion that fear of consequences and lack of support are driving factors in nurses' prioritisation of documentation. She highlights the importance of this to her through her willingness to work additional hours to ensure that everything has been captured in documentation, and her apprehension of blame if this is not complete. It can be inferred that nursing professionals are aware of the responsibility they hold, and place great importance on justifying their behaviours in case of questioning further down the line.

Interestingly, it was not only individual decisions that nurses felt responsible for documenting, but also the decisions and actions of other healthcare professionals, particularly if they were not in complete agreement with the decision at hand. This suggests that nurses

not only carry the weight of responsibility for their own decisions but are also clinically responsible for the decisions that others make, even if these are made by more senior roles such as doctors or nursing management. Through ensuring that all decisions and disagreements are clearly and thoroughly documented, nurses are evidencing their clinical judgements, whilst also sharing responsibility with the wider healthcare team. This way, each individual within the team is aware of the decision at hand, and any reservations that others may hold around against it; Therefore, if something is to go wrong, the responsibility is shared and not limited to the nursing professional involved.

[Chloe, a senior nurse with 8 years of experience] *I document conversations I have with doctors, you know, if there is a bit of a discussion I always say, discussed with blah blah blah. They don't even document that they disagree with the decision, they just pretend that they didn't see it, you know. So, whereas I'll document it. So, you're kind of just keeping yourself alright. I feel like as a nurse you're more, what's the word, clinically responsible for things like that.*

Chloe notes clear differences between doctors and nurses when it comes to documentation. She goes on to state that nurses are more 'clinically responsible for things like that' suggesting that doctors do not prioritise it in the same way. This is interesting when considering differences in perceived levels of trust and job security for the two different roles. It can be inferred that doctors are not as driven by documentation because they are not obligated to justify their decisions in the same way that nurses do. Furthermore, participants appeared to feel responsible for documenting any occasions where they have challenged others' decisions, even when these roles were more senior. This reinforces the idea that nurses

are clinically responsible for both their decisions and the decisions of other healthcare professionals.

[Bethany, a senior nurse with 27 years of experience] *Well, I think you're the one that's gonna have to do the do, aren't you, really like, so, although the push isn't from you, yeah, you are the person doing the thing to them… Although you know that it's, the system has forced you into it, you're still the person on the end actually doing it.*

Bethany explains why nurses were compelled to document others' decisions and the conversations that have been had about these. She suggests that whilst the decision may not have come directly from her and may be the choice of a more senior role, she is still directly involved in the decision by implementing it into reality. This illustrates how complex nurses' involvement in clinical decision-making can be, and how pressures extend beyond an individual level.

Overall, this theme highlights how much the nursing role has changed and evolved over the years, especially because of the COVID-19 pandemic. Given the challenges faced during the pandemic regarding excessive workload and demand, nurses were given permission to make and implement clinical decisions independently, as opposed to seeking approval from other healthcare roles. These experiences appear to have shaped nurses' approach to decision-making and the responsibilities that they now hold post-pandemic years. Nurses appear to have a greater involvement in clinical decision-making and subsequently hold a greater level of responsibility for their actions. Whilst this increase in autonomy and responsibility is generally perceived quite favourably, lack of support from senior figures and fear of consequences can create apprehension when navigating clinical decisions. For this

reason, nurses place great importance on documentation as a line of defence in situations where things go wrong. It is therefore suggested that nurses need to be properly supported to accommodate the increased autonomy and responsibility that accompanies the evolving nursing role.

Theme 2: Managing the impact of clinical decision-making

Many aspects contribute towards nurses' experiences of clinical decision-making. This second theme offers an understanding of the impact clinical decision-making can have on nurses' personal wellbeing and work-life balance. Participants described how being required to make quick and impulsive decisions, having high levels of autonomy and responsibility, having limited support, as well as having a heightened awareness of consequences could exasperate levels of stress and at times have a negative influence on wellbeing.

Discussions surrounding the role of consequences in nurses' decision-making revealed that participants tended to over-identify with mistakes that were made. Some participants felt that they were defined by any errors or oversights, with this subsequently impacting confidence in carrying out their role, and personal perceptions of self-worth. Participants suggest that a potential reason for this stems from the culture promoted within the healthcare service and the distribution of blame to certain individuals. Robert suggests that 'you're only as good as your last mistake' hinting that nurses are at times defined by any errors made. This suggests that making a mistake or having a less than favourable outcome as a nursing professional can be a somewhat isolating experience.

[Robert, a senior nurse with 28 years of experience] *The second you make a mistake then you, you're only as good as your last mistake.*

Likewise, Jenny highlights the existence of a blame culture within the healthcare service and discusses its impact on clinical decision-making. She suggests that although the nursing code of practice is a priority, there is some apprehension when it comes to making clinical decisions because of the blame culture.

[Jenny, a senior nurse with 18 years of experience] *I think, you know, in some areas there is the blame culture of you know, we all obviously do all of our code of practice that we have to adhere to, but I think sometimes people are scared of making decisions because they're scared of being blamed for something.*

Given the acknowledged blame culture within the healthcare service and the observed over-identification of mistakes, it is unsurprising that participants described struggling to detach from the decisions that they made, particularly when these decisions were somewhat complex. Freya describes the implications of making more 'difficult' decisions on her ability to switch off from work when outside of the working environment. She, along with other participants discussed overthinking and ruminating about the decisions that were made, the outcomes of these decisions, as well as 'hypotheticals' around what could have been done differently, or what would be changed next time.

[Freya, a junior nurse with 3 years of experience] *Erm, yeah, definitely. If it's been like a difficult decision to make, or like quite a big event or things like that then I definitely think about it a lot afterwards. Or, think about like next time, and I slightly come up with hypotheticals sometimes, I do a lot of that, like oh, I wouldn't do that, or I would do that first*

next time, or I'd speak to this person quicker next time, or I wouldn't speak to this person next time, and I would do this first instead, so I think about that quite a lot.

Acknowledging the prevalence of rumination and overthinking is important when exploring the impact of decision-making on nurses' wellbeing. Mary acknowledges the fact that her overthinking impinges on her free time and that her husband is also aware of its impact.

[Mary, a senior nurse with 35 years of experience] *My free time is spent overthinking about things a wee bit…my husband would say that for sure that it impinges on my life, it takes up my free time and he's right*

Freya offers further insight into the impact clinical decision-making can have on nurses' wellbeing, recognising fluctuations in mood and elevated levels of stress. She goes on to suggest that these feelings were experienced even when she was not actively thinking about the decisions that she had made. In addition to this, Freya, alongside some other participants describes experiencing a degree of decision fatigue when outside of the working environment. Freya suggests that she does not have the capacity to manage decision-making in her personal life, due to the abundance of decisions required of her in her nursing role. This offers insight into other ways in which decision-making in a clinical environment can affect nurses' everyday lives.

[Freya, a junior nurse with 3 years of experience] *Even when I thought I wasn't thinking about it, I was quite grumpy and things, and I think it's because I was quite stressed by all the decision-making I was having to make at my old job. Erm, and when you are short-staffed,*

you have to make more decisions, like about what am I going to do first? Because all this

needs to be done right now, but I can't do it all right now. Erm, so I was definitely quite

stressed, even when I wasn't at work, just a bit grumpy, and irritable, and maybe I was like

avoiding having to make decisions about anything else because I just didn't have the capacity

to deal with anything else.

Robert suggests that periods of overthinking, and rumination are heightened when outside of the working environment due to diminished levels of support from colleagues. It is implied that when left alone with these decisions, self-doubt begins to manifest, and participants begin questioning the decisions and actions that they have made.

[Robert, a senior nurse with 28 years of experience] *It's not so bad when you're in the workplace because you're surrounded by your colleagues. It's more when you go home and you start reflecting on decisions that you've made, that you'll think God did I do the right thing there.*

Self-doubt was a shared experience amongst participants, with individuals questioning their professional capabilities and clinical competency because of decision-making. Helen details her experience of self-doubt and how she has questioned whether she was good enough to be in the position she is in, but also the validity of her feelings. This shows the impact rumination and overthinking clinical decisions can have on nurses' psychological wellbeing and self-confidence.

[Helen, a senior nurse with 19 years of experience] *Definitely. And it has made me question A - whether I'm in the right job, B - whether I'm capable of doing this job and C - whether actually, I was just making a big deal out of nothing, sometimes.*

In addition to the manifestation of self-doubt, clinical decision-making was described as elevating levels of stress, heightening feelings of anxiety, and disrupting sleep patterns amongst participants. Maya discusses that not having full control over the decisions that she makes, is a particular area that prompts feelings of anxiety and causes stress to continue outside of the working environment.

[Maya, a senior nurse with 7 years of experience] *So, there's so many external factors that contribute, that are sometimes out of your control. So, I'd be lying if I said that I don't take it home with me, and I'd be lying if I said that it's not causing me anxiety and stress because it absolutely has.*

Some participants explained how overthinking made it difficult to get to sleep, whereas Kiran has experienced 'nightmares' about her experiences. Disruption of sleep patterns is potentially problematic for nurses' physical wellbeing, given the long shifts and physical demands of the nursing role. Given the potential negative implications of clinical decision-making on physical and psychological wellbeing, it is important to explore the strategies used by participants to maintain their welfare.

[Kiran, a junior nurse with 23 years of experience] *I will sleep, but then all these things will come up as a nightmare during the night, during the sleep. Yeah, some of the things will come as a nightmare. But, then it sometimes it will take longer, a longer time to get to sleep.*

Hazel, alongside many other participants, emphasised the importance of support as a means of coping with the demands of clinical decision-making. Support from colleagues in particular was invaluable and allowed for reflection and reassurance of the decisions that were made. Participants suggest that relations with work colleagues were unique in that they were able to understand the cause of stress in a way that nobody outside of the nursing profession could, which in turn made participants feel heard and validated.

[Hazel, a senior nurse with 11 years of experience] *So, [colleague name] and I tend to talk through every decision about the service…so, yeah, everybody who I kind of touch base with helps me, kind of reassures me that actually my decision is the right decision.*

Jenny concurs with the importance of support and goes on to emphasise further implications to the quality of patient care provided. She highlights the importance of removing elements of blame to support nursing professionals when providing patients with optimal levels of care.

[Jenny, a senior nurse with 18 years of experience] *I think the important thing is you know that people are supported…I think the importance of supporting each other is huge, you know, you're going to get a lot better patient care if you are supportive, rather than blaming people.*

However, Yasmin discusses the challenges she faces when accessing support from more senior colleagues, and her hesitancy requesting assistance when needed. She describes feeling somewhat overwhelmed during these periods and implies that she has nobody to

discuss or pose her questions to. She goes on to describe the impact that this has on her working hours, hinting at the wider implications for work-life balance and a healthy working routine when insufficient levels of support are provided.

[Yasmin, a senior nurse with 4 and a half years of experience] *And then my line manager is great, but she's also the deputy director of the trust, so she's at like that next level of senior management where actually, I can't just bog her down with emails, and calls and texts all the time, because she has so much other stuff to be managing and to be dealing with. So actually, I sit there and I'm a bit like, OK, I don't know what to do, I just don't know what to do. So, my working hours, especially when I'm kind of feeling like this and I kind of go through this period of like, I don't know what the hell to do, I don't know how to manage this, my working hours get really messed up.*

Aside from issues surrounding the accessibility of support, some participants suggest that seeking support from nursing colleagues was not beneficial when outside of the working environment. Instead, it triggered feelings of judgement and insecurity and subsequently left participants second-guessing the decisions that they had made. These participants tended to see these friendships as more formal relationships for reflection and discussion within the working environment and were not seen as a source of support when minimising any negative feelings associated with decision-making. Omar highlights that during more challenging periods of decision-making, he is eager to share this with individuals who do not come from a medical background. He goes on to recognise that this is because he will fall 'even deeper into that spiral' and will ultimately feel worse after having these discussions. It can be inferred that for some, emotional support does not always come from examining the source of the problem, but that perhaps distraction and taking one's mind off it works just as well.

[Omar, a junior nurse with 1 year experience] *Yes, I try not to bring it back with me, but it is hard, most of the time. If I do, I try to share it with someone who is not from a medical background, because then they will be like ah ok, but if you share with someone from a medical background, they'll kind of point out things, and you'll end up going even deeper into that spiral, if that makes sense.*

Participants highlighted the importance of having a good support network outside of the working environment. Having a less formal support system consisting of family and friends allowed participants to discuss issues without judgement, seek personal advice, and switch off from work and the decisions that they had made. Chloe identifies seeking support as a strategy that benefits her most when managing particularly difficult clinical decisions and outcomes.

[Chloe, a senior nurse with 8 years of experience] *I think the most thing that I get the most benefit out of is probably talking with my family or my friends*

However, some participants acknowledged that seeking support from family and friends outside of the working environment was made more complex by patient confidentiality and limitations on what could be shared. Nurses are restricted by whom and to what extent they can discuss work-related matters. This means that participants were not always able to discuss decisions they had made, or the subsequent outcomes with their support network, as described by Kiran.

[Kiran, a junior nurse with 23 years of experience] *There is no point sharing with my family, it is against the policy as well sharing with my husband about particular patients' incidents.*

In instances such as these, where seeking social support is made more complicated by the nature of the nursing role, it is important to consider other strategies used to manage the impact of clinical decision-making. A central theme explored within nurses' responses focused on elements of self-kindness and self-compassion, although this manifested differently for each individual. For some, being self-compassionate appeared to be an active decision during times of suffering, and saw participants engaging in journaling, meditation, as well as breathing techniques. Helen describes her experience of journaling, and how taking the time to care for herself in this way has positively influenced her personal growth and wellbeing. She suggests that having this active awareness of her thoughts has allowed her to develop a deeper understanding of who she is and better manage her feelings. Tia describes similar positive results from engaging in breathing exercises during times of stress, and its success in keeping her centred and aware of her feelings.

[Helen, a senior nurse with 19 years of experience] *So, I'm learning the art of journaling. So actually, writing down situations as they happen, and then looking at why I think certain things, and why I feel the way I feel, and I've learned quite a lot about myself in the last couple of months.*

[Tia, a junior nurse with 1.5 years of experience] *I literally do these breathing techniques until I feel at one with myself again, and I find that really, really helpful.*

Alternatively, most participants exhibited self-compassion through more discrete acts of self-kindness. These included things such as treating themselves to a glass of wine, taking themselves on a walk, or actively trying to process how they were feeling during more difficult times. Regardless of how the self-kindness manifested, it was found to have a positive influence on nurses' outlook and wellbeing. Ben describes how watching Harry Potter, and cooking a healthy meal helps him switch off from the working environment. He identifies this as an activity he does because he enjoys it, but it also allows him to 'unpack' his feelings and look after himself. It can be inferred that being kind to himself in this way allows him to separate himself from his work and the decisions that he's made, supporting his wellbeing and work-life balance as a result.

[Ben, a senior nurse with 14 years of experience] *Having an hour where I can put Harry Potter on the iPad, play it in the background and then just start prepping veg and cooking a meal. Because it's an activity that I'm doing something, but I'm also unpacking and getting a bit of me time.*

Additionally, it is important to note that self-care was a prominent theme across the data, with participants being aware of its importance for health and wellbeing. Participants were conscious of taking care of themselves so that they remained healthy and could continue to carry out their professional duties. Hazel discusses her engagement with self-care, and how she is able to recognise her emotions and engage in activities that reduce feelings of stress and allow her to 'reset' from the day. Hazel suggests that her conscious effort to engage with self-care allows her to manage any negative feelings or emotions that arise.

[Hazel, a senior nurse with 11 years of experience] *If I go home and I'm feeling one way, then I know how to manage that now and, and kind of what to do about it, even if it's just taking the dog around the block for 20 minutes. I'm like, I'm going out for a walk, just need to burn off steam and just give yourself the time to reset, really.*

Given the positive reports of self-care, self-kindness and self-compassion, it is important to note that the nursing role was identified as a barrier to being self-compassionate. Reasons for this varied, with time, demands of the nursing role and prioritisation of patient care being amongst recurrent barriers identified. These factors made it challenging for nurses to practice self-kindness both actively and subconsciously, which is problematic given its acknowledged role in switching off from the working environment and maintaining wellbeing. Louise describes her prioritisation and awareness of patient needs as a factor that complicates her ability to be self-compassionate. Working with patients with complex needs, needs that Louise perceives as far greater than her own prompts a degree of guilt when taking time for herself. This experience was not uncommon across the data and highlights a further barrier for nurses when seeking to manage the impact of clinical decision-making on wellbeing.

[Louise, a senior nurse with 30 years of experience] *So, I think that's yeah, that that's the thing that is difficult when you're being self-compassionate because you think well, I'm alright actually, I'm well and healthy, and this person is in need, and they need my skills.*

Overall, this theme highlights the impact clinical decision-making can have on nurses' wellbeing and work-life balance. If not managed, the degree of responsibility and fear of consequences associated with making these decisions can negatively impact perceptions of

self-worth, heighten feelings of anxiety, and disrupt sleep, thus potentially having wider implications for physical wellbeing. It is important that nurses have a source of support that they are comfortable reaching out to, and that they are encouraged to practice self-kindness and self-compassion. There are noted barriers to both elements that must be considered when seeking to support nurses' wellbeing.

Theme 3: 'We're trained to listen to what other people are telling us to do'

This final theme acknowledges the importance of organisation-led training and education when supporting nurses through the clinical decision-making process. With an earlier theme highlighting the blame culture and focus on consequences that currently exist within the healthcare service, it is important that nurses are adequately supported from a higher organisational level. This theme explores existing training opportunities concerning potential strategies that could be implemented to further support participants with clinical decision-making.

Most participants acknowledged their growing involvement in clinical decision-making over recent years. However, whilst the role has adapted, it appears that training has not, meaning that nurses have not been taught how to make clinical decisions and are required to take a more experience-driven approach. Claire discusses the magnitude of changes to the nursing role, listing decisions and behaviours that she is now required to make that would previously never have been her responsibility. It can be inferred that during these periods, it would not have been necessary for nurses to receive much training in decision-making, as this was not a requirement of their role. However, since the evolution of the nursing role, it appears that organisation-led education and policy guidance have not been updated, meaning that nurses are making and implementing decisions using the knowledge acquired from professional experiences over the years. She goes on to state that she has never

been taught to make clinical decisions, and the only support she has received has come from a self-driven university education.

[Claire, a senior nurse with 25 years of experience] *I think almost more in the nurse training would have been helpful. I trained a long time ago, and we didn't really make clinical decisions…we didn't give second-dose antibiotics, we didn't give first-dose antibiotics, we didn't give IVs, they were doctor's jobs. So, we never really learned to clinically decision make, that something that's come with time. Although I've done courses from a Master's about history taking, we actually have never learned to clinically decision make, that's had to come from experience.*

Participants highlight fundamental differences between the support provided towards physician decision-making when compared to nurses' decision-making. Whilst acknowledging clear differences between the two roles, Louise notes disparities in the levels of support provided. She identifies the speed of progression within the nursing role as a potential reason for these differences, suggesting that organisation-led training has not been able to keep up.

Given the noted difference in levels of support, it is unsurprising that nurses report how in comparison to physicians, they navigate decision-making differently. Louise suggests that doctors take a more systematic approach to decision-making and have a degree of confidence that prevents them from worrying or ruminating about the decision or its impact. She acknowledges that this is a result of the training and education they have received. Louise, alongside other participants, note that nurses have a greater tendency to ruminate and over-think the decisions that are made. It can be inferred that these differences may be a

result of shortfalls in nurses' training and not being guided to make decisions systematically in the way that physicians are.

[Louise, a senior nurse with 30 years of experience]: *You know when you see doctors and they go 'right, I just made a decision, alright then bye'. And you're like oh Christ do you not even want to know what's gonna happen? You know they've got that sort of inbuilt within their education, within their training, within their peer group, where they just, you make a decision, you made it in the best faith, what happens now is in the lap of the gods, whereas nurses go you've made a decision *acts panicked*, do you know what I mean? It's very different.*

Helen further supports the notion that training is somewhat insufficient for nursing professionals and hints that this may be a reason for the rumination and over-thinking that has been seen to surround clinical decision-making within the data. She states that nurses are not trained to trust their intuition, despite having years of professional experience in the role. If nurses are not taught to trust their own instincts and decisions, it is unsurprising that self-doubt and rumination was a common experience of clinical decision-making amongst the participants.

[Helen, a senior nurse with 19 years of experience] *I don't think we're trained to trust our intuition very well; we're trained to listen to what other people are telling us to do.*

Data suggests that there is a lack of clarity surrounding the nursing role and nurses' involvement in clinical decision-making. This lack of clarity was evident among patients, other healthcare roles, as well as nursing professionals themselves. Participants discuss

interactions with these groups and highlight their shared misunderstanding of what the nursing role now encompasses and the responsibilities that they adopt. This stemmed from a lack of awareness surrounding the development of the nursing role and the enhanced skillset that is now required. This was evident in Tia's interactions with patients, where she highlighted patients' outdated view of the nursing role.

[Tia, a junior nurse with 1.5 years of experience] *The role of the nurse is so misunderstood, and they don't realise how many skills that we do have now that we're able to attend to (Referring to patients).*

This lack of clarity appeared to be evident amongst nursing professionals too, although in a different manner. Participants at times were uncertain as to which decisions fell within their domain to make, and which decisions needed to be escalated to other healthcare roles. This implies that whilst nurses play an active role in clinical decision-making, there is not complete clarity around the boundaries put in place. Bethany describes the dilemma she faces in these scenarios, where she is mindful about what decisions she is referring to colleagues, and which decisions she will 'get on and do'. Most participants felt capable of making these decisions themselves and wanted to remain autonomous, yet they felt responsible for involving other healthcare roles. This highlights the need for further clarity and education so that nurses are confident as to their role in decision-making and are able to implement this without hesitation when appropriate.

[Bethany, a senior nurse with 27 years of experience] *I guess then you're on this sort of threshold of deciding, well, what are you gonna ring the consultant about and ask, because*

we won't ring them about every decision. But you know, you're thinking about ok what will I ring them and ask them about? And what will I just get on and do?

A potential reason for the lack of clarity surrounding nurses' involvement in clinical decision-making is the recency of support and guidance available. Participants highlighted that training around decision-making, and the policies available had not progressed at the same rate as the nursing role. Having guidance that is inconsistent with the reality of nursing practice is inevitably going to create some confusion amongst participants. Claire discusses the available policies, suggesting that they do not accurately capture nurses' increased involvement in clinical decision-making. She highlights that her team is expanding in both size and responsibility and that the policies do not adequately reflect this.

[Claire, a senior nurse with 25 years of experience] *We've realised that we're a growing team and a lot of them (policies) are really old and out of date.*

This is problematic because the data suggests that having clear policies and guidelines is a source of support and means of coping with clinical decision-making. Participants describe gaining comfort from the guidelines when navigating particularly challenging or complex decisions, and the security it provides if things do not go to plan. Jack, a senior nurse, discusses the use of procedures and policies as a line of defence when questioned about the decisions that are made. Linking back to the earlier theme of 'we're not doctors handmaidens anymore' where consequences appeared to be a central consideration when making decisions, it can be inferred that having clear policies and guidance can help minimise any apprehension about the implications of decisions. It is therefore important to

have up-to-date policies that accurately represent nurses' increased involvement in decision-making if nurses are to be supported within their role.

[Jack, a senior nurse with 14 years of experience] *From my perspective, I think if I follow the procedures and the policies then it can't be questioned too much.*

Accompanying rigorous policies and guidance, clinical supervision was identified as an essential source of support that allowed nurses the opportunity to reflect and seek guidance for decisions that are made. Despite its importance, participants felt that models of clinical supervision were not sufficient within healthcare structures, and that such opportunities for support were not readily available. Katie discusses the irregularity of her clinical supervision meetings, despite being promised these regularly. She goes on to state her dissatisfaction because of this, and the lack of opportunity to speak to people about the decisions that are made.

[Katie, a senior nurse with 40 years of experience] *Well, I've been there now nearly ten months, and so far, I've been to three clinical meetings in 10 months, and there isn't the opportunity to speak to people.*

Most participants discussed the need for improved models of clinical supervision and identified this as an area that would support their clinical decision-making further. Some participants noted that whilst this is present during the very early stages of nursing, it is something that needs to be implemented throughout the nursing career. Ben suggests that different healthcare roles, such as advanced nurse practitioners and medics have this built into their roles and prioritised, however, this is not the case within nursing. He goes on to suggest

that senior nurses in particular are a group who have minimal support, due to their focus on supporting and building 'well-organised structures of clinical supervision' for their junior colleagues. This implies that nurses currently have to self-direct their decision-making education and support, highlighting the need for formal guidance on an organisational level.

[Ben, a senior nurse with 14 years of experience] *Nursing as a profession is really rubbish at models of clinical supervision. Mental health nursing does this really well, AHPs do this really well, nurses do not. I would benefit from well-organised structures of clinical supervision. I do not benefit because at the minute I am building that for my team. I'm trying to design that and put that in place, but I need it myself.*

Participants highlighted senior nursing roles as a particular group who did not receive adequate support with their decision-making skills and professional development. A reason for this was that training tended to be very management and leadership-based, as opposed to tailored towards senior clinical decision-making. An alternative reason for this was the tendency for senior nurses to prioritise junior nurses, ensuring that junior staff felt supported. Participants described feeling unsupported and not wanting their staff to have similar experiences. For this reason, Chloe, along with other participants, prioritised taking stress away from other members of staff, at times to their own detriment.

[Chloe, a senior nurse with 8 years of experience] *I suppose stress management for me I think, I'm more trying to take away stress from other nurses.*

The data suggests that nurses are compelled to take charge of their learning and education in clinical decision-making due to reported deficiencies in clinical supervision and

organisational support. Participants were eager to aid their professional development and evolve alongside the nursing role, and so many discussed potential (or existing) enrolment onto training courses and university modules. Unfortunately, due to limitations in organisation-led support, Hazel saw self-directed learning as the only way to progress and further her knowledge. Her willingness to attend university to aid complex decision-making demonstrates the active role nurses take in developing professionally.

[Hazel, a senior nurse with 11 years of experience] *I think only self-learning is going to be the way I'm going to be able to drive myself forward in the decisions that I make… hopefully come September when I go back to university, that will start to change again, and I'll be able to make far more complex decisions.*

With participants taking such proactive approaches to learning, it is clear that furthering knowledge is important to individuals within the profession. Maya emphasises the importance of continual educational development not only for her clinical decision-making, but also for the quality of patient care provided. It is therefore important that training accurately captures the evolved nursing role and remains up to date to allow for continual professional development and the provision of optimal patient care.

[Maya, a senior nurse with 7 years of experience] *I think continual educational development is so important because if I'm making, you know, complex decision making, which I am, obviously my past experience feeds into that, but when new trials come along with new conditions, if I don't know what those conditions are, and how they're routinely managed or what drugs they routinely take, it really affects my ability to be able to provide the patient with appropriate information and guidance.*

Overall, this theme highlights the importance of organisation-led training and education to support nurses' clinical decision-making. It is important that the policies and guidance provided accurately represent nurses' involvement in clinical decision-making so that nurses have advice to refer to if necessary. Current models of training and clinical supervision appear to be insufficient and require updating to encompass developments across the nursing role. Tailoring training on clinical decision-making towards clinical nurses as opposed to management and leadership roles would benefit both nurses' professional development as well as patient care and wellbeing.

7.6. Discussion

This research aimed to explore nurses' experiences of clinical decision-making in relation to its impact on wellbeing, and the strategies used to mitigate any acknowledged effect. Given that previous research acknowledges relations between decision-making and wellbeing more broadly (Páez-Gallego et al., 2020; Ravneet & Kawaljit, 2021), exploration of various coping behaviours, self-compassion, and existing support offers valuable insight into nurses' experiences. Overall, the findings of the present study support existing research (Couarraze et al., 2023; McFadden et al., 2021; Savic et al., 2019), delineating the importance of adaptive coping strategies and organisation-led support, and training opportunities. The present study builds upon existing knowledge, looking at these elements in the context of clinical decision-making specifically.

Participants recognised significant changes within their roles, both in terms of autonomy and responsibility. These developments were widely accredited to the evolution of the nursing profession, and their increased involvement in clinical decision-making. These findings align with existing literature which highlights the increasing complexity of clinical situations, and the growing responsibilities placed upon nursing professionals (Alonso et al.,

2015; Drotz & Poksinska, 2014; Hansson et al., 2008; NHS England, 2021; Rafferty & Griffin, 2006; Simmons, 2010; Chan, 2013). Interestingly, participants highlighted significant changes in the steps to gaining nursing qualifications. Nurses are now required to be educated to degree level, gaining a more thorough understanding of professional values and how to integrate these into practice (Sibandze & Scafide, 2018). Rizany et al. (2018) suggest that the educational level achieved significantly predicted nurses' competence, and so it can be inferred that the observed increase in autonomy and responsibility across nursing roles may be attributed to the level of education now received during early stages of the nursing career. Such changes were generally judged quite favourably, with participants indicating that their increased autonomy is fundamental when providing optimal patient care; nurses discussed the unique therapeutic relationship held between nurses and patients and how being in an autonomous position allows them to advocate for patients in a way that no other healthcare role could. It is widely accepted that nursing professionals have a unique understanding of patient needs due to the duration of time spent with the patient, thus supporting the importance of nurses' autonomy (Butler et al., 2018). Findings regarding the positive view of autonomy therefore echo the findings reported in Chapter 3, where control decision-latitude was seen to weaken the negative relationship between clinical decision-making and physical health. It was inferred that possessing control over decisions may mitigate any negative impact of decision-making on nurses' physical health, thus supporting wellbeing. Therefore, autonomy over decision-making appears to not only aid effective and efficient patient care but also reduce nurses' frustration and maintain physical wellbeing.

Some participants discussed the changes brought about during the COVID-19 pandemic, and the positive influence that this had on independence and professional practice going forward. Research highlights the positive impact the pandemic had on various aspects of nursing practice (Ribeiro et al., 2023) and how nursing leaders were encouraged to listen

and understand nurses' concerns (Jingxia et al., 2022). However, there is little research into the longevity of these changes and what this means for the nursing role. The present study suggests that the changes to nursing practice are still observed in the post-pandemic years and that this has contributed towards the shift in nurses' responsibility and increased involvement in clinical decisions.

The present study revealed the complex relationship between clinical decision-making and nurses' wellbeing, with participants highlighting implications on work-life balance, sleep patterns, and psychological health. Interestingly, it was the accountability and responsibility that accompanies decision-making that prompted rumination and negatively impacted on nurses' sleep and work-life balance. These findings align with and build upon the findings reported in Chapter 3, whereby nurses' clinical decision-making related negatively to physical health. The current Chapter suggests a potential avenue in which clinical decision-making and physical health relate, with accountability and rumination influencing sleep behaviours. It is well established that quantity and quality of sleep are vital when maintaining one's physical health (National Heart, Lung, and Blood Institute, 2022). Interestingly, much of the existing literature on decision-making and sleep looks at the relationship inversely, exploring the impact lack of sleep has upon decision-making skills (Lau et al., 2019; Salfi et al., 2020). The current findings build upon these, suggesting that decision-making can impact nurses' ability to get to sleep or sleep quality. According to the literature, this has implications for individual physical and psychological wellbeing, as well as the quality of decisions made (Brunet et al., 2020).

Fear of consequences became a significant indicator of decision-making across nursing professionals, with participants contemplating litigation and distribution of blame when making decisions. These factors in particular negatively influenced nurses' wellbeing, prompting rumination of decisions and feelings of anxiety. These findings were unsurprising

given that working in an environment with a negative blame culture is associated with psychological stress and trauma amongst nursing professionals (Okpala, 2018). Participants highlighted the importance of both social and organisational support when overcoming these issues and managing the impact of decision-making. Social support is widely acknowledged as an effective coping strategy lending itself to greater life satisfaction and wellbeing outcomes (Miao et al., 2021; Koelmel et al., 2017; Liu et al., 2021). However, seeking social support was not always possible, due to restrictions surrounding patient confidentiality and subsequent limitations on what can be shared with family and friends. In these instances, it is important for nurses to consider further strategies to minimise the impact of decision-making if wellbeing is to be supported.

Self-compassion was identified as an area that may potentially support nurses' wellbeing. This was expressed as small acts of self-kindness within the present study and involved becoming aware of negative emotions and taking 'time out' to do things that they enjoyed during particularly stressful decision-making periods. In doing this, nurses felt their wellbeing was enhanced and they were able to cope with decision-making and its implications better. This aligns with a wealth of literature, emphasising the positive impact of self-compassion on wellbeing and the ability to cope with stressors (Ewert et al., 2021; Phillips & Hine, 2019; Sirois et al., 2015). The positive perceptions of self-compassion on wellbeing align partially with the results of previous Chapters within the thesis, although Chapter 3 revealed a complex relationship with physical health. Within this Chapter, self-compassion was seen to strengthen the negative relationship between clinical decision-making and physical health, despite its positive impact on mental wellbeing. The current Chapter offers an interesting explanation for this; within the current study, nurses frequently implemented self-compassion through small acts of self-kindness, including having a glass of wine, treating oneself to a takeaway meal as opposed to cooking and watching television.

Although these behaviours appeared to positive influence psychological wellbeing, it is unlikely that drinking alcohol, eating unhealthy food and sitting stationary will positively influence physical health. The current study therefore offers explanation as to why contrasting impacts were observed for physical health and mental health within Chapter 3.

Moreover, the nursing role was identified as a barrier to self-compassion, with participants revealing that organisational factors such as time and prioritisation of patient care influenced one's ability to be self-compassionate. Self-compassion was seen as a 'luxury' whereby practical demands came first. This aligns with existing literature on self-compassion where work demands, irregular break patterns, and prioritisation of patient care were identified as significant barriers for nursing professionals (Egan et al., 2019). Gurné et al. (2021) found that nurses were less likely to say no to completing tasks for patients when compared to other healthcare professions. This further supports the notion that patient demands, and patient care impinge on nurses' ability to take time for themselves to be self-compassionate.

Given limitations in personal coping behaviours, it is important to consider organisational structures for support. Participants highlighted flaws in training and education opportunities, suggesting that policies are somewhat outdated and do not accurately capture nurses' increased involvement in clinical decision-making. It can be inferred that limitations in policy and guidance are also responsible for the lack of clarity that appears to surround the nursing role, with nurses having to justify their role and manage ambiguity at times. Receiving thorough training is not only vital when ensuring patients are receiving high-quality and up-to-date care, but also for reducing nurses' anxiety and apprehension (Couarraze et al., 2023; Kalogianni et al., 2016; Mlambo et al., 2021). It is therefore suggested that healthcare structures implement greater opportunities for organisation-led

education and training, to support nurses' decision-making, and minimise any negative impact on wellbeing.

Overall findings offer support for previous conclusions drawn surrounding relations between clinical decision-making and wellbeing, as well as the importance of social and organisational support.

Limitations

There are important limitations to acknowledge within the present study. The majority of participants in the present study were female, with just 26% of the sample identifying as male. Whilst this surpasses male representation within the UK nursing workforce (11.7% in 2023; Nursing & Midwifery Council, 2023b), it is important to acknowledge potential gender differences. Research reports gender differences in both self-compassion and style of coping (Ferrari et al., 2023; Graves et al., 2021) and so future research would benefit from exploring any differences with male nurses to further validate conclusions reached. Secondly, despite efforts to enhance participation from under-represented groups, 83% of the sample identified as 'White', suggesting that the data may not be representative of the UK nursing workforce (67.4% of nurses and health visitors identified as White in 2022; UK Government, 2023). With research highlighting significant differences in styles of coping across different ethnicities, it is important to consider the role of culture and ethnicity when seeking to generalise the findings (Weiss et al., 2017). Future research should seek to replicate the present study on a more diverse sample if conclusions are to be supported. Finally, online interviews were used to collect data for the present study. Online interview techniques can make it more difficult to establish rapport with participants, given the limited non-verbal communication cues and challenges portraying mood and emotion (Jowett et al., 2011). With rapport increasing trust and the depth of information provided by participants, it can be inferred that using online interviews within the present study did not optimise the depth of

data collected (Abbe & Brandon, 2014). However, compared to other online methods of data collection, video calls most closely resemble in-person qualitative interviews whilst still overcoming the scheduling issues associated with in-person interviews (Tuttas, 2015; de Villiers et al., 2022). This strategy was therefore selected to accommodate scheduling issues associated with the shift-work nature of the nursing role.

Conclusion

Overall, this research offers insight into nurses' experiences of clinical decision-making in relation to its impact on wellbeing and potential strategies of support. This research highlights the impact clinical decision-making has on an individual's ability to achieve a healthy work-life balance, with implications extending to nurses' professional and psychological wellbeing. The findings of this study provide clarity into the importance of regular organisation-led support and training, to equip nurses with the skills to navigate clinical decision-making and minimise its effect both inside and outside of the working environment. Future research should explore the role of organisational support in greater detail to further understanding of effective coping strategies and allow healthcare organisations to facilitate elements to support nurses' management of the decision-making process. Implications extend beyond an individual level, with nurses' wellbeing dictating the quality of care administered.

7.7. Chapter Summary

Chapter 7 offered insight into nurses' lived experiences of clinical decision-making, the challenges faced, and common coping mechanisms engaged with. Below is a summary of the key findings and practical implications for nursing practice and wellbeing.

Key Findings

- The nursing role has evolved over recent years, with nurses assuming greater autonomy and responsibility in decision-making. Nurses tend to enjoy more autonomous decision-making when adequately supported.

- Accountability, lack of training and limited support all exacerbate the impact of clinical decision-making on nurses' wellbeing

- Nurses did not demonstrate a good conceptual understanding of self-compassion and viewed self-compassion as a 'luxury' they could not afford. The nursing role presents significant barriers to being self-compassionate, including time constraints and the prioritisation of patient needs.

- Senior nursing roles in particular felt less supported with their clinical decision-making, a result of prioritising more junior roles and having limited access to more senior figures.

Practical Implications

- Healthcare organisations should work alongside nursing professionals to develop a training resource or set of guidelines to support and facilitate nurses' decision-making. Currently, training, guidelines and policies do not appear to accurately capture nurses' increased involvement in decision-making and support is therefore insufficient. Healthcare organisations would benefit from working closely with nurses to ensure training is thorough, accurate and meets the specific needs of nursing professions. It is inferred that this would support nurses' clinical decision-making and mitigate any impact on health or wellbeing.

- Nurses need to be granted capacity to be self-compassionate both inside and outside of the workplace. Healthcare organisations should seek to tackle the barriers faced by nursing professionals within the working environment. Nurses demonstrated a lack of conceptual understanding around self-compassion and

once informed, felt they did not have the time or capacity to be self-compassionate due to their roles. It is therefore important for healthcare organisations to promote understanding of self-compassion through education (workshops, mandatory wellbeing training) and put measures in place to ensure this can be implemented (e.g. breaks, sufficient staffing, realistic work demands). Similarly, nurses must ensure they are actively engaging with self-compassion, utilising the organisational support provided and prioritise their own needs. It can be inferred that self-compassion education combined with nurses' active effort and involvement would mitigate any negative impact associated with clinical decision-making.

CHAPTER 8: DISSEMINATION STUDY

This chapter details the dissemination activities conducted as part of this research project. The aim of these dissemination events was to ensure that the findings of each study within the project were relevant and applicable for nursing professionals, and to gain insight into how these can influence practice and policy going forward, within the healthcare environment. Effective dissemination is important when seeking to maximise the social, political, and economic impact of research and to foster change within the target environment (Marín-González et al., 2017). This is particularly important across the healthcare environment where research informs evidence-based practice, and dissemination supports the transition from evidence to practice effectively (Chien, 2019). For this reason, dissemination has been seen to impact the practice of all aspects of nursing (Barría, 2022). It was therefore important to share the research findings with nursing professionals to promote discussion around the application of these findings in reality, and how nurses can be supported through the clinical decision-making process. For the purpose of this thesis, the dissemination event was split into two different activities, which are described in detail below.

Ethical considerations

Ethical approval was granted by the Business, Law and Social Sciences Ethics Committee at Birmingham City University (Miley #12759 /sub2 /R(B) /2024 /Feb /BLSS FAEC).

8.1. Dissemination Event One: Dissemination Meeting

8.1.1. Design

The first phase of this dissemination study utilised a mixed methods approach to evaluate the relevance and practicality of the current project results amongst nursing professionals. A virtual meeting was held via Microsoft Teams to discuss the research findings, their relevance

for practice and potential future directions. The researcher disseminated the findings through a PowerPoint presentation, which detailed the results of the five studies conducted for this doctoral thesis. Upon delivery of the presentation, the researcher prompted discussion amongst participants to gain further insight into whether findings resonated with their practice, any surprising findings, and potential areas of support for decision-making going forward. The researcher utilised a pre-prepared guide (see Appendix E) to direct conversations, ensuring that discussions remained relevant and focused on the study findings. The dissemination meeting lasted approximately 90 minutes. Once the meeting was completed, participants were asked to complete a short follow-up survey which offered participants the opportunity to discuss any elements that were not covered in the meeting and highlight which findings they found particularly influential.

8.1.2. Participants

A total of seven participants (M^{age} = 38, SD = 12.71) attended the online dissemination activity. A strict inclusion criterion meant that all participants were nursing professionals practising across the United Kingdom. Within the current study, all participants were female and worked in various nursing specialities (gynaecology, elderly care, cancer, child health/ complex care, inpatient rehabilitation/ liaison psychiatry). Participants had worked in the nursing profession for an average of 9 years (SD = 8.46) and worked an average of 39.5 hours each week (SD = 1.81).

8.1.3. Procedure

The dissemination event occurred in May 2024. The researcher utilised various social media platforms to advertise the online discussion and to recruit nursing professionals from across the United Kingdom. Potential participants registered their interest via email or direct message on X. The researcher then proceeded to forward a detailed information sheet to

potential participants who had responded to the online advertisement and answered any questions that they had. For the participants who had read the information sheet, and were still happy to take part, the researcher proceeded to arrange a suitable day/time for the dissemination meeting to occur. At this point, the researcher also forwarded a consent form and a short demographic questionnaire for participants to complete. Nursing professionals then attended an online discussion held via Microsoft Teams. The researcher informed participants of the overall findings from the research project using a PowerPoint presentation. This lasted around 10 minutes. The researcher then invited participants to discuss and evaluate the research findings, and how relevant they were for their own practices. Participants were also asked whether they would benefit from more support with clinical decision-making, and what support they feel should be implemented going forward. The dissemination discussion lasted around 80 minutes in total. All participation was completely voluntary, and it was made clear that they could stop the meeting at any point and withdraw their data should they wish to, although no participants exercised these rights. Upon completion of the group discussion, participants were asked to complete a follow-up survey; this was used to capture any take-home messages or additional points they did not discuss within the online meeting. Participants were then sent a debrief to conclude their participation.

8.1.4. Data Analysis

The meeting was transcribed verbatim. Data was analysed using a qualitative content analysis, selected for its ability to systematically analyse qualitative material to reveal the topics, themes, and meaning within the data (Mayring, 2023; Williamson et al., 2018). This was selected over a quantitative content analysis as it goes beyond the numeric relationships and offers a semantic understanding of the data (Schöggl et al., 2020). The main themes identified within the data included agreement with the research findings, a lack of clinical

support with decision-making, and barriers to clinical decision-making. Discussions are summarised in the results section.

8.1.5. Results

General consensus of the discussions alluded to the fact that the thesis results accurately capture participants' own experiences of clinical decision-making within the nursing role. Participants concurred that the nursing role has evolved over time and has become more autonomous. Maisie suggests that this autonomy often goes unrecognised, a result of nurses being required to go 'above and beyond' their role description. The act of doing this and seeking to expand one's practice allows nurses to become autonomous, but also means that other healthcare roles, or more senior nursing positions do not understand or acknowledge the independence and accountability held by nursing professionals; This in turn influences the level of support nurses are receiving with their clinical decision-making. These findings corroborate the results of Chapter 7, where the evolution of the nursing role was a key theme across the data and encompassed the growing levels of responsibility and autonomy within nursing professions.

[Maisie, senior nurse with 16 years of nursing experience] *I think we all expand our scope of practice to a level that sometimes, the matrons or heads of nursing don't always understand or know what we're doing, so that autonomy isn't necessarily recognised. So, you might have a role description where there isn't a lot of autonomy, but because you're allowed to flourish and grow and expand your practice, then you become a lot more autonomous, but then the support doesn't come with that.*

Given the described misunderstanding of the nursing role from other healthcare professions, specialities, and more senior nursing positions described in Chapter 7, it is

unsurprising that participants identified other healthcare professionals as a significant barrier to clinical decision-making. Participants described a challenging relationship with more senior positions, particularly medical staff, when gaining the respect and trust to make and implement decisions. Abigail discusses notable changes in nursing training, and how nurses are better equipped to vocalise the decisions that are made. Despite this, participants suggest that a hierarchy amongst staff persists, and nurses' enhanced confidence and skills when vocalising decisions is not respected or supported in reality. Abigail relates to a particular quote from Chapter 7 whereby participants suggest they are seen as 'handmaidens' by medical staff. The quote was presented within the dissemination workshop and stated, "Because nursing has developed, we're not doctors handmaidens anymore, we're autonomous practitioners". These comments further support the relevance of the research presented within this thesis and its application to nursing professionals.

[Abigail, a senior nurse with 14 years of nursing experience] *Training for nurses has changed over the decades and we are seeing you know, master's students coming out and being much more vocal, and that's great to hear, but I don't think the medical teams are respectful of that, and there's definitely still that hierarchy, that quote about being the nurse maid, or the handmaiden, I was like that's still a thing... I've been doing this role for 2 and a half years now, when, yeah, I don't feel that any of my comments, decisions, suggestions are taken on board at all.*

While Abigail highlights contemporary differences in training and education with upcoming nurses, many of the participants within these discussions describe how it was experience that dictated their clinical decision-making skills and abilities. Rosie suggests that her clinical decision-making skills have stemmed from a 'learn as you go' approach, as

opposed to vigorous and specific training. When seeking support with these decisions, participants highlight the importance of peer support. Participants described the value of networking with different specialities and seniorities, and how important it was to establish a group of people that can answer queries and offer advice. Maisie is an example of this, highlighting the importance of not only having a group to go to, but knowing their purpose and ability to offer support.

[Rosie, a senior nurse with 24 years of nursing experience] *I think my experience has sort of been very much learn as you go.*

[Maisie, senior nurse with 16 years of nursing experience] *But yeah, it's definitely finding your people, knowing who you can go to and who you go to for different things* as well.

Alongside informal peer support, clinical supervision was identified as an important factor when supporting nurses' confidence when navigating clinical decision-making, when furthering understanding of the decisions that were made, and when seeking support to separate oneself from the decisions that were made. Olivia describes her positive experience of clinical supervision, and how she found it beneficial when aiding her confidence in making decisions. She goes on to highlight its value for all nursing staff and agrees with Abigail, who suggested that clinical supervision should be mandatory.

[Olivia, senior nurse with 4 years of nursing experience] *I had clinical supervision and found that it was really beneficial and even to the point where I was having discussions with everyone, like everyone should have it. And Abigail was saying about it being mandatory to*

get the uptake, maybe that would be what you'd have to do, but I personally found it very

beneficial.

However, despite the benefits identified by Olivia, there does not appear to be a good understanding of clinical supervision across the nursing profession, and it was not seen to be a priority across healthcare settings.

[Maisie, senior nurse with 16 years of nursing experience] *I don't think the staff in my trust either understand what clinical supervision is, or at least how it can be valuable to them, and that it's worthwhile taking the time out to come along to it.*

Participants also identified other barriers to optimising the use of clinical supervision, including timing issues. Leah discusses her own experience of missing clinical supervision, and how she would like to attend supervision, but sometimes feels that others' needs exceed her own. Prioritising her patients' needs in this way means that she is unable to dedicate the time to attend supervision and get support with her clinical decision-making.

[Leah, junior nurse with 2 years of nursing experience] *I know that in my clinical supervision sessions, when I've not been able to do them, it's because someone's been having like a physical or mental health crisis and I can't be like, oh, can you just hang on for two seconds, stop bleeding, I need to go and do my clinical supervision.*

When discussing what could be done going forward to help nurses cope and manage clinical decision-making, participants highlighted the importance of thorough training, a 'buddy system' to allow for observation and support, as well as mandatory clinical

supervision. Such factors rely on organisation-level support and structure to be implemented, to accommodate this. Maisie suggests that these strategies need to be seen from the initial preceptorship stage so that the culture around seeking support for decision-making is changed from the beginning. Engagement with these elements needs to be seen as valuable and important for navigating clinical decision-making, and the stigma around seeking support from these strategies needs to be removed. It should be emphasised that such elements are available to compliment and support nurses' own experiences as opposed to undermining autonomy and knowledge.

[Maisie, senior nurse with 16 years of nursing experience] *'I think unless it's mandatory, unless it's in the policies and procedures, whatever you're trying to put in place, whether that's clinical supervision or training, it's just not gonna happen, sadly'*

[Maisie, senior nurse with 16 years of nursing experience] *'I've been trying to roll out these competencies, and I've gone to nurses, CNS' and they've said, what do I need that for? I've been doing this job for 23 years, there's nothing that I don't know pet. And it's like eh, I don't need support, I've got my ways of dealing with stuff, I don't need clinical supervision'… and so for me, I think it's very much starting with pre-registration and getting that culture to move forward with them.*

8.2. Dissemination Event Two: Online Presentation and Feedback Forms

8.2.1. Design

The second phase of this dissemination study utilised an online survey format to assess the relevance of the current research findings for nursing professionals. A short video detailing each research study, and the subsequent findings was published on the researcher's

YouTube account. This video was integrated within the survey so that participants could watch the video before continuing to provide their feedback through the follow-up questions. The majority of the questions utilised an open-ended format in order to encourage participants to construct their own responses, thus avoiding potential bias that would stem from suggesting responses to participants (Desai & Reimers, 2019). Sample questions include: 'Are there any findings that you found particularly surprising? Why was this?' and 'What support is currently available when undertaking clinical decisions?'. By not restricting respondents' thoughts in this way, it can be inferred that responses are reflective of their true thoughts on the research conducted.

8.2.2. Participants

A total of 94 participants accessed the current study and watched the dissemination presentation on YouTube. A further 22 participants (M^{age} = 43.9 years, SD = 9.02) completed the online feedback forms, offering insight into their thoughts on the research and future directions. Majority of the sample were female (n = 19, 86.4%) and worked in a senior nursing position (n = 20, 90.9%). The average number of years worked in the nursing profession was 16 years (SD = 10.95), with a mean number of 37.5 hours per week (SD = 8.10).

8.2.3. Procedure

Data collection for the second dissemination activity occurred during June 2024. Participants responded to an online invitation posted on X to take part in the study, before being directed to Question Pro to read the participant information sheet, consent form and watch the dissemination video. The dissemination video was a pre-recorded PowerPoint presentation, detailing the results of the current doctoral thesis. Once participants had watched the short video, they were presented with a series of questions which were designed

to capture how relevant the findings were in light of their own experiences, as well as what support they felt would benefit them going forward. Upon completion, participants were directed to a debrief form, where their right to withdraw was reiterated, and support networks were provided.

8.2.4. Data Analysis

Survey data was analysed using a conceptual content analysis, allowing inferences to be made from the existence and frequency of concepts in participants' responses through systematically coding data to identify themes (Hsieh & Shannon, 2005). This analysis strategy allowed the researcher to organise and elicit meaning from a data set to draw realistic conclusions about nurses' thoughts on the research data and areas of support going forward (Bengtsson, 2016).

8.2.5. Results

Having watched the PowerPoint presentation, 24 nurses completed the follow-up survey to offer feedback on the findings of this doctoral research. The majority of participants were not surprised by any of the research findings ($n = 16$, 66%), with issues surrounding the impact of decision-making, challenges of being self-compassionate, and inadequate levels of support being common and recurring issues identified across the nursing sample. Regarding the impact of decision-making on wellbeing, five participants identified its relationship with sleep, anxiety, and an inability to switch off outside of the working environment, echoing the thesis findings (*'The sleepless nights and increased anxiety linked with autonomy'*). A further 9 participants highlighted their interest and relatability to issues surrounding self-compassion, whereby participants suggest that *'self-compassion is not encouraged enough throughout training and whilst working'* and that *'self-compassion can mean so much but takes energy and dedication to do it and if you already maxed out then this is an easy thing to let slip.'*

Responses once again echo the findings of the previous chapter, whereby nurses discuss the challenges they face with implementing and practising self-compassion in their professional and personal lives.

Secondly, the feedback provided by participants within the dissemination study highlighted that much of the sample had not received training specific to clinical decision-making, although some acknowledged its integration within other forms of training, such as prescribing and advanced clinical practice. A total of 76% (of those who answered) said that they would like to receive further training specific to clinical decision-making going forward. Participants who highlighted receiving clinical decision-making training found that it was beneficial to their practice, although seven participants also suggested that it was limited, sometimes out of date, and often not accessible. These responses reiterate the findings of the previous chapters whereby training and support around decision-making has been identified as insufficient.

Relating to nurses' desire for further training, participants discussed the importance of providing these during the earlier stages of the nursing career, such as preceptorship, as well as mandating these training opportunities. Participants also acknowledged several key barriers to integrating sufficient training and support. Finances ($n = 8$, 36%), staff shortages ($n = 5$, 23%) and gaining support from other healthcare professions and more senior roles ($n = 5$, 23%) were all identified as current and foreseeable issues when seeking to support nurses through the decision-making process. These findings highlight the need for organisational assistance when seeking to support nurses' clinical decision-making, once again reiterating the findings of the previous thesis chapter.

8.3. Conclusion

The dissemination events provide the researcher with an understanding of the relevance of the findings and how they can inform current advice and practice in supporting

nurses with clinical decision-making. Overall, nurses related to the findings of the previous research, particularly surrounding elements of increasing autonomy, acknowledged barriers to clinical decision-making, and the need for clinical supervision to minimise the impact of clinical decision-making on wellbeing. Nurses highlighted significant changes to the nursing role over recent years, with increased responsibility and accountability. These elements were identified as significant stressors when support has not been provided. Although changes to the nursing role have been acknowledged by nursing professionals, participants highlight that this is not widely accepted or acknowledged by other healthcare professions. Due to this, there remains a hierarchy amongst healthcare staff, whereby nurses do not always feel listened to; this acted as a barrier to nurses' clinical decision-making and enhanced feelings of frustration. Nursing professionals were keen to overcome the hierarchy that remains within the healthcare environment to prevent conflict and encourage cohesion with other healthcare professionals and more senior nursing roles.

Importantly, nurses identified training and supervision as an area that could support clinical decision-making and further manage its impact. Participants suggest that although there are elements of decision-making incorporated into other forms of training, such as prescribing courses, and advanced clinical practice training, there are very few structured training opportunities with a focus on decision-making in the clinical environment. The majority of participants indicated that this is something they would benefit from and would like to see provided by healthcare organisations. Specifically, embedding opportunities for observation and shadowing into training was identified as particularly beneficial. It is therefore recommended that organisations, such as the UK's National Health Service, should consider these suggestions when upskilling and supporting nurses' development. Another prominent theme amongst the data refers to the importance of clinical supervision and ensuring that this is accessible for all. Nurses highlight the benefits of clinical supervision

when approaching decision-making, reflecting upon the decisions that are made, as well as seeking support and reassurance. Despite this, engagement with clinical supervision does not appear to be optimal, a result of not having the time, understanding or access to attend. Participants highlighted the need for organisational support in making these sessions accessible, offering suggestion for clinical supervision to become mandated, and for shortfalls in staff to be covered to accommodate attendance at these sessions. In doing this, nurses would have the protected time to attend clinical supervision, thus supporting decision-making skills and minimising any associated negative impact on wellbeing. Overall, these dissemination studies, along with the five previous phases of data collection, highlight potential areas for healthcare organisations to focus their efforts in order to support nurses' decision-making and wellbeing.

8.4. Chapter Summary

Findings from the dissemination Chapter reiterate the findings from previous Chapters and provided nurses with an opportunity to discuss practical strategies of support to mitigate the negative impact of clinical decision-making on wellbeing. Below is a summary of the key findings and practical implications for nursing practice and wellbeing.

Key Findings

- Findings from the previous chapter regarding the increasing autonomy of the nursing role, the impact of responsibility and accountability of decisions and the need for tailored training were echoed.

- Nurses identify other healthcare professionals and a lack of clarity surrounding the nursing role as a barrier to clinical decision-making. Conflict with other roles led to frustration for many nurses.

- Nurses identified accessibility issues for support and supervision which ultimately hindered their ability to manage and cope with the demands of clinical decision-making.

Practical Implications

- Healthcare organisations should seek to foster clarity surrounding the evolving nursing role in order to minimise frustration and initiate coherency across different healthcare professions and roles. It is recommended that policies, guidance and training be updated to reflect the increased responsibilities that accompany the nursing role. In doing this, other healthcare professions will be aware of nurses' growing role in decision-making which will remove barriers to nurses' decision-making and minimise interpersonal conflict.

- Given nurses' emphasis on the importance of organisational support, it is recommended that healthcare organisations mandate and protect clinical supervision time. For many, the demands of the nursing role were a barrier to engaging with current models of clinical supervision and so it is important healthcare organisations overcome these barriers by mandating sessions and accommodating nurses' attendance. Although healthcare organisations will have to cover shortfalls in staff throughout this period, it is likely that the healthcare organisation as a whole will benefit from the efficiency of a healthy nursing workforce.

- Nurses identified current training resources as a barrier to confident and effective clinical decision-making in the nursing role. To overcome this, it is recommended that healthcare organisations collaborate with nursing professionals to produce a training programme or resource that fully equips nurses with the knowledge and skills required to make clinical decisions. By working in collaboration with nurses

to produce this, organisations can be assured that the revised training opportunity accurately captures the nuances of nurses' decision-making and prioritises elements of concern.

CHAPTER 9: GENERAL DISCUSSION

9.1. Overview of the Current Thesis and Aims

The current thesis aimed to explore the impact of clinical decision-making on nurses' health and wellbeing, with reference to different health-related constructs as potential areas of support. More specifically coping behaviours, health-promoting behaviours and self-compassion were explored in relation to the key concepts of clinical decision-making and moral distress. Existing literature has evidenced the positive relations of these constructs with health and wellbeing amongst nursing populations more generally (Maresca et al., 2022; Franco & Christie, 2021; Ross et al., 2017) and highlights further associations with increased resilience in the workplace (Chiang et al., 2021; Franco & Christie, 2021; Sacgaca et al., 2023). The current thesis sought to explore these findings in relation to clinical decision-making directly, with the goal of supporting nursing professionals through the decision-making process and limiting the potential negative effects on health and wellbeing. Clinical decision-making is an integral part of the nursing role (Nibbelink & Brewer, 2018). Much of the existing literature on nurses' decision-making focuses on its relation to patient outcomes, with little consideration of its impact on nurses' health and wellbeing (Shay & Lafata, 2015; Thirsk et al., 2022). Research into decision-making more broadly suggests that one's approach to decision-making and one's decision-making competency are influential upon wellbeing and health outcomes (Páez-Gallego et al., 2020; Ravneet & Kawaljit, 2021), although this is yet to be explored across nursing professions. Given the multifaceted nature of decision-making across healthcare environments (Mun & Kim, 2016; Price et al., 2017), it can be inferred that nurses' decision-making is complex and warrants further investigation. The aims of the current thesis include (1) to understand the relations between clinical decision-making and nurses' wellbeing, looking specifically at moral distress, psychological wellbeing, physical health and burnout; (2) to investigate the role of coping behaviours in

explaining relations between clinical decision-making and wellbeing; (3) to examine the role of health-promoting behaviours (grazing, stress eating, and physical activity) in explaining relations between clinical decision-making and wellbeing; (4) to investigate the role of personality, perfectionism, and philotimo in explaining relationships between clinical decision-making and moral distress; (5) to explore participants experiences of clinical decision-making and what areas contribute towards its impact upon health and wellbeing; (6) to identify practical elements of support with clinical decision-making that will mitigate any risk to health and wellbeing.

The findings from each chapter in the current thesis are presented within the following section with a critical reflection on the contribution to existing knowledge. Each chapter is discussed in reference to its contribution towards the wider thesis, and how this relates and builds upon existing literature within the field. Further consideration is extended to the limitations and future directions of the current research project, as well as the implications for nursing professionals and wider healthcare organisations.

9.2. Key Findings

9.2.1. The Impact of Clinical Decision-Making on Nurses' Wellbeing

The current thesis sought to examine associations between clinical decision-making, moral distress, physical health, psychological wellbeing and burnout amongst nursing professionals. Findings from each stage of data collection revealed that clinical decision-making is indeed associated with various wellbeing outcomes and could predict nurses' sleep patterns, work-life balance and experience of moral distress.

Findings from Chapter 3 suggest that higher perceptions of clinical decision-making ability are associated with increased psychological wellbeing but reduced physical health. The association with psychological wellbeing aligns with existing literature on nursing competency and wellbeing, whereby decision-making strategies and competency have both

been linked to greater wellbeing and health outcomes, (Páez-Gallego et al., 2020; Ravneet & Kawaljit, 2021). However, observations in the current study between clinical decision-making and physical health oppose initial predictions and contrast to the positive associations drawn with psychological wellbeing. These findings can be understood through the level of responsibility that accompanies being confident in one's decision-making ability. Fry and MacGregor (2014) found that nurses who report being more confident in an area, are more likely to be rostered into that role more frequently. Therefore, nurses demonstrating more positive perceptions of their clinical decision-making ability may be more frequently involved in complex patient care decisions, where greater competency is required (Nursing & Midwifery Council, 2015). Such complex care decisions often involve greater levels of responsibility, which can manifest as greater levels of stress (Dewa et al., 2011). Psychological stress can manifest in negative physical health symptoms, including headaches, chest pain, as well as pathological conditions and disease (National Health Service, 2022; Yaribeygi et al., 2017). Therefore, possessing greater perceptions of clinical decision-making ability may relate to reduced physical health across nursing professionals due to enhanced levels of responsibility and stress stemming from their decision-making.

Further inspection into the role of seniority revealed that the relationship observed between clinical decision-making and physical health was significant for junior nurses but not senior roles. This means that junior nursing professionals who are more confident and have a more positive view of their decision-making are more likely to experience physical health issues than senior roles. These findings may be attributed to several different factors. Firstly, junior nurses possessing a greater perception of their decision-making ability may overestimate their abilities and volunteer to take on particularly complex tasks without understanding the challenges associated with this or without having the relevant experience to navigate this. This may lead to increased levels of stress, which often manifests as physical

health symptoms (National Health Service, 2022; Yaribeygi et al., 2017). Alternatively, junior nurses may lack the experience and coping mechanisms that are required to cope with challenging decisions within the healthcare environment. If junior nurses with more confidence in their decision-making ability are navigating the complex healthcare decisions, they may be less equipped to manage this when compared to more experienced senior roles. Beier et al. (2023) report that nurses with less experience are more likely to engage with negative coping; negative coping is associated with increased psychological stress (Schäfer et al., 2020), leaving individuals more susceptible to physical health issues (National Health Service, 2022; Yaribeygi et al., 2017). Overall, findings offer valuable insight into the complex relationship between clinical decision-making and wellbeing, with variable effects noted for both physical and psychological health. These findings have not been reported in existing research to date and provide a novel understanding into clinical decision-making, its unique relationship with nurses' wellbeing and the potential role of seniority in predicting its impact.

Findings from Chapters 5 and 6 build upon the observed interaction between clinical decision-making and wellbeing, extending its relevance in nurses' experience of moral distress experience. In both Chapters, clinical decision-making was negatively associated with moral distress experience. These findings were unsurprising given the noted observations between clinical decision-making and psychological wellbeing in Chapter 3. These findings also align with existing research into decision-making more broadly, whereby decision-making strategies and competency have been seen to influence health and wellbeing outcomes (Páez-Gallego et al., 2020; Ravneet & Kawaljit, 2021). Whilst current research has explored the concepts of clinical decision-making and moral distress independently, there is little evidence examining any direct relationships across the nursing profession. These findings are important when seeking to support nursing professionals within their role and

further advance patient care. It is widely accepted that moral distress predicts the quality of care provided (Henrich et al., 2017; Silverman et al., 2021) as well as nurses' intention to leave the role (Epstein et al., 2019). By acknowledging the role of clinical decision-making upon nurses' experience of moral distress, it provides an actionable area for healthcare organisations to target when seeking to minimise moral and emotional distress amongst nursing staff and subsequently reduce the impact of these upon patient care and outcomes.

Chapter 7 explored interactions between clinical decision-making and wellbeing in greater detail, seeking to capture nurses' subjective lived experiences and understand the process in which clinical decision-making related to wellbeing across the initial thesis Chapters. Findings from Chapter 7 suggest that it is the responsibility held when navigating decisions, and the anticipated consequences that ultimately impeded on nurses' ability to 'switch off' from the work environment and promoted rumination over the decisions that were made. Participants reported disruption to sleep patterns, increased anxiety, enhanced rumination and difficulty achieving a healthy work-life balance because of their role in clinical decision-making. These findings build upon the cross-sectional study results (Chapters 3, 4, 5) whereby clinical decision-making related to various aspects of wellbeing, including moral distress, physical health and psychological wellbeing; any negative effect can be attributed to the level of responsibility held when navigating clinical decision-making. Findings are further supported by existing literature which highlights a clear link between responsibility and stress (Dewa et al., 2011). Stress has been seen to present negative mental and physical health symptoms (National Health Service, 2022; Yaribeygi et al., 2017) and so it is therefore unsurprising that the responsibility accompanying clinical decision-making relates to reduced wellbeing within the present study.

Each stage of data collection confirmed that clinical decision-making related to nurses' health and wellbeing. Clinical decision-making related to nurses' physical health,

psychological wellbeing and experience of moral distress. Qualitative interviews during the latter part of the thesis highlighted potential reasons for this, including the level of responsibility and accountability that accompanies clinical decision-making as well as the level of support and blame culture that persists within healthcare organisations. Overall, findings contribute towards a greater understanding into the impact of clinical decision-making on nursing professionals and highlights the importance of supporting nurses with the demands of the nursing role.

9.2.2. Exploring the Pathway in which Clinical Decision-Making Relates to Nurses' Wellbeing

Personality

Given the observed interactions between clinical decision-making and nurses' wellbeing, it was important to consider the underlying mechanisms in which these relate. Personality was explored as a potential explanatory factor contributing towards nurses' experience of clinical decision-making. Existing literature on personality and individual differences suggest that such traits can predict wellbeing and other forms of distress across a wide range of populations (Crane et al, 2015; Montoya et al., 2019; Warbah et al., 2007), thus hinting at its relevance for nurses' susceptibility to moral distress. Within Chapter 6, positive associations were drawn between clinical decision-making ability and several personality dimensions, namely, honesty-humility, conscientiousness, and openness to new experiences. These findings highlight specific traits associated with a greater perception of decision-making ability, thus offering further insight into the role of individual differences in clinical decision-making. With openness and honesty being identified as the professional standards for good medical practice (Nursing & Midwifery Council, 2022a), it is unsurprising that scoring high in these traits is associated with an enhanced perception of decision-making ability. Further analyses presented the mediating role of both openness to experience and

philotimo traits when examining the relationship between clinical decision-making and moral distress. These findings highlight the importance of personality and philotimo when considering the impact of clinical decision-making on moral distress experience. Being open to new experiences and possessing traits consistent with philotimo, such as honesty and integrity strengthen the observed relationship between decision-making and may therefore prevent moral distress arising as a result of making clinical decisions. These findings align with existing literature which highlights positive associations between openness traits, wellbeing, adaptability and self-efficacy (Audet et al., 2021). However, philotimo remains relatively unexplored outside of Greek culture, and has not yet been examined in relation to nurses' clinical decision-making; therefore, the current study offers valuable insight into the relevance of philotimo within the nursing context and further identifies a novel concept which should be considered in nursing research going forward.

Autonomy

Alongside personality, autonomy when making clinical decisions was explored as a potential pathway linking clinical decision-making to nurses' wellbeing. Findings across the first quantitative Chapter (Chapter 3) and subsequent qualitative Chapters alluded to the fact that autonomy was vital in shaping nurses' experience of decision-making and may mitigate any negative implications for physical health.

Looking firstly at Chapter 3, findings revealed that possessing a greater degree of control over the decisions that are made can reduce the negative relationship between clinical decision-making and physical health. These findings reinforced the importance of autonomous decision-making and the value of empowering nursing professionals to take control of their working environment regarding the decisions that are made. Further qualitative discussions offered interesting insights into the evolving nature of autonomy in nursing. Participants noted how the nursing role has changed across their careers, with them

having a greater input in the decision-making process. This was generally seen as a positive addition to the nursing role, one that was important for both patient care as well as feeling confident and competent in the workplace. However, it was vital that nurses felt adequately supported when making autonomous decisions and overcoming any challenges that arise. These discussions align with emerging literature, which suggests that most nurses have a high level of autonomy and degree of control over their practice in the clinical environment (Shohani et al., 2018). Attitudes towards the expansion of nurses' professional authority and autonomy are viewed positively (Kerzman et al., 2015) and offer nurses the opportunity to speak up for their patients (Arends et al., 2022). Garon et al. (2009) found that autonomy, control and interdisciplinary support are important for staff nurses' professional satisfaction, corroborating the findings within the present study. It is therefore suggested that healthcare organisations promote autonomy and control over clinical decision-making to prompt nurses' job satisfaction. One way to do this is through sourcing and promoting training opportunities amongst nursing professionals. Research suggests that practical training can advance nurses' knowledge and skills, increasing their confidence and allowing them to make more effective decisions (Ten Ham et al., 2017). Therefore, offering practical support through training opportunities may increase nurses' decision-making ability and reduce the risk of ill physical health and moral distress, in line with the quantitative findings of this project.

Chapter 7 also captured nurses' understanding of why decision-making had become more autonomous across the healthcare setting. Firstly, education was identified as a potential factor influencing the increased level of autonomy awarded to the nursing role. Nurses acknowledged that the educational requirements to enter the nursing profession had changed significantly, with a degree now being a necessity; this means that nurses are now entering the nursing profession with a high degree of nursing knowledge and experience. Existing research suggests that education and knowledge promote effective communication with

physicians (Kunjukunju & Ahmad, 2019), increase nursing competency (Pueyo-Garrigues et al., 2022) and relate positively with nurses' professional autonomy (Şahan & Özdemir, 2023); nurses possessing a bachelor's degree are reported to have a higher level of professional autonomy when compared to other groups (Şahan & Özdemir, 2023). It can therefore be inferred that the degree of education now required to practice as a nursing professional has equipped nurses with the knowledge, skills, and confidence to become more autonomous practitioners, and that they are trusted to make clinical decisions independently because of this. Alternative discussions across the sample centred around the COVID-19 pandemic and the role this played in changing the level of autonomy associated with nursing role. This event was identified as a significant factor contributing towards the increased independence and autonomy relating to the modern nursing role. This event appeared to remove the 'red tape' and encouraged nurses to 'get on and do', with this increased independence remaining prevalent even now. This aligns with existing literature which examines how the COVID-19 pandemic supported nurses' involvement in hospital affairs and positively influenced physician-nurse collaboration (Jingxia et al., 2022). Nurses report having a 'stronger voice' during this period, which ultimately led to improved decision-making. These findings support the current study, suggesting that the pandemic fostered a more collaborative and trusting relationship between nurses and other healthcare professionals, which in turn granted further input and autonomy in their practice.

Overall, findings from the current thesis offer insight into how and why clinical decision-making relates to nurses' wellbeing. Both autonomy and individual personality traits explain the underlying mechanism in which decision-making and wellbeing relate, thus prompting a greater understanding into nurses' experience of clinical decision-making and potential avenues of support moving forward.

9.2.3. Coping Behaviours

Given the acknowledged relationship between clinical decision-making and wellbeing, it was important to explore effective strategies for nurses to manage any associated negative effect. Understanding the role of various coping behaviours would provide insight into how nurses manage the emotional demands of decision-making, highlighting the most effective approaches for nursing professionals to consider adopting.

Chapter 3 explored coping behaviours through the lens of problem-focused, emotion-focused and dysfunctional coping and looked at their influence on the relationship between clinical decision-making and wellbeing. Findings were mixed, and although emotion-focused and problem-focused coping strategies were associated with increased psychological wellbeing, they were also both found to strengthen the negative relationship between decision-making and physical health. Findings into problem-focused coping oppose existing literature which has frequently linked this style of coping with increased wellbeing (Samson, 2019) and highlighted its role in mediating the relationship between stress and psychological wellbeing (Srivastava et al., 2023). When seeking to understand these findings, it is important to acknowledge that problem-focused coping relies on the ability to address and remove the underlying source of stress in order to be effective (Carroll et al., 2020; Lazarus & Folkman, 1984), and that it cannot be successful in circumstances where the stressor cannot be controlled or eliminated (Carver, 2011). The observed interaction can therefore be understood by the context and nature of the stressors faced in a clinical environment. Clinical decision-making is a central component of the nursing role, and so is a potential source of stress that is not possible to eliminate. These conclusions are further supported by Calegari et al. (2022), who found problem-orientated coping to worsen professional quality of life across nurses and physicians, and further increase compassion fatigue, burnout and secondary traumatic stress. Similar findings were observed for emotion-focused coping, with this also strengthening

negative associations between clinical decision-making and physical health. These findings align with what is known about the maladaptive nature of emotion-focused coping (Connor-Smith & Flachsbart, 2007; Howlett et al., 2015). Given that clinical decision-making is a fundamental aspect of the nursing role and therefore a stressor that cannot be removed or addressed completely, it is important to explore different ways for nursing professionals to manage the impact of clinical decision-making. Chapter 5 addresses this gap and builds upon the current findings, looking specifically at physical activity and eating behaviours as a means for coping with the impact of clinical decision-making on wellbeing.

Further exploration of nurses' coping behaviours was conducted in the qualitative chapters of the current thesis, given the varied responses identified in Chapter 3. A prominent theme arising across these Chapters centred around the common coping strategies adopted to manage the demands of clinical decision-making. Interestingly, participants highlighted the importance of peer support from family, friends and colleagues as a source of distraction, reflection, and reassurance when navigating clinical decision-making. Whilst findings from Chapter 3 suggest that emotion-focused coping strategies such as these likely exasperate the impact of decision-making on physical health, participants report the positive emotional and psychological implications of coping in this way. The buffering hypothesis of social support may offer explanation for why seeking social support was effective in minimising the impact of decision-making on one's psychological and emotional wellbeing. According to the buffering hypothesis, social support is only needed when people are experiencing high periods of stress (Buchwald, 2017). In these circumstances, social support acts as a buffer against perceived stressors and ultimately maintains the individual's wellbeing as a result (Buchwald, 2017). Social support is therefore seen as a coping resource that is effective when buffering the impact of work-related stressors on health and wellbeing. Within the current chapter, this theory can be used to further understand nurses' preference for social support

when coping with the demands of clinical decision-making. When nurses perceive a particular decision-making instance to be a source of stress, support from family and peers can buffer its impact upon health and wellbeing. This therefore explains why social support was identified as a common and effective coping strategy that was utilised by nursing professionals to manage the demands of the nursing role within the current chapter. Notable differences were observed between colleagues and relations outside of the workplace in terms of the type of support sourced. Nurses tend to seek support in the form of advice and reassurance from work colleagues, using this as an opportunity to reflect upon the decisions that are made. Research suggests that individuals sharing similar life experiences may have a greater understanding of their peer's situation and subsequently act as an effective source of support (Mead et al., 2001). Relations outside of the work environment, however, tended to act as a form of distraction, allowing individuals to 'switch off' from the decisions that they have made. Peer support has been seen to foster resilience, confidence in the workplace and more effective coping, even when workplace stressors continue to persist (Agarwal et al., 2020). It can be inferred that peer support is an important coping strategy which allows nurses to manage the impact of clinical decision-making on health and wellbeing, despite making clinical decisions being a regular demand of the role.

Overall, findings from the current thesis suggest that both emotion-focused and problem-focused coping strategies may strengthen the negative impact of clinical decision-making on nurses' physical health. Despite this, emotion-focused coping strategies appeared to be highly frequented and seemingly effective when mitigating the impact of clinical decision-making on psychological wellbeing and one's overall ability to cope. Nurses often seek emotional support, engage with self-compassion and practice physical activity as a way of processing and managing decisions made within a clinical environment. Therefore,

findings warrant further consideration and exploration in future research to ensure recommendations can support nurses to cope effectively with clinical decision-making.

9.2.4. Health-Promoting Behaviours

Further consideration was given to the role of health-promoting behaviours and their ability to mitigate (or exacerbate) the impact of clinical decision-making on nurses' wellbeing. Findings from Chapter 5 suggest that engaging in certain eating behaviours can weaken the negative relationship between clinical decision-making and moral distress. These findings are consistent with grazing literature, which suggests that frequency of grazing is associated with psychological distress and lower mental health-related quality of life (Heriseanu et al., 2019). These findings were problematic given that qualitative discussions indicated a frequent engagement with such eating behaviours across the nursing profession. Reasons for this stemmed from having limited time for breaks and being too busy to eat full meals. For this reason, some nurses reported eating small 'snack-like foods' repeatedly throughout the shift to maintain energy and ensure food was consumed. Findings present the importance of reducing engagement with grazing behaviours when seeking to reduce the impact of clinical decision-making on nurses' wellbeing and offers suggestion for healthcare organisations to consider strategies to facilitate healthier eating habits for their nursing staff.

9.2.5. Self-Compassion

Self-compassion was a central component explored across each Chapter of the current thesis. Mixed findings were observed, with self-compassion demonstrating varied responses across different seniority levels and different areas of health and wellbeing. Initial observations into self-compassion, clinical decision-making and psychological wellbeing aligned with existing literature and prior predictions (Dunne et al., 2018; Durkin et al., 2016; Hall et al., 2013; Bailis et al., 2021), with self-compassion predicting a positive effect.

The relationship with moral distress appeared much more complex and multifaceted; differing relationships were observed across each quantitative study. Within Chapter 5, lower levels of self-compassion in the form of *tolerating uncomfortable feelings* weakened relations between clinical decision-making and moral distress amongst nursing professionals. This suggests that possessing low levels of self-compassion places nurses at greater risk of moral distress experience because of clinical decision-making. This aligned with the positive influence of self-compassion on psychological wellbeing which was reported in Chapter 3 as well as existing literature which highlights its relevance in promoting greater psychological wellbeing, life satisfaction and reduced stress when compared to lower levels of self-compassion (Stutts et al., 2018; Li et al., 2021). Findings from Chapter 5 highlight the importance of self-compassion when seeking to reduce the impact of clinical decision-making upon nursing professionals' wellbeing, particularly in relation to moral distress; perhaps self-compassion may act as a potential buffer to moral distress experience amongst nurses. This finding builds upon existing literature which has highlighted the buffering effect of self-compassion upon stress more broadly (Hsieh et al., 2019; Zhang et al., 2016). The current findings extend what is already known about self-compassion in existing research and generalise its protective nature beyond the scope of stress more broadly, recognising its role in shielding nurses against moral distress.

Despite the noted positive associations in Chapter 5, the role of self-compassion in understanding the relationship between clinical decision-making and moral distress appeared non-significant in Chapter 6 explorations. Further inspection into the results revealed that self-compassion predicted moral distress amongst senior nursing professionals; this was not observed for junior nurses. Findings from qualitative discussions (Chapter 7) offered insight into why this may be. Senior nursing professionals often felt less supported with clinical decision-making when compared to junior roles, a result of absorbing some of the stress and

responsibility of junior counterparts and not having the same access to support. Therefore, senior nurses' inability to access organisational support in the same way may lead to a greater reliance on person-orientated coping strategies when managing the impact of clinical decision-making, including self-compassion. These findings may offer explanation as to why the relationship between self-compassion and moral distress was significant across senior nurses in Chapter 6 but not junior nurses.

When examining physical health, the findings were once again complex. Chapter 3 reported negative associations between self-compassion and physical health and found self-compassion to strengthen the negative impact of decision-making upon physical health. These relations can be further understood through the role of self-kindness when being self-compassionate (Mantzios & Egan, 2017; Egan & Mantzios, 2018). If an individual perceives being kind to themselves as relieving psychological distress through consuming high-calorie food, alcohol, and reducing physical activity instead of taking care of their body, having higher self-kindness and self-compassion may lead to worse physical health, hence the outcomes reported in the current study. Chapter 7 supported these assumptions, with nurses often describing their engagement with self-compassion as small acts of self-kindness and frequently identifying 'having a glass of wine' as an example of this. Whilst being kind to oneself in this way was seen as a reward after a challenging day, it is highly unlikely that this would positively influence their physical health.

Given the mixed findings observed across the current thesis, self-compassion was a focal element of the qualitative discussions in Chapter 7. Discussions yielded several interesting findings, with nursing professionals often lacking conceptual understanding of the construct. Whilst participants were informed and passionate about providing compassionate care for others, this was not so easily applied or understood in relation to oneself. These findings offer explanations for the mixed findings reported across each of the quantitative

chapters (Chapter 3, 5-6); inconsistencies may be a result of nurses' limited conceptual understanding of self-compassion. Some participants acknowledged the importance of taking time for self-care but admitted that there were significant occupational barriers that prevented its implementation in reality. Notably, the prioritisation of patients, time, and the demands of the nursing role were all identified as significant barriers to self-compassion. These findings align with existing literature on self-compassion, where work demands, irregular break patterns, and prioritisation of patient care were identified as significant barriers for nursing professionals (Egan et al., 2019). Gurné et al. (2021) found that nurses are less likely to say no to completing tasks for patients, further highlighting nurses' prioritisation of patients' needs over their own.

Overall, the role of self-compassion in maintaining nurses' health and wellbeing appears to be complex. Whilst self-compassion appears to be protective of mental wellbeing and moral distress amongst nursing professionals, there are important factors to consider, including nurses' seniority and organisational barriers to its engagement. These factors should be considered carefully when promoting self-compassion as a strategy to mitigate the impact of clinical decision-making on nurses' health and wellbeing. It is recommended that future research further examine differences between junior and senior nursing professionals to maximise the impact of self-compassion interventions and highlight the relevance of self-compassion as a person-centred approach to coping with the demands of decision-making. Additionally, careful consideration needs to be given to its contrasting relationship with physical health. Specifically, elements centred around self-kindness may be problematic for physical wellbeing, despite their supportive role in maintaining psychological wellbeing. Perhaps different components of self-compassion should be prioritised according to individual need. Further education and awareness of self-compassion as a construct and its

varied relations with wellbeing may foster the uptake of protective elements of self-compassion.

9.2.6. The Need for Further Training and Support

Throughout both stages of qualitative data collection, it was clear to see that nurses did not have sufficient formal training or support to navigate clinical decision-making within their roles. Participants suggest that training around clinical decision-making is at times out-of-date and does not have an explicit focus on decision-making within the nursing role. Discussions with participants indicated that whilst the nursing role has changed rapidly over recent years in terms of skills, expectations and autonomy, training has not progressed at an equal rate. This means that whilst nurses are expected to make clinical decisions, they have not received the same specific decision-making training that they believed more senior medical roles had. This is problematic across nursing professions given that practical training is essential in advancing nurses' knowledge and clinical skills and empowers nurses to make effective clinical decisions (Ten Ham et al., 2017). Findings suggest that there needs to be a greater emphasis on nurses' training to support their clinical decision-making and ultimately minimise the risk of moral distress that has been described in the previous quantitative chapters (Chapters 5 and 6).

Further discussions with nursing participants revealed that current models of clinical supervision were inadequate and that these contributed towards nurses' confidence in navigating and coping with clinical decision-making. Most participants identified clinical supervision as an important source of support which facilitated active reflection and guidance but felt that these were not accessible or frequent enough to feel the benefit. This was a particular issue for senior nurses, who felt that they had no one to turn to for guidance and tended to prioritise supporting junior nurses over themselves. Existing research within the nursing field highlights the importance of clinical supervision in mitigating stress, preventing

burnout, as well as enhancing job satisfaction and wellbeing outcomes (Martin et al., 2021; National Health Service, 2024). It is therefore important for healthcare organisations to prioritise models of clinical supervision and adequate training opportunities to support nursing professionals with clinical decision-making. Steps need to be taken on an organisational level to ensure that these opportunities are accessible for all nursing professionals, regardless of seniority or banding.

Findings from the dissemination study (Chapter 8) were helpful in making practical recommendations for clinical supervision and training. Participants discussed persistent barriers to models of supervision and training, including time, support from more senior roles and other healthcare professionals, as well as staff shortages, reflecting discussions in Chapter 7 where nursing professionals identified a need for more consistent and focused models of clinical supervision. Nurses made recommendations for mandated clinical supervision sessions and highlighted the need for further organisational support when accommodating these; organisations need to factor in staff shortages, and support from more senior positions when ensuring that mandated sessions can be attended. Participants highlighted that this needs to be a priority from the preceptorship stage in order to change the culture around seeking support and clinical supervision within the clinical environment. Overall, the dissemination event offered valuable insight into the relevance and applicability of each of the research chapters. Findings draw upon the need for further organisation-led support to guide nurses' clinical decision-making and provide nurses with the resources to manage the impact of decision-making on health and wellbeing.

9.3. Limitations, Future Directions and Implications

The current thesis explored relations between clinical decision-making and wellbeing, with consideration to potential elements that may support nurses through the decision-making process. Findings provide a novel understanding of how decision-making relates to

psychological wellbeing, physical health and moral distress across nursing professionals, an area scarcely explored, and not yet investigated across the United Kingdom (UK). Much of the existing literature on decision-making and moral distress to date has been conducted across the United States of America and Middle Eastern countries (Silverman et al., 2021; Khaghanizadeh et al., 2023; Tahmasebi et al., 2022; Weinzimmer et al., 2014) and less is known about moral distress and clinical decision-making amongst UK samples. There are clear differences in the structure and priorities of the healthcare systems and societies across each country, for instance, US institutions tend to prioritise patient autonomy, whilst UK institutions generally prioritise a patient's best interest (Bishop et al., 2010; Paris et al., 2017). Given that clinical decision-making is guided by the policies and priorities set by healthcare organisations, it is likely that organisational and societal differences such as these will lead to differing results amongst cross-cultural populations. These findings therefore contribute to a novel understanding of nurses' clinical decision-making across the United Kingdom that can be further compared to the experiences of other countries and cultures.

However, there were several limitations to the overall research project that are important to consider. First, chapters 3, 4, 5, and 6 utilised a cross-sectional approach to examine relationships and interactions between core elements within the current project. This approach was selected due to its ability to identify prevalence and test associations between multiple factors (Wang & Cheng, 2020). Given that this area was relatively unexplored across existing literature, this approach was successful in identifying initial relationships to be explored further in future research. However, this methodology is purely observational and does not allow for the inference of causality (Wang & Cheng, 2020). Whilst inferring causality was beyond the aims of these cross-sectional studies, further research would benefit from a more experimental design where this causality could be captured; this would allow for more in-depth conclusions to be drawn and provide more clarity as to how the outcomes

relate to one another (Musci & Stuart, 2019). This would offer further insight into why and how elements such as self-compassion and coping behaviours relate differently to physical and psychological wellbeing, as reported in Chapter 3. If inferences could be made about these associations, a rich understanding would be supported and further conclusions around its relevance in training and interventions could be considered.

Second, it is possible that unmeasured individual differences may have contributed towards the relationships observed in the initial cross-sectional studies of this project, namely, the clinical speciality being practised. The researcher did not collect data on this during the initial stages of the project, as this was not a focal area of study. Instead, focus was given to the level of seniority nurses held, comparing the influence of junior and senior banded positions. Clinical speciality has been seen to influence both the frequency of decisions made and involvement in clinical decisions (Hoffman et al., 2004; Martínez-Sanz et al., 2020). However, discussions with participants during Chapters 8 and 9 would suggest that nurses across a wide number of specialities have experienced an increased involvement in decision-making and discuss similar clinical experiences. Nonetheless, future research would benefit from exploring the role of clinical speciality when seeking to gain a more in-depth understanding of the relationship between clinical decision-making and wellbeing.

Third, participants recruited for the current project were predominantly White. The researcher identified this as an issue early on in data collection and implemented additional measures to encourage participation from minoritised groups. This included focused recruitment phases, whereby the study description and advertisement were altered slightly to recruit individuals from black, Asian and minority ethnic groups (BAME). Research suggests that ethnicity is influential upon some of the key constructs explored within this thesis, including self-compassion (Neff et al., 2008; Boyraz et al., 2020), coping behaviours (Kawakami et al., 2020) and health-promoting behaviours (Davis et al., 2021). It is therefore

important to consider whether the ethnicity of participants may have skewed the results and conclusions drawn when seeking to generalise findings beyond a White population. It is recommended that future research seek a more diverse study population to examine these findings further; this would strengthen conclusions and support its application across all members of the UK nursing profession.

Additionally, the qualitative phase of this research project adopted an online approach to both interviews and dissemination events. Online methodologies can make it difficult to establish a strong rapport with participants, given the limited non-verbal cues and challenges portraying mood and emotion (Jowett et al., 2011). With rapport increasing trust and the detail of information disclosed by participants, it is possible that the use of online interviewing techniques may have compromised the depth of discussions (Abbe & Brandon, 2014). This may have been particularly true of the group discussions held when disseminating research findings (see Chapter 8); hosting group discussions online is regarded as less personal and can disrupt the group dynamic (Mann & Stewart, 2000; Moloney et al., 2003; Stewart & Williams, 2005). To overcome this, the researcher encouraged familiarity amongst participants through the use of introductions during the initial stage of the discussion. Moreover, conducting research online allows researchers to be geographically distant from interviewees, and accommodates flexible scheduling (Salmons, 2011; Meho, 2006; Oates et al., 2022). These were the key drivers for deciding to conduct the interviews and dissemination events online, as it supported discussion with nursing professionals from different areas across the United Kingdom. Participants therefore had experience from several different healthcare trusts, which supported more generalisable findings that can be considered representative of nurses' experiences nationwide.

Although not explicitly a limitation, the researcher acknowledges that there are a number of factors impacting nurses' clinical decision-making that were not thoroughly

explored or captured within the current thesis. Whilst the current thesis focuses primarily on clinical decision-making from the nurses' experience, it is important to recognise the role wider factors have on the decisions that are made. Environmental factors are an important area to consider. Ten Ham et al. (2017) report that environmental factors have the potential to facilitate and inhibit sound decision-making. Specifically, having an adequate amount of time to consider and implement clinical decisions was seen to influence the quality of decisions made. Van der Vegt et al. (2020) corroborate these findings, reporting that under high time pressure, clinicians report lower confidence in decision-making, possess a greater perception of task difficulty, and exhibit higher stress levels. Given the dynamic nature of the healthcare environment and the growing work demands placed on nursing professionals (Nibbelink & Brewer, 2018), it is important to acknowledge the impact time can have on nurses' clinical decision-making. Moreover, research suggests that noise can influence evidence-based decision-making (Sheng et al., 2022). Sheng and colleagues suggest that pervasive noise can undermine the cognitive processes that are required for navigating evidence-based decision-making. Specifically, noise could disrupt the information processing and integration process. Within hospital environments, excessive noise relates to reduced productivity of healthcare professionals and an increased occurrence of medical errors (Hsu et al., 2012; Loupa et al., 2019; Montes-González et al., 2019). Reportedly, noise levels are continually rising across healthcare environments, a result of technological advancements in in hospital equipment (Busch-Vishniac et al., 2005; Busch-Vishniac & Ryherd, 2019). It is therefore important to acknowledge other factors, such as the evolving role of environmental factors upon nurses' clinical decision-making alongside the results of the current study, to support a comprehensive understanding of nurses' experience.

Despite these limitations, the current thesis offers valuable insight into the impact of clinical decision-making on health and wellbeing, whilst also highlighting potential areas of

support going forward. By providing a greater awareness of the challenges nurses face within their roles, it highlights an opportunity for healthcare organisations to address nurses' concerns and further support their employees through the decision-making process. The current thesis identifies important relations between clinical decision-making, moral distress, psychological wellbeing and self-compassion. Notably, self-compassion is seen to predict increased psychological wellbeing and lower levels of moral distress across nursing professionals. These findings support the development and implementation of a self-compassion intervention or training course, striving to foster higher levels of self-kindness and self-acceptance. Self-compassion training can improve self-compassion and ultimately support work-related wellbeing in healthcare professionals (Kotera & van Gordon, 2021). Furthermore, self-compassion interventions can support higher levels of self-compassion, resilience, peer connectedness as well as reductions in anxiety (Seekis et al., 2023), further highlighting its benefits for nursing professionals when seeking to cope with the demands of clinical decision-making. However, findings from Chapter 7 identified a number of barriers preventing nurses from being self-compassionate, ranging from timing issues, possessing limited conceptual understanding, inadequate staffing levels and the prioritisation of patient needs. It is therefore important that healthcare organisations support the implementation of self-compassion training or interventions by attending to these particular factors; in doing this, self-compassion will become more accessible to nursing professionals and the benefits will be observed.

Additionally, the findings reported in Chapter 5 highlight the role of grazing in relation to clinical decision-making and moral distress. Grazing behaviours were seen to strengthen negative relations, revealing how uncontrolled patterns of eating can exasperate the impact of decision-making upon nurses' experiences of moral distress. These findings highlight the importance of engaging with healthy eating patterns, as opposed to the regular

consumption of small amounts of food. It is recommended that nursing professionals seek to minimise grazing behaviours, potentially through preparing meals in advance and allowing time in the day to eat full nutritious meals. Healthcare organisations can facilitate this through the scheduling of breaks and monitoring of staffing levels, thus ensuring that breaks can practically be enforced.

Moreover, the findings reported in Chapters 7 and 8 highlight a need for more accessible clinical supervision opportunities when seeking to cope with and manage the impact of clinical decision-making. Clinical supervision was identified as an invaluable tool for reflecting upon decisions, seeking support, and learning from the decisions that are made, although many participants identified that models of clinical supervision were currently inadequate and not always possible to attend. High-quality clinical supervision has been associated with greater job satisfaction and lower levels of stress (Bifarin & Stonehouse, 2017), further highlighting its need to be prioritised within healthcare organisations. It is recommended that these organisations mandate clinical supervision and implement additional measures (staff, time) to facilitate attendance. These sessions should remain nurse-led in order to provide a safe space for nurses to discuss any issues, concerns, or questions they may have regarding decision-making. Based on discussions, this would allow nurses to feel better supported with their clinical decision-making and reduce feelings of anxiety or rumination when outside of the workplace. Overall, findings identify some of the challenges nurses face on a day-to-day basis and offer insight as to how healthcare organisations can support and facilitate action to mitigate any negative effect.

Finally, the findings reported in Chapter 7 and 8 highlight a need for enhanced training opportunities that are specific to clinical decision-making in nursing. Discussions around existing guidance, policies and training suggest that these are currently outdated and do not accurately reflect nurses' increased engagement in clinical decision-making. Nurses

felt that their clinical decision-making knowledge largely stemmed from experience and expressed a need for structured training and policy support going forward. Regarding the current training opportunities available across the National Health Service (NHS), participants identified 'Leading an Empowered Organisation (LEO)' and 'Independent Prescribing' as courses that have supported their clinical decision-making. However, whilst these courses incorporate elements of clinical decision-making, this is not their primary focus. Further engagement with healthcare literature revealed that the NHS rolled out a new programme in 2023 which focused on 'Complex Clinical Reasoning', which aims to support clinicians understanding on the complexities of clinical reasoning and the clinical reasoning process (NHS England, 2023a). Clinical reasoning is an important aspect of clinical decision-making (Benner et al., 2008) and so it can be inferred that current courses offered by healthcare organisations are designed to indirectly support nurses' clinical decision-making. However, findings from the qualitative chapters (Chapter 7 and 8) suggest that these training opportunities and current guidance need to be more specific and tailored towards nurses' specific involvement in clinical decisions. Researchers therefore suggest that training and policy development should consider elements unique to the nursing role, such as their intimate and prolonged involvement in patient care and how to navigate this when making decisions. It is recommended that nurses are actively involved in the development of policies, guidance and training around clinical decision-making so that nurses' involvement is accurately captured and the impact of these on clinical practice is maximised.

9.4. Conclusion

The current thesis sought to examine relations between clinical decision-making and wellbeing amongst nursing professionals, with further exploration into the role of coping behaviours, personality, health-promoting behaviours and self-compassion as potentially protective factors. Findings were complex and highlighted several areas that may support or

hinder different components of nurses' wellbeing when navigating decisions in the clinical environment. Specifically, consideration needs to be given to the impact of problem-focused coping, emotion-focused coping and self-compassion; Each of these elements appeared to support psychological wellbeing, however related negatively to physical health outcomes. Consideration needs to be given to these varied effects, and how these findings can be applied to nursing professionals in order to maximise overall wellbeing. Findings also indicate that being open to new experiences and possessing virtues consistent with philotimo (honesty, respect) may explain the relationship between clinical decision-making and moral distress. Individual differences are therefore important to consider when seeking to understand the impact decision-making has on wellbeing and its relation to moral distress.

Discussions with nurses highlighted the importance of organisational structures of support when facilitating self-compassion, a healthy work-life balance, and regular clinical supervision. Given the associations drawn between clinical decision-making, and wellbeing outcomes, it is suggested that healthcare organisations utilise this insight to drive forward nursing practice, whilst simultaneously supporting and maintaining nurses' wellbeing. Further dissemination of these research findings to more senior healthcare roles would provide greater awareness of the issues raised and encourage organisation-led support; it can be inferred that this would further support the overall wellbeing of nursing professionals when navigating decision-making within a clinical environment.

9.5. Future Research

The current thesis highlights the complex relationship between nurses' clinical decision-making and wellbeing, whilst also identifying potential avenues of support for nursing professionals. Future research should seek to explore how nursing specialty may shape these decision-making experiences, providing a more nuanced understanding of the relationship between decision-making and wellbeing in different nursing roles. By

broadening the scope of research in this way, research would capture perspectives from a range of specialties, noting key differences between various nursing roles. This would foster a deeper understanding of clinical decision-making, account for any variation in experiences and supporting applicability to practice. Additionally, the growing autonomy of the nursing role requires further examination to understand how this shift influences decision-making confidence, patient care and nurses' coping behaviours. Examining the benefits and challenges of this shift from a nursing perspective can help identify sufficient structures of support and inform the policy changes needed to optimise nurses' decision-making experiences whilst also safeguarding wellbeing. Finally, the nursing field would benefit from a more reliable and contextually relevant measurement of clinical decision-making ability. Whilst Chapter 4 provides a valid and reliable measurement tool, certain items are less contextually relevant to nursing professionals across the United Kingdom. Questions around financial implications of care and medical insurance are somewhat redundant and so the development of a tool overcoming these challenges would be valuable in quantifying decision-making ability and further extend the relevance of future research studies for UK nursing populations.

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APPENDICES

Appendix A: Copies of Published Manuscripts

Appendix A1: Chapter 4 pre-print publication

1

Title: DEVELOPMENT AND REVISION OF THE CLINICAL DECISION-MAKING IN NURSING SCALE: A METHODOLOGICAL STUDY

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Abstract

Clinical decision-making is a vital part of the nursing role, one that greatly influences the quality of patient care. Being able to measure this concept is imperative when furthering understanding and support for the decision-making process, and yet, existing measurement tools are criticised for their reliability and poor model fit. The present study addresses these issues by developing and validating a short version of the clinical decision-making in nursing scale, a widely used measure of clinical decision-making (Jenkins, 1983). A series of factor analyses were conducted to explore the factor loadings and internal consistency of the clinical decision-making in nursing scale ($n = 324$).   Exploratory factor analyses revealed that the clinical decision-making in nursing scale demonstrated low factor loading and reliability. Further confirmatory factorial analyses identified 13 items that loaded highly onto one factor and demonstrated a good model fit (CDMNS-13). The CDMNS-13 exhibited greater internal consistency than the original scale. These findings provide evidence that the CDMNS-13 offers a brief and reliable measure of clinical decision-making. The authors propose that this modified version of the clinical decision-making in nursing scale be utilised in future research assessing nurses' decision-making ability.

Introduction

Clinical decision-making is a central aspect to the nursing role, one that greatly influences the quality of healthcare provided [23]. Nurses are required to make decisions regarding patient diagnosis, intervention, and interactions [26] utilising patient observations, professional policies, and research evidence to guide their judgements [27, 28, 30]. The Hogarth model of decision-making [14] suggests that individual characteristics, the complexity of the task, and external contextual factors can all influence decision-making. The influence of such subjective factors is problematic given that errors in decision-making ultimately result in poorer patient outcomes and even patient death [22, 31]. Therefore, if patient health and wellbeing is to be supported, it is important to accurately assess nurses' decision-making skills and ability.

Clinical decision-making across the nursing profession is typically assessed using the clinical decision-making in nursing scale (CDMNS; 16). The CDMNS has 40 items designed to measure four different components of decision-making in nursing: Search for alternatives or options, canvassing of objectives and values, evaluation and re-evaluation of consequences, and search for information and unbiased assimilation of new information. Whilst the scale demonstrates adequate psychometric abilities across a range of different languages and cultures, the reliability of its subconstructs have been questioned [2, 4, 9, 12, 16]. Baumberger-Henry [2] reports subscale reliability scores to be between 0.51-0.58, independently, falling significantly below acceptable reliability [29]. These findings have been supported in subsequent cross-cultural validation studies, with subscale reliability values being as low as 0.21 [19]. It is suggested that values of between 0.40 and 0.60 indicates that the scale has low reliability [29]. Kouravand and colleagues [19] also suggest that the original model was not a good fit, with a significant number of items not loading well together [see also, 11]. This reveals that the clinical decision-making scale and its four-factor structure does not uphold very well across various translations and may have an internal problem regarding reliability and consistency. This may therefore explain why many studies opt to report the CDMNS total score, with little reference to each of the subscales [1, 5]. This poses the question as to whether the four-factor structure is helpful, or whether the research field would benefit from a more consistent single-factor scale.

When researchers use the overall score, a further area of concern and consideration is the length of a single-factor scale, and the potential impact on participant responses. The CDMNS consists of 40 statements, designed to capture perceptions of clinical decision-making ability the nursing profession. Sharma [24] reports that a survey of between 25-30 items can be administered within a 30-minute time frame, which is sufficient in maintaining participants' attention and preventing fatigue. Loss of attention in the case of long-length questionnaires provide at times unconsidered or unreliable answers and may lead to high non-

responsiveness [see also, 10]. In comparison, shorter surveys, designed carefully to capture the target research areas have been deemed equally reliable, whilst also producing high response and completion rates when compared to longer surveys [18]. Therefore, a careful assessment and revision of the 40-item CDMNS may allow for a shorter scale, with fewer questions to avoid participant fatigue and support more reliable responses. The present study therefore sought to explore the reliability and validity of the original CDMNS, with the goal to develop a revised shorter scale that is structurally equivalent to the original 40-item scale, and that represents the unidimensional concept of clinical decision-making.

Methodology

Design and participants

This study used an observational cross-sectional design. A total of 330 participants were recruited for the present study using volunteer and snowball sampling. A strict inclusion criterion ensured that participants were over the age of eighteen, had worked in the nursing profession for a minimum of 6-months, and were currently practising across the United Kingdom. This inclusion criterion was selected given that it takes at least 6 months for nurses to apply the knowledge that they have learned into their practice [8]. This therefore ensures that each participant has sufficient experience with clinical decision-making to contribute towards the study aims. Any individuals who indicated that they did not meet these requirements were excluded from the final analysis ($n = 6$). A sample of 300 participants is deemed sufficient when conducting a factorial analysis [6].

Measures

The Clinical Decision-making in Nursing Scale (CDMNS; 16). The CDMNS is a 40-item self-report scale designed to assess perceptions of clinical decision-making ability across the nursing population. The items are arranged into four subscales: search for alternatives and options scale, canvassing of objectives and values scale, evaluation and re-evaluation of consequences scale, and search for information and unbiased assimilation of new information scale. Sample items include, 'looking for new information in making a decision is more trouble than it is worth'. Responses range from 1 (never) to 5 (always), with a higher score indicating a higher perception of decision-making ability. This scale has been deemed valid cross-culturally [2, 4, 9, 12, 16]. Cronbach alpha for the present study, $\alpha = .80$, search for alternatives or options subscale $\alpha = .39$, canvassing of objectives and values $\alpha = .55$, evaluation and re-evaluation of

consequences α = .58, and search for information and unbiased assimilation of new information α = .31.

Data collection

Data were collected using volunteer and snowball sampling methods. Participants responded to an online invitation posted via social media to take part in the present study. They were then directed to an online survey that was administered via Qualtrics. They were then provided with a detailed information sheet, before being directed to a consent form. Once consent had been obtained, participants were asked to complete a series of demographic questions, before being directed to the survey. Upon completion, participants were presented with a debrief form which detailed the true aims of the research. This form also listed a range of different support networks to contact should they have experienced any distress because of their participation in the study.

Data analysis

The data was analysed utilising IBM SPSS v.28.0 and AMOS 24 (Analysis of a Moment Structures). Data was screened prior to inferential analyses to assess whether the assumptions were met regarding the existence of outliers, multivariate normality, linearity, and homogeneity of variance. The acceptability of the factorial structure was assessed using Kaiser-Meyer-Olkin (KMO) and Bartlett's Sphericity test. The KMO measure of sampling adequacy was .82, and Bartlett's Test of Sphericity ($p <. 001$) indicating that the assumptions for factor analysis were met. Once all assumptions were satisfied, exploratory factor analysis (EFA), with principal axis factor (PAF) extraction and oblique rotation was performed. To evaluate factor extraction, scree plots, Eigenvalue (>1), and item loading greater than 0.40 was used. Upon identifying the factor structure, Cronbach's α internal consistency coefficients were calculated for each of the subscales, as well as the overall score. Further confirmatory factor analyses were conducted for this one factor, second-order model which included indexes of: a Chi-squared by degree of freedom (χ^2 CMIN/df) ratio < 5; root mean square error of approximation (RMSEA) < 0.08; Adjusted Goodness of Fit Index (AGFI), the Goodness of Fit Index (GFI), Tucker–Lewis Index (TLI), Comparative Fit Index (CFI), and Incremental Fit Index (IFI) > 0.9; Parsimony Normed Fit Index (PNFI) > 0.5 [3, 15, 17].

Ethical considerations

Ethical approval was obtained from the Institution's Ethics Committee. Informed consent was obtained from all participants.

Results

Characteristics of the sample

The final sample consisted of 324 nurses from across the United Kingdom (M_{age} = 40, SD = 11.7; 256 females). A large proportion of the sample were White-British (*n* = 266), and came from a range of different nursing specialities, including adult health (*n* = 60), community (*n* = 47), and parent/child health (*n* = 34). The sample was made up of both junior nurses (56.8%; *n* = 184) and senior nurses (*n* = 140; 43.2%), who worked an average 33 hours each week (M = 32.9, SD = 10.9).

Reliability was assessed using Cronbach alpha values for both the CDMNS total score, as well as the subscales that were specified during the authors development of the scale. The 'Search for Alternatives or Options' subscale produced a score of α = .39, Canvassing of objectives and Values produced a score of α = .55, Evaluation and re-evaluation of consequences a score of α = .58, and Search for information and unbiased assimilation of New Information a score of α = .31, thus not indicating an internally consistent scale.

The principal axis factorial analysis identified the presence of eleven elements with eigenvalues exceeding 1, explaining 56.7% of the variance in total. An inspection of the scree plot supported the existence of the 11 factors, suggesting that the 40 items load onto 11 subscales (see Table 1). This violates the theoretical assumption of the four-factor structure of the scale, and so items were individually excluded to enhance scale consistency and reliability. Oblimin rotation was performed assessing that there would be an overall correlation between the subscales as all the items have been selected to measure clinical decision-making. The analysis indicated weak loadings for several of the items. Through step-by-step elimination of weak loading items, as described by Field [13], a revised 13-item, single-factor model was developed (see Table 2).

Insert table 1 and 2 here.

A confirmatory factor analysis (CFA) confirmed that the 40-item, second-order model that assessed the subscales as indicated by the original developers of the scale leading to a latent variable assessing the overall score of the CDMNS was not a good fit for the proposed model, CMIN/df = 2.727; RMSEA = .073; AGFI = .660, GFI = .695, TLI = .493, CFI = .521, IFI =, .529, PNFI = .392. A second CFA also confirmed that the 40-item, first-order model was not a good model fit, CMIN/df = 2.735; RMSEA = .073; AGFI = .662, GFI = .695, TLI = .490, CFI = .516, IFI = .523, PNFI = .390. Contrary, the removal of items 1-3, 7, 8, 12, 14, 15, 17-19, 21, 22- 25, 27-37, as indicated as being weak in the loading in both EFA and CFA proposed a better

fit: CMIN/df = 1.789; RMSEA = .049; AGFI = .922, GFI = .944, TLI = .912; CFI = .927, IFI = .928, PNFI = .709; all indicating a good model fit (see Table 3).

Insert figure 1 and table 3 here.

The reliability of the proposed 13-item model (CDMNS-13) was assessed using Cronbach alpha values, which revealed a score of α = .78. This model, therefore, indicates an internally consistent scale, where each item loads onto one single factor well. It has been suggested that dropping items can alter the factor structure, and so a further EFA was conducted on the revised scale, as per Worthington & Whittaker's suggestion [33]. This revealed that all items loaded highly, i.e., higher than 0.40, except for items 5, 13, 39, which had a loading of, respectively, 0.39, 0.34, and 0.36 (see Table 4).

Insert table 4 here.

Discussion

The aim of the present study was to develop and validate a short and reliable version of the CDMNS which overcomes the previously reported limitations regarding subscale reliability [2, 11, 12, 19]. There were several key findings that lead to the development of the 13-item model. Firstly, the four-factor nature proposed by Jenkins [16] was disputed, with initial analyses identifying the presence of 11-different factors. Loading of items was also not as predicted, with several items loading rather poorly, and not in the factors as described previously. The internal consistency of the subscales provided no evidence that there could be any usage of the subscales in any regard that could prove to be scientific and reliable. These findings support Kouravand and colleagues [19] conclusions, who removed a significant number of items from the scale during their validation study in the Persian language, due to their low factor loadings. Secondly, although the number of scale items were reduced significantly, the shortened version demonstrated a sufficient model fit with good internal consistency, comparable, if not greater, than that of the original CDMNS. It is therefore suggested that the CDMNS-13 offers a viable alternative to the original CDMNS.

The reality in existing literature is that most researchers are using the overall score of the 40 items, [1, 5] and having a single factor appears redundant when considering psychometric measurements that are currently used in similar fields [21, 32]. Utilising such an extensive number of items, if not used for subscale exploration, offers little value to the clinical field, given that it creates participant fatigue [24]. Participant fatigue not only reduces the reliability

of answers recorded, but it also limits responsivity [18]. This is a clear advantage of the shorter CDMNS-13, whilst also minimising restrictions on other scales used within research and clinical assessments.

Limitations

It is important to note that there is a limitation regarding population characteristics that needs to be considered. Much of the sample for this study were White-British, meaning that whilst this 13-item scale may be a good fit across this demographic, it requires validating across more diverse ethnic samples. Future research should seek to validate this scale on a more diverse ethnic sample to further the validity of its use in the clinical field. It is also important to acknowledge that the present study utilises the same data set to conduct both the EFA and CFA, with the intention of exploring any possible factor solutions with and without any prior assumptions. Whilst Worthington and Whittaker [33] recommend the use of two separate data sets to enhance validity, it is not uncommon to observe this method widely across research [7, 20, 25]. Future research should seek to replicate these findings on additional datasets to further support these findings and address other elements of validity.

Conclusion

Overall, the present findings indicate that the shortened, 13-item CDMNS can be used as an efficient alternative to the full 40-item CDMNS. The CDMNS-13 may offer benefits in clinical and non-clinical research where time and cost-efficiency are required. In addition, this revised scale also eliminates any issues surrounding subscale reliability in the original CDMNS, removing any uncertainty as to subscale interpretation; The CDMNS-13 provides a brief, valid and reliable measurement of clinical decision-making that can be used by researchers investigating clinical decision-making across nursing.

Declarations

Ethics approval

This study was reviewed and approved by the Institution's ethics committee. Approval Number: Miley/#9949/sub1/Am/2022/Oct/BLSSFAEC.

All participants provided informed consent to participate in the study.

All participants provided informed consent for the publication of their anonymised data.

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Competing interests/conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contribution

All authors listed have significantly contributed to the development and the writing of this article.

Data availability

Data will be made available upon reasonable request.

Additional information

No additional information is available for this paper.

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Figures and Tables

Table 1. Factor Loadings and Communalities for CDMNS 40-item, second order model (*n* = 324)

	Factor Loading				Communality
	1	2	3	4	
1. If the clinical decision is vital and there is time, I conduct a thorough search for alternatives.	.223	**.495**	-.005	-.105	.267
2. When a person is ill, his or her cultural values and beliefs are secondary to the implementation of health services.	**.387**	.184	-.189	.255	.252
3. The situational factors at the time determine the number of options that I explore before making a decision.	.062	.133	.207	**-.446**	.242
4. Looking for new information in making a decision is more trouble than it's worth.	**.553**	.261	-.221	.260	.431
5. I use books or professional literature to look up things I don't understand.	.271	**.349**	.002	.012	.171
6. A random approach for looking at options works best for me.	**.527**	-.027	-.277	-.054	.343
7. Brainstorming is a method I use when thinking of ideas for options.	-.098	**.455**	.053	.022	.249
8. I go out of my way to get as much information as possible to make decisions.	.214	**.612**	-.198	-.145	.426
9. I assist clients in exercising their rights to make decisions about their own care.	**.537**	.418	-.012	-.154	.411
10. When my values conflict with those of the client, I am objective enough to handle the decision making required for the situation.	**.514**	.369	.204	-.145	.426
11. I listen to or consider expert advice or judgment, even though it may not be the choice I would make.	**.544**	.367	-.041	-.280	.432
12. I solve a problem or make a decision without consulting anyone, using information available to me at the time.	.-.015	-.095	**-.756**	.034	.592
13. I don't always take time to examine all the possible consequences of a decision I must make.	.301	.248	**-.417**	.080	.283
14. I consider the future welfare of the family when I make a clinical decision which involves the individual.	.165	**.471**	-.023	-.204	.251
15. I have little time or energy available to search for information.	.279	**.365**	-.318	.077	.273
16. I mentally list options before making a decision.	.300	**.438**	.083	-.198	.277
17. When examining consequences of options I might choose, I generally think through "If I did this, then...".	.241	**.522**	-.137	-.099	.307

Item					
18. I consider even the remotest consequences before making a choice.	.122	**.661**	.013	-.058	.455
19. Consensus among my peer group is important to me in making a decision.	.005	-.171	.298	**.584**	.470
20. I include clients as sources of information.	.351	**.474**	.013	-.058	.301
21. I consider what my peers will say when I think about possible choices I could make.	.092	-.225	.268	**.521**	.415
22. If an instructor recommends an option to a clinical decision-making situation, I adopt it rather than searching for other options.	.356	.110	-.107	**.587**	.487
23. If a benefit is really great, I will favour it without looking at all the risks.	**.492**	.214	-.126	.278	.348
24. I search for new information randomly.	.184	**-.351**	-.093	-.119	.220
25. My past experiences have little to do with how actively I look at risks and benefits for decisions about clients.	**.540**	-.032	-.138	.043	.313
26. When examining consequences of options I might choose, I am aware of the positive outcomes for my client.	**.520**	.392	.186	-.320	.499
27. I select options that I have used successfully in similar circumstances in the past.	.123	-.003	.169	**-.600**	.406
28. If the risks are serious enough to cause problems, I reject the option.	.101	.163	-.017	**-.471**	.242
29. I write out a list of positive and negative consequences when I am evaluating an important clinical decision.	**-.396**	.341	-.100	-.014	.358
30. I do not ask my peers to suggest options for my clinical decisions.	.280	.102	**-.629**	-.192	.491
31. My professional values are inconsistent with my personal values.	**.420**	-.042	-.195	.023	.210
32. My finding of alternatives seems to be largely a matter of luck.	**.598**	.087	-.357	-.027	.439
33. In the clinical setting I keep in mind the course objectives for the day's experience.	-.046	**.404**	.029	-.261	.223
34. The risks and benefits are the farthest thing from my mind when I have to make a decision.	**.782**	.106	-.200	-.018	.624
35. When I have a clinical decision to make, I consider the institutional priorities and standards.	.038	**.348**	.057	-.259	.172
36. I involve others in my decision making only if the situation calls for it.	-.162	.056	**.567**	-.170	.351
37. In my search for options, I include even those that might be thought of as "far out" or not feasible.	.006	**.448**	.021	.001	.210
38. Finding out about the client's objectives is a regular part of my clinical decision making.	**.544**	.408	.068	-.070	.414
39. I examine the risks and benefits only for consequences that have serious implications.	**.430**	.090	-.178	.213	.244

40. The client's values have to be consistent with my own in order for me to make a good decision.	**.651**	.007	-.043	.035	.439
Proportion of variance explained		16.10	8.44	5.26	5.10
Cumulative variance explained		16.10	24.54	29.80	34.91

Note. **Bold** indicates highest factor loading.

Table 2. Factor Loadings and Communalities for CDMNS 40-item, single order model (*n* = 324)

	Factor loading	Communality
1. If the clinical decision is vital and there is time, I conduct a thorough search for alternatives.	.417	.174
2. When a person is ill, his or her cultural values and beliefs are secondary to the implementation of health services.	.387	.150
3. The situational factors at the time determine the number of options that I explore before making a decision.	.120	.014
4. Looking for new information in making a decision is more trouble than it's worth.	.555	.309
5. I use books or professional literature to look up things I don't understand.	.373	.139
6. A random approach for looking at options works best for me.	.427	.183
7. Brainstorming is a method I use when thinking of ideas for options.	.136	.019
8. I go out of my way to get as much information as possible to make decisions.	.494	.244
9. I assist clients in exercising their rights to make decisions about their own care.	.624	.390
10. When my values conflict with those of the client, I am objective enough to handle the decision making required for the situation.	.555	.308
11. I listen to or consider expert advice or judgment, even though it may not be the choice I would make.	.618	.382
12. I solve a problem or make a decision without consulting anyone, using information available to me at the time.	.037	.001
13. I don't always take time to examine all the possible consequences of a decision I must make.	.396	.157
14. I consider the future welfare of the family when I make a clinical decision which involves the individual.	.371	.138
15. I have little time or energy available to search for information.	.423	.179
16. I mentally list options before making a decision.	.444	.197
17. When examining consequences of options I might choose, I generally think through "If I did this, then...".	.446	.199
18. I consider even the remotest consequences before making a choice.	.436	.190

19. Consensus among my peer group is important to me in making a decision.	-.162	.026
20. I include clients as sources of information.	.499	.249
21. I consider what my peers will say when I think about possible choices I could make.	-.113	.013
22. If an instructor recommends an option to a clinical decision-making situation, I adopt it rather than searching for other options.	.292	.085
23. If a benefit is really great, I will favour it without looking at all the risks.	.472	.223
24. I search for new information randomly.	-.007	5.325E-5 (.00005325)
25. My past experiences have little to do with how actively I look at risks and benefits for decisions about clients.	.410	.168
26. When examining consequences of options I might choose, I am aware of the positive outcomes for my client.	.586	.344
27. I select options that I have used successfully in similar circumstances in the past.	.117	.014
28. If the risks are serious enough to cause problems, I reject the option.	.194	.038
29. I write out a list of positive and negative consequences when I am evaluating an important clinical decision.	-.124	.015
30. I do not ask my peers to suggest options for my clinical decisions.	.358	.128
31. My professional values are inconsistent with my personal values.	.323	.104
32. My finding of alternatives seems to be largely a matter of luck.	.545	.297
33. In the clinical setting I keep in mind the course objectives for the day's experience.	.176	.031
34. The risks and benefits are the farthest thing from my mind when I have to make a decision.	.674	.455
35. When I have a clinical decision to make, I consider the institutional priorities and standards.	.209	.044
36. I involve others in my decision making only if the situation calls for it.	-.156	.024
37. In my search for options, I include even those that might be thought of as "far out" or not feasible.	.217	.047
38. Finding out about the client's objectives is a regular part of my clinical decision making.	.607	.369
39. I examine the risks and benefits only for consequences that have serious implications.	.377	.142
40. The client's values have to be consistent with my own in order for me to make a good decision.	.502	.252
Proportion of variance explained	16.10	
Cronbach alpha	.795	

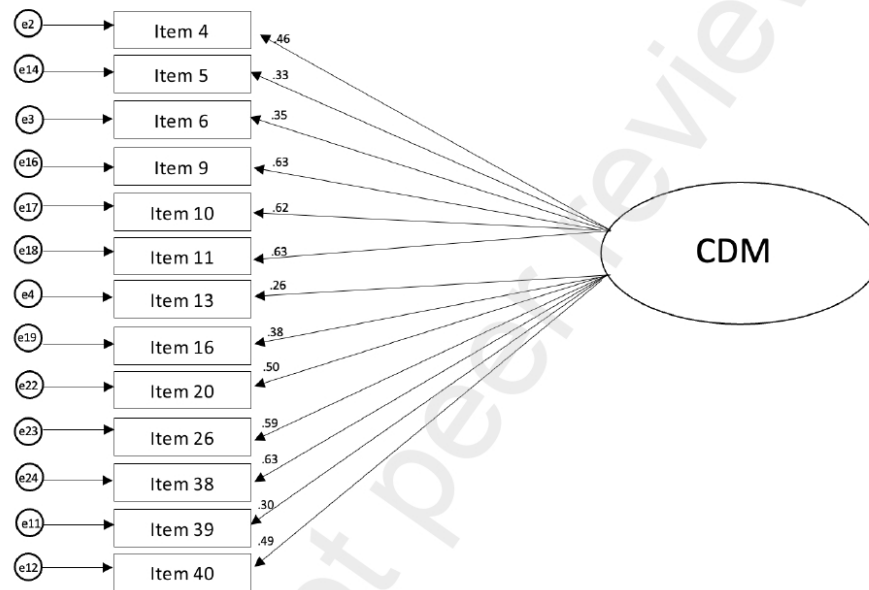**Fig. 1** CFA standardised loadings on a single-order factor of the CDMNS-13

Table 3. Goodness of fit statistics for each model.

Model	CMIN	df	GFI	AGFI	CFI	PGFI	RMR	RMSEA [90% CI]
Model 1 (40-item, second order)	2206.87	736	.695	.660	.521	.624	.079	.073 [.069;.077]
Model 2 (40-Item, single order)	2023.96	780	.695	.662	.516	.627	.079	.073 [.068;.077]
Model 3 (13-item, single order)	116.26	65	.944	.922	.927	.675	.047	.049 [.035; .064]

Table 4. 13-item model factor loadings.

Scale Items	Factor loading
4. Looking for new information in making a decision is more trouble than it's worth	.549
5. I use books or professional literature to look up things I don't understand	.398
6. A random approach for looking at options works best for me.	.432
9. I assist clients in exercising their rights to make decisions about their own care.	.666
10. When my values conflict with those of the client, I am objective enough to handle the decision making required for the situation.	.652
11. I listen to or consider expert advice or judgment, even though it may not be the choice I would make.	.665
13. I don't always take time to examine all the possible consequences of a decision I must make.	.335
16. I mentally list options before making a decision.	.438
20. I include clients as sources of information.	.555
26. When examining consequences of options I might choose, I am aware of the positive outcomes for my client.	.638
38. Finding out about the client's objectives is a regular part of my clinical decision making.	.668
39. I examine the risks and benefits only for consequences that have serious implications.	.362
40. The client's values have to be consistent with my own in order for me to make a good decision.	.557
Proportion of variance explained (%)	29.67
Cronbach's alpha	.776

Appendix A2: Chapter 5 publication

Exploring the moderating role of health-promoting behaviours and self-compassion on the relationship between clinical decision-making and nurses' well-being

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Abstract
Background: Clinical decision-making is an essential part of the nursing role and has implications for both patient care and nurses' well-being.
Aim: This study aimed to explore the relationship between nurses' perceptions of clinical decision-making ability and moral distress across a nursing population, and the potential link to self-compassion and health-promoting behaviours.
Methods: A self-report questionnaire was distributed to a sample of nurses ($N=152$) from April to September 2022. The survey explored nurses' perceptions of clinical decision-making ability, moral distress, physical activity, grazing, stress-eating, burnout and self-compassion.
Results: Perceived clinical decision-making ability was associated with moral distress experience, and both self-compassion and grazing moderated this relationship, independently.
Conclusion: Findings highlight the link between nurses' perceptions of clinical decision-making ability and moral distress experience. Both eating behaviours and self-compassion influence the relationship between these two factors and identify potential areas that may support (and hinder) nurses' well-being through clinical decision-making. These findings reinforce the importance of healthy eating habits and being self-compassionate to prevent moral distress arising as a result of clinical decision-making.

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Introduction

Decision-making remains a pivotal part of nursing, requiring individuals to make decisions on patient diagnosis, intervention and interactions (Smith et al., 2008). Such decisions are guided by personal values, experience and most importantly professional knowledge (Smith et al., 2008). However, continuous developments across scientific knowledge and technology over recent years have accelerated decision-making responsibilities, with nurses having to make additional decisions regarding resuscitation and termination of life-support (Numminen and Leino, 2007). Nurses are, therefore, required to consider additional factors in the decision-process, whilst being constrained by external sources, such as resource availability and staffing levels (Berhie et al., 2020; Bucknall, 2003). Such constraints can prevent nurses from aligning their actions with the principles taught during their training, resulting in ethical conflicts (Park et al., 2003). When left unresolved, ethical conflicts can cause moral distress, leaving nurses increasingly vulnerable to a wide range of well-being issues (Corley et al., 2005; Smallwood et al., 2021).

Moral distress is a common phenomenon among healthcare workers (Almutairi et al., 2019), one that often stems from ongoing ethical problems and conflicts (Humphries and Woods, 2016; Woods, 2020). This psychological response occurs when one feels constrained from acting on what they believe to be morally correct (British Medical Association, 2021). Such violation of one's moral values or duties can not only compromise patient care but also prove detrimental to individual well-being (McAndrew et al., 2018; Smallwood et al., 2021). Specifically, literature has identified moral distress as a key contributor and root cause of burnout amongst clinicians (Dzeng and Curtis, 2018; Rushton et al., 2015). Burnout is defined as the state of physical or emotional exhaustion stemming from chronic, unresolved or occupation-related stress (World Health Organization, 2019) and relates to higher patient infection, greater patient dissatisfaction and a higher incidence of medication errors amongst healthcare professionals (Hall et al., 2016; Van Bogaert et al., 2014). Further associations have been drawn with decision-making specifically, with burnout predicting more avoidant and irrational decision-making styles (Michailidis and Banks, 2016). Therefore, if nurses' decision-making and well-being are to be supported, it is important to identify modifiable areas to minimise burnout and moral distress experiences.

One possible strategy is increasing nurses' levels of physical activity. Physical activity describes any bodily movement produced by skeletal muscles that results in energy expenditure (Caspersen et al., 1985) and is linked to reduced burnout, lower emotional stress and greater psychological well-being (Cooper and Barton, 2016; Naczenski et al., 2017). Further associations have been drawn between physical activity and resilience, with individual competence and autonomy mediating this relationship (Xu et al., 2021). However, evidence suggests that a large proportion of nurses do not undertake sufficient physical activity to reap the full benefits of exercise (Kyle, 2022; Malik et al., 2011). Thus, physical activity is something to consider when seeking to promote nurses' health and well-being outcomes.

Alongside physical activity, eating behaviours have been identified as an important health behaviour, relating to higher levels of self-efficacy and lower levels of psychological distress (Głąbska et al., 2020). Healthy eating practices are particularly important for buffering the impact of stressors on well-being and have been linked to lower levels of burnout, depression, anxiety and post-traumatic stress disorder, independently (Alexandrova-Karamanova et al., 2016; Hall et al., 2015; Luong et al., 2021). However, evidence suggests that nurses tend to turn to unhealthy eating behaviours to cope with feelings of stress and accommodate the shift-work nature of the role

(Almajwal, 2016). Notably, higher levels of stress are associated with increased consumption of ultra-processed and hyperpalatable food (Cortes et al., 2021; Yau and Potenza, 2013), whilst irregular work schedules and inadequate workplace facilities have been seen to encourage nurses to skip meals (Almajwal, 2016; Gupta et al., 2019; Nicholls et al., 2017). Skipping meals can lead to greater grazing tendencies (Northwell Health, 2020).

Grazing is defined as the uncontrolled and repetitive eating of small amounts of food (Lane and Szabó, 2013) and is associated with eating disorders, psychological distress and reduced quality of life (Colles et al., 2008; Spirou et al., 2023). Research on grazing is limited, particularly in nursing professions, and has not yet been explored in relation to occupational stresses such as moral distress and clinical decision-making. Hence, it is important to consider the role of grazing and eating behaviours within the moral distress and clinical decision-making context, with further consideration to elements that can promote healthier eating practice.

An area implicated in the uptake of healthier lifestyle decisions, particularly regarding physical activity and eating practices is self-compassion (Hussain et al., 2022; Mantzios et al., 2018a; Phillips & Hine, 2021). Self-compassion can be defined as being understanding towards the self during times of suffering and is centred around three core elements: self-kindness, common-humanity and mindfulness (Neff, 2003). Recent findings suggest that self-compassion is not only negatively related to grazing (Mantzios et al., 2018b) but also predicts greater physical health and health behaviour (Egan et al., 2019; Phillips and Hine, 2021). It has also been found to positively predict daily eating behaviour through the reduction of perceived stress (Li et al., 2020). Given these positive associations, it is unsurprising that self-compassion has been repeatedly linked to greater well-being amongst nursing professionals, predicting lower levels of burnout and reduced mental health problems (Abdollahi et al., 2021; Kotera et al., 2021). Therefore, the present study seeks to examine the role of self-compassion and health-promoting behaviours in relation to clinical decision-making and nurses' well-being, with the goal of supporting nurses through the decision-making process.

Methods

Design

This study utilised a cross-sectional design. Data were collected from April to September 2022.

Participants

Volunteer and snowball sampling was used to recruit 152 nurses from across the United Kingdom ($M^{age}=42$, SD=9.7, $M^{BMI}=29.35$, SD=7.96). Eligibility criteria included individuals who were over the age of 18, were currently practising within the United Kingdom and had worked in the nursing profession for at least 6 months. This criterion ensured that participants possessed sufficient knowledge of the clinical decision-making process to meet the research aims (Cowin and Hengstberger-Sims, 2006). Cohen's (1992) guidelines suggest that to achieve a medium effect size, with alpha set at 0.01 and a power of 0.80, a minimum of 147 participants were required to conduct a regression analysis. See Table 1 for summary of participant characteristics.

Measurements

Demographic questionnaire: Participants were asked to report their age, gender, ethnicity, years spent in the nursing profession, hours worked each week, clinical speciality, banding position, height, weight, smoking behaviours and weekly alcohol consumption.

Table 1. Participant characteristics.

Characteristic	*n*	%
Gender		
Female	134	88.2
Male	18	11.8
Do you smoke?		
Yes	15	9.9
No	137	90.1
Ethnicity		
White-British	136	89.5
Irish	6	3.9
Other	10	6.6
Speciality		
Adult health	33	21.7
Psychiatric/mental health	20	13.2
Community	15	9.9
General medicine/surgery	9	5.9
Critical care	17	11.2
Oncology	9	5.9
Parent/child health	9	5.9
Other	112	26.3

Descriptive statistics for continuous variables

	M	SD
Age	42.41	9.7
BMI	29.35	7.96
Years spent in profession	17.68	11.59
Hours practised per week	36.91	7.42
Weekly alcohol consumption	6.02	6.95

The Sussex-Oxford Compassion for the Self-Scale (SOCS; Gu et al., 2019). The SOCS consists of 20 items, measuring compassion directed towards oneself. The items were arranged into five subscales: recognising suffering, understanding the universality of suffering, feeling for the person suffering, tolerating uncomfortable feelings, acting or being motivated to act to alleviate suffering. Sample items include 'I'm good at recognising when I'm feeling distressed'. Responses ranged from 1 (not true at all) to 5 (always true), with a higher score indicating greater levels of self-compassion. Cronbach's alpha for the present study was $\alpha = 0.937$ for total score, $\alpha = 0.864$ for recognising suffering, $\alpha = 0.763$ for understanding the universality of suffering, $\alpha = 0.874$ for feeling for the person suffering, $\alpha = 0.798$ for tolerating uncomfortable feelings and $\alpha = 0.881$ for acting or being motivated to act to alleviate suffering.

The Moral Distress-Scale-Revised (MDS-R; Hamric et al., 2012). The MDS-R consists of 21 items, designed to assess experiences of moral distress. Participants are required to respond to statements in terms of frequency, and intensity, independently. Example items include, 'Be required to care for patients I don't feel qualified to care for'. Responses range from 1 (Never/None) to 5 (Very frequently/A great extent), with a higher score indicating greater levels of moral distress. Cronbach's alpha for the present study was $\alpha = 0.933$.

The Clinical Decision-Making in Nursing Scale-40 (CDMNS-40; Jenkins, 1983). The CDMNS-40 consists of 40 items designed to measure perceptions of clinical decision-making ability across

the nursing profession. The items are arranged into four subscales: Search for alternatives or options, canvassing of objectives and values, evaluating and re-evaluation of consequences and search for information and unbiased assimilation of new information. Sample items include 'I consider even the remotest consequences before making a choice'. Responses range from 1 (never) to 5 (always), with a higher score demonstrating a greater perception of clinical decision-making ability. Cronbach's alpha for the present study was $\alpha = 0.710$ for the total score, $\alpha = 0.134$ for search for alternatives or options, $\alpha = 0.495$ for canvassing of objectives and values, $\alpha = 0.598$ for evaluating and re-evaluation of consequences and $\alpha = 0.255$ for search for information and unbiased assimilation of new information. Reliability scores for each of the four subscales fall below an acceptable level of reliability and have not been used in the analysis (Tavsancil, 2006).

The Clinical Decision-Making in Nursing Scale-13 (CDMNS-13; Miley et al., 2023) The CDMNS-13 is a revised shorter version of the clinical decision-making in nursing scale (Jenkins, 1983) and consists of 13 items designed to measure perceptions of decision-making ability across the nursing profession. The scale is unidimensional and reflects mixed findings in past literature, and an inability for subscales to display adequate internal consistency (see Miley et al., 2023). The scale includes items such as 'Looking for new information in making a decision is more trouble than it's worth'. Responses range from 1 (never) to 5 (always), with a higher score indicating a greater perception of clinical decision-making ability. Cronbach's alpha for the present study was $\alpha = 0.710$. The CDMNS-13 is reported in parallel to the CDMNS-40 and will be presented in parentheses throughout the results section.

The Oldenburg Burnout Inventory (OBI; Demerouti et al., 2002). The OBI consists of 16 items, designed to assess experiences of burnout. The items were arranged into two subscales: Disengagement and Exhaustion. Sample items include 'I always find new and interesting aspects in my work'. Responses ranged from 1 (strongly agree) to 4 (strongly disagree), with a higher score indicating greater levels of burnout. Cronbach's alpha for the present study was $\alpha = 0.904$ for total score, $\alpha = 831$ for disengagement and $\alpha = 0.861$ for exhaustion.

Salzburg Stress-Eating Scale (SSES; Meule et al., 2018). The SSES consists of 10 items, designed to assess stress-eating tendencies. Sample items include 'When I am overwhelmed with things I have to do'. Responses range from 1 (I eat much less than usual) to 5 (I eat much more than usual), with a higher score indicating greater engagement with eating when stressed. Cronbach's alpha for the present study was $\alpha = 0.931$.

The Grazing Questionnaire (GQ; Lane and Szabó, 2013). The GQ consists of eight items, designed to assess self-reported engagement with grazing eating behaviours. Participants are asked to rate themselves against statements such as 'Do you find yourself taking extra helpings or picking at extra food once you've finished your main meal?' Responses ranged from 0 (Never) to 4 (All of the time), with a higher total score indicating greater engagement with grazing eating behaviours. Cronbach's alpha for the present study was $\alpha = 0.905$.

The International Physical Activity Questionnaire-Short-Form (IPAQ-SF; International Consensus Group, 1988, as cited by Craig et al., 2003). The IPAQ-SF consists of seven questions, designed to assess engagement with physical activity. It covers five different activity domains, namely, physical activity related to work, transportation, housework, leisure-time activities and time spent sitting. Sample questions include, 'How much time did you spend doing vigorous physical activities like heavy lifting, digging, aerobics or fast bicycling?' The IPAQ-SF questions were used to estimate the amount of time individuals spend engaging with physical activity each week and were measured in metabolic equivalent of task minutes per week (MET-min-week). MET-min-week refers to the amount of energy expended whilst performing various activities per week (Jetté et al., 1990) and is used to measure engagement with walking, moderate activities and vigorous activities in the current study.

Data collection

An online questionnaire survey was conducted from April to September 2022. Potential partici-pants were introduced to the current study through social media platforms (Facebook, Twitter) and directed to an online platform (Qualtrics) to complete the survey.

Ethical consideration

Ethical approval was obtained from Birmingham City University's Ethics Committee in line with the Declaration of Helsinki (World Medical Association, 2013). Consent was obtained via an online form administered on the Qualtrics software.

Data analysis

Descriptive statistics including means, standard deviations and frequencies were obtained to describe the characteristics of the sample. Pearson's bivariate correlations were conducted to explore initial relationships between perceived clinical decision-making ability, moral distress, self-compassion, burnout and health behaviours. Moderation effects were determined using Hayes' (2017) PROCESS macro (model 1), with a bootstrap sample of 5000. All analyses utilised IBM SPSS version 28.0 (the Statistical Package for Social Sciences) and PROCESS (Preacher and Hayes, 2008), with p values $\leqslant 0.05$ being accepted as statistically significant.

Results

Correlations

Bivariate correlations revealed that perceived clinical decision-making ability was significantly associated with moral distress experience across the nursing profession ($r=-0.225$, $p=0.005$; CDMNS-13: $r=-0.218$, $p=0.007$). Regarding health behaviours, perceived clinical decision-mak-ing ability also demonstrated negative associations with both stress-eating ($r=-0.198$, $p=0.015$; CDMNS-13: $r=-0.198$, $p=0.014$) and grazing ($r=-0.207$, $p=0.010$; CDMNS-13: $r=-0.194$, $p=0.016$), independently. This suggests that perceptions of clinical decision-making ability decrease as engagement with stress-eating and grazing behaviours increase. Further associations were drawn with physical activity; higher levels of moderate physical activity were associated with greater scores on the clinical decision-making scale (CDMNS-13: $r=0.176$, $p=.03$), whereas nei-ther walking nor vigorous activities were significantly associated.

Further correlation analyses into moral distress experience revealed significant associations with burnout ($r=0.532$, $p<0.001$) and self-compassion ($r=-0.341$, $p=0.001$). It was the tolerat-ing uncomfortable feelings dimension of self-compassion that demonstrated the strongest negative relationship with moral distress experience ($r=-0.352$, $p<0.001$). Moreover, a significant rela-tionship was also observed between moral distress and eating behaviours. Higher scores on the MDS-R were associated with greater stress-eating and grazing behaviours (see Table 2).

Moderations

The first moderation model used CDMNS-13 as the predictor, moral distress as the dependant and grazing as a moderator. Grazing behaviours significantly moderated the relationship between per-ceived clinical decision-making ability and moral distress ($F(3, 147)=6.14$, $p<0.001$, $r^2=0.111$). Simple slope analyses revealed that average and high levels of grazing weakened the relationship

Table 2. Bivariate correlations of the relationships between all variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
(1) CDMNS-13																		
(2) CDMNS-40	0.849**																	
(3) MDS-R	−0.218**	−0.225**																
(4) OBI	−0.065	−0.155	0.532**															
(5) OBI – D	−0.117	−0.214**	0.489**	0.922**														
(6) OBI – E	−0.003	−0.073	0.494**	0.924**	0.704**													
(7) SOCS	0.001	0.087	−0.341**	−0.572**	−0.435**	−0.620**												
(8) SOCS– RS	0.053	.066	−.253**	−.364**	−.242**	−.429**	.807**											
(9) SOCS–UUS	0.241**	0.256**	−0.197*	−0.232**	−0.166*	−0.262**	0.518**	0.455**										
(10) SOCS– FPS	−0.046	0.064	−0.310**	−0.560**	−0.448**	−0.585**	0.924**	0.653**	0.315**									
(11) SOCS– TUF	−0.019	0.054	−0.352**	−0.584**	−0.463**	−0.616**	0.887**	0.612**	0.300**	0.831**								
(12) SOCS– MTA	−0.128	−0.011	−0.259**	−0.518**	−0.390**	−0.565**	0.866**	0.543**	0.291**	0.820**	0.742**							
(13) SSES	−0.198*	−0.198*	0.169*	0.151	0.145	0.135	−0.009	−0.121	0.051	−0.014	0.019	0.045						
(14) GQ	−0.194*	−0.207*	0.281**	0.310**	0.244**	0.327**	−0.251**	−0.189*	−0.108	−0.218**	−0.265**	−0.216**	0.511**					
(15) IPAQ – W	0.053	0.106	−0.023	−0.094	−0.064	−0.110	0.142	0.058	0.020	0.147	0.145	0.175*	0.123	−0.107				
(16) IPAQ – M	0.180*	0.099	−0.134	−0.153	−0.141	−0.142	0.220**	0.216**	0.075	0.203*	0.207*	0.166*	−0.003	−0.144	0.248**			
(17) IPAQ – V	0.041	0.045	−0.095	−0.069	−0.025	−0.103	0.053	0.035	0.010	0.028	0.078	0.055	0.074	−0.111	0.287**	0.358**		
(18) IPAQ – T	0.110	0.111	−0.109	−0.139	−0.095	−0.158	0.177*	0.125	0.043	0.160*	0.187*	0.175*	0.097	−0.162*	0.725**	0.671**	0.783**	

CDMNS-13: 13-item Clinical Decision-Making in Nursing Scale; CDMNS-40: 40-item Clinical Decision-Making in Nursing Scale; MDS-R: Moral-Distress Scale-Revised; OBI: Oldenburg Burnout Inventory total; OBI-D: Oldenburg Burnout Inventory-Disengagement; OBI-E: Oldenburg Burnout Inventory-Exhaustion; SOCS: Sussex-Oxford Compassion for Self-Scale total; SOCS-RS: Sussex-Oxford Compassion for the Self-Scale-Recognising Suffering; SOCS-UUS: Sussex-Oxford Compassion for the Self-Scale-Understanding the Universality of Suffering; SOCS – FPS: Sussex-Oxford Compassion for the Self-Scale – Feeling for the Person Suffering; SOCS-TUF: Sussex-Oxford Compassion for the Self-Scale- Tolerating Uncomfortable Feelings; SOCS-MTA: Sussex-Oxford Compassion for the Self-Scale – Motivated to Act to Alleviate suffering; SSES: Salzburg Stress-Eating Scale; GQ: Grazing Questionnaire; IPAQ-W: Walking METS per week on the International Physical Activity Questionnaire; IPAQ-M: Moderate Physical Activity METS per week on the International Physical Activity Questionnaire; IPAQ – V: Vigorous METS per week on the International Physical Activity Questionnaire; IPAQ–T: Total METS per week for physical activity.

*Is statistically significant at $p < 0.05$.

**Is statistically significant at $p < 0.001$.

Table 3. Conditional effects of the subscales of self-compassion and grazing on the relationship between CDMNS-13 and moral distress ($N = 151$).

Predictors	Moderator value	β	p	95% CI	
				Lower	Upper
Tolerating uncomfortable feeling (SOCS)	−1 SD	−4.37	<**0.001**	−6.85	−1.88
	At the mean	−2.68	**0.004**	−4.47	−0.892
	+1 SD	−.993	0.416	−3.40	1.41
Grazing	−1 SD	−.110	0.929	−2.55	2.33
	At the mean	−2.13	**0.027**	−4.01	−0.251
	+1 SD	−4.15	**0.001**	−6.58	−1.72

SD: standard deviation; CI: confidence intervals; p: significance level; β: regression coefficient.
Bold indicates significance.

between these variables, suggesting that the negative relationship between nurses' perceptions of clinical decision-making ability and moral distress becomes significant as grazing scores increase (see Table 3).

A second model used CDMNS-13 as the predictor, moral distress as the dependant and the tolerating uncomfortable feelings dimension of self-compassion as a moderator. Results revealed that the tolerating uncomfortable feelings subscale significantly shifted the relationship between perceived clinical decision-making ability and moral distress, being a significant moderator ($F(3, 147) = 9.99$, $p < 0.001$, $r^2 = 0.169$). Simple slope analyses revealed that average and low levels of tolerating uncomfortable feelings significantly weakened the relationship between nurses' perceptions of clinical decision-making ability and moral distress, suggesting that the relationship only becomes significant when self-compassion scores decrease (see Table 3).

Discussion

The present study aimed to investigate the impact of clinical decision-making on nurses' well-being. Initial analyses revealed that as perceived clinical decision-making ability increases, reports of moral distress experience decrease across the nursing sample. This aligns closely with existing literature on decision-making, where adaptive decision-making strategies and decision-making competency have been seen to positively influence health and well-being outcomes (Páez-Gallego et al., 2020; Ravneet and Kawaljit, 2021). The present study builds upon these findings in a clinical environment and extends its implications to moral distress experience directly.

In response to the observed relationship between perceived clinical decision-making ability and moral distress, the present study sought to investigate potential areas that may influence the strength of these associations. Results revealed that both stress-eating and grazing were significantly associated with both perceived clinical decision-making ability and moral distress, independently. However, further analyses revealed that it was only grazing behaviours that moderated the relationship between perceived clinical decision-making ability and moral distress experience, suggesting that as grazing behaviours increased, the negative relationship between clinical decision-making and moral distress was strengthened. Although there is limited research on the effect of grazing on well-being across the nursing demographic, Heriseanu et al. (2019) found that frequency of grazing was associated with lower mental health-related quality of life. Grazing categorised as being compulsive has also been associated with a wealth of negative health outcomes, including anxiety, depression and eating disorders (Heriseanu et al., 2019; Spirou et al., 2023). This alignment of

previous research to present findings suggests that grazing behaviours should be considered when designing an intervention to support nurses' well-being whilst navigating the everyday decision-making and moral aspects of their work. Perhaps integrating regular breaks would allow sufficient time for more regulated eating behaviours and reduce the role of clinical decision-making in nurses' experience of moral distress.

Self-compassion was explored for its potential when influencing the relationship between perceived clinical decision-making ability and moral distress. Existing research emphasises the positive influence of self-compassion on well-being, stress and life satisfaction (Li et al., 2021; Stutts et al., 2018). Past research is consistent with the findings of the present study, where higher levels of self-compassion were associated with lower levels of both moral distress and burnout, independently. Further analyses revealed that it was only the *tolerating uncomfortable feelings* dimension of self-compassion that moderated the relationship between perceived clinical decision-making ability and moral distress. Notably, as scores on tolerating uncomfortable feelings increased, the negative relationship between clinical decision-making and moral distress was weakened. This suggests that being self-compassionate may be protective against the impact of clinical decision-making on nurse's experience of moral distress. These findings lend insight into the multidimensional nature of self-compassion, recognising that enhancing certain elements may be more effective than others in supporting nurses through the decision-making process. This knowledge should be integrated into potential support strategies when seeking to promote nurses' well-being.

Consideration needs to be given to the differentiation of findings between the CDMNS-40 and CDMNS-13, the latter developed due to inadequate internal consistency for CDMNS-40 subscales and potential limitations imposed by its length on clinical decision-making inquiries. This shorter psychometric scale can enhance efficiency, diminish respondent fatigue, improve retention and reduce administration costs while increasing accessibility. In the current research, the shorter version demonstrated successful moderations of relationships, emphasising its validity and equivalence to the CDMNS-40. Both the *tolerating uncomfortable feelings* dimension of self-compassion and grazing significantly influenced the relationship between CDMNS-13 and moral distress, with greater perceptions of clinical decision-making ability predicting lower levels of moral distress through self-compassion, and higher levels of moral distress through grazing. However, the CDMNS-40 did not demonstrate any significant moderations. Future studies should further explore the utility of the CDMNS-13, both independently and in conjunction with the CDMNS-40, to fully validate its effectiveness across known risk indicators in health professions.

Limitations

The present study has two limitations to acknowledge. Firstly, participants of the present study predominantly identified as White-British (89.5%), resulting in ethnic under-representation, when compared to national statistics (Baker, 2022). With Range and Rotherham (2010) finding ethnicity to influence moral distress experience, it is important that this study is replicated on a more diverse population to strengthen findings. Secondly, the cross-sectional nature of this study makes it difficult to infer cause and effect. To draw stronger conclusions, further research should utilise an experimental design to allow for more causal inferences to be made about the role of health behaviours and self-compassion on clinical decision-making and moral distress.

Conclusion

In summary, these data contribute to existing knowledge on the impact of clinical decision-making across the nursing profession; both health behaviours and self-compassion demonstrate significant

associations with perceived clinical decision-making ability and moral distress, which should be considered in potential intervention strategies. Given the interaction between grazing and moral distress, we highlight the importance of systemic support, in terms of break scheduling and meal opportunities. Supporting nurses in establishing healthier eating habits, and reducing grazing behaviours, may offer promising potential in the mitigation of moral distress. Additionally, the role of self-compassion in predicting reduced moral distress experience may be another element considered for potential intervention and support. If nurses are equipped with the skills and resources to practise self-compassion, they will be better protected from the impact of clinical decision-making. Existing research into the area suggests that self-compassion training and education workshops are effective at enhancing self-compassion across nursing professions (Franco and Christie, 2021). The present study therefore highlights the importance of systemic support and education opportunities when increasing self-compassion and the impact that this may have on nurse's experience of moral distress. With moral distress being deemed an inherent part of the nursing role, strategies like these, which are more individual-focused, may offer long-term relief from the demands of nursing. We conclude that both self-compassion and health behaviours should be considered in the mitigation of moral distress if nurse's well-being is to be supported.

Key points for policy, practice and/or research

- Nurses' perceptions of clinical decision-making ability are associated with moral distress experience.
- Grazing behaviours negatively influenced the relationship between perceived clinical decision-making ability and moral distress across the nursing sample. Healthcare organisations should support scheduled breaks for meals to prevent grazing, and support nurses' well-being.
- Self-compassion had a positive influence on the relationship between perceived clinical decision-making ability and moral distress. Elements of self-compassion should be considered when supporting nurses through the decision-making process.

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Appendix A3: Chapter 6 publication

Exploring the role of personality, perfectionism, and self-compassion on the relationship between clinical decision-making and nurses' wellbeing

Molly Miley, Michail Mantzios, Helen Egan & Kathrina Connabeer

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Exploring the role of personality, perfectionism, and self-compassion on the relationship between clinical decision-making and nurses' wellbeing

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Background: Clinical decision-making is a core competency of the nursing role, with nurses having to make decisions surrounding patient care and patient safety daily. With decision-making being linked to psychological outcomes, it is important to consider potential areas that may support or hinder nurses' wellbeing whilst navigating clinical decisions.
Aim: The present study sought to investigate the relationship between clinical decision-making and moral distress, and further explore the role of personality, perfectionism, philotimo (a virtue describing the desire to do right by oneself and others, aligning with one's sense of morality), and self-compassion.
Design: An online cross-sectional survey was conducted using Qualtrics. Associations between clinical decision-making and moral distress, burnout, personality, perfectionism, philotimo, and self-compassion were examined using univariate and multivariate statistics.
Methods: One hundred and forty-three nurses from the United Kingdom completed an online questionnaire. Eligibility criteria included individuals who had practised in the nursing profession for a minimum of six months. To ensure that all participants were practising across the United Kingdom, the eligibility criteria was made clear in the study advertisement, and the consent form. The consent form required participants to confirm that they reached these criteria to proceed with the study.
Results: Results revealed that clinical decision-making was associated with moral distress experience, and that both openness to experience, and philotimo mediated this relationship, independently. In addition to this, self-compassion was significantly associated with clinical decision-making across senior banded nursing roles, but this was non-significant for junior banded nursing roles.
Conclusion: Findings highlight the role of individual differences when looking at the impact of clinical decision-making upon nurses' wellbeing and offers explanation for any variance in moral distress experience across nursing professionals. This research identifies fundamental differences between junior and senior nurses in relation to clinical decision-making and self-compassion that should be considered in future research.

Keywords: clinical decision-making; moral distress; burnout; personality; perfectionism; philotimo; self-compassion

Impact statement

This study addresses the impact of clinical decision-making on nurses' wellbeing, and highlights the role of individual differences, particularly openness to experience and philotimo characteristics.

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Plain language summary

In the nursing profession, making crucial decisions about patient care, safety, and treatment plans is a daily challenge. This study sheds light on the impact of these decisions on nurses' wellbeing, focusing on the emotional burden of moral distress. The research reveals that nurses' personalities play a role in determining whether they experience moral distress, identifying those at higher risk. This study also found that there were differences between junior and senior nurses in terms of being self-compassionate during these challenging moments, providing potential future solutions for some nursing staff. A larger sample of senior nurses is required to support these findings further.

Introduction

Clinical decision-making is central to the nursing role, with nurses having to utilise their clinical judgement, intuition, and higher-order cognitive skills to optimise patient care (Johansen & O'Brien, 2016; Manetti, 2018; Smith et al., 2008; Thompson et al., 2004). Concerningly, nurses report feeling alone, uncertain, and at times, like they had to go against their own conscience when navigating these decisions (Grönlund et al., 2015). Moral conflicts such as these have been coined 'ethical dilemmas' and occur when barriers prevent nurses from carrying out what they believe is the morally correct action (Haahr et al., 2020; Rainer et al., 2018). Frequent or unresolved exposure to ethical dilemmas has been linked to moral distress (Rathert et al., 2016).

Moral distress describes the psychological unease that arises when an individual identifies an ethically correct action to take but is constrained from implementing these in reality (British Medical Association, 2021). Across the nursing profession moral distress has been linked to depression, anxiety, and burnout (Petrişor et al., 2021; Smallwood et al., 2021). Burnout not only impacts individuals but also predicts greater infection rates, reduced patient safety and intention to leave the profession (Dall'Ora et al., 2020). Individual characteristics and values significantly influence nurses' experience and susceptibility to moral distress (Kovanci & Akyar, 2022; Montoya et al., 2019), and it is likely that a person's idea of morality, specifically moral judgment is a key factor in the experience of moral distress. The concept of Philotimo may therefore offer a novel understanding of moral distress, given its emphasis on social and moral virtues (Hatzimalonas, 2018). A person embodying philotimo is described as virtuous, dependable, respectful, self-sacrificing, and dedicated to fulfilling their obligations and duties (Hatzimalonas, 2018). These values are consistent with many nursing principles (Nursing & Midwifery Council, 2015, 2022), and so philotimo may add insight when exploring the role of individual differences in nurses' decision-making.

Personality is a significant predictor of both decision-making and wellbeing, with evidence suggesting that more emotion-driven personality traits, such as neuroticism are related to increased decision-making difficulties and a lower tolerance for psychological distress (Martincin & Stead, 2015; Warbah et al., 2007). Perfectionism is a trait that has been implicated in stress and wellbeing outcomes (Smith et al., 2017; Smith et al., 2018) and is characterised by excessively high standards and critical evaluations of oneself and others. Perfectionism is a multidimensional concept, which can lead to adaptive and maladaptive outcomes (Frost et al., 1990; Hewitt & Flett, 1991; Stoeber et al., 2020). Maladaptive perfectionism has been linked to higher stress reactivity, depression, decision-making difficulties, and an increased reluctance to seek help for psychological distress (Chen et al., 2022; Ey et al., 2000; Flett et al., 2016). Crane et al. (2015) found trait perfectionism to enhance individual vulnerability to distress in a veterinarian population in morally challenging events such as performing convenience

euthanasia on animals. Montoya et al. (2019) concluded that trait perfectionism significantly increased the risk of developing moral distress from moral conflicts. Nurses regularly face morally complex situations within their profession therefore exploring associations between perfectionism and moral distress is relevant.

Research evidence shows that maladaptive perfectionism is associated with diminished levels of self-compassion (Stoeber et al., 2020) suggesting a pathway for the noted adverse correlations with stress, depression and decision-making difficulties and offering a means to support wellbeing. Self-compassion has been identified as a 'buffer' against negative life experiences and poorer psychological health outcomes (Játiva & Cerezo, 2014), implicating its relevance in healthcare, where such challenges are encountered daily. Despite this, existing research is yet to examine the role of self-compassion in nurses' clinical decision-making and moral distress experience. The present study therefore explores the role of self-compassion, perfectionism, philotimo and personality in relation to clinical decision-making, with the goal of supporting nurses' decision-making, and mitigating any impact on wellbeing.

Methods

Design

An online cross-sectional survey was conducted using Qualtrics. The survey platform was trialled by the research team prior to data collection.

Setting and sample

This online study was conducted across the United Kingdom (UK) from October to November 2022. Non-probability volunteer and snowball sampling were utilised to recruit 143 UK nurses. This sampling strategy was selected due to its effectiveness when targeting specific populations, such as nurses, at a relatively low cost (Acharya et al., 2013). Participants were recruited through social media platforms (Facebook, X). Eligibility criteria included individuals who had practised in the nursing profession for a minimum of six months. With Cowin and Hengstberger-Sims (2006) reporting that it takes six months for nurses to develop the confidence to apply their knowledge, this criterion ensures that participants have sufficient experience of decision-making to complete the questionnaire. The eligibility criteria were made clear in both the study advertisement and participant information sheet. All participants indicated that they were currently practising across the UK in the consent form provided prior to taking part in the study. Fritz and MacKinnon (2007) suggest that 148 participants were required for the present study. The sample size fell marginally below this value due to incomplete responses ($n = 16$), however, 143 participants significantly exceed estimates of 115 and 116 for alpha and beta paths of the mediations at medium effect (Fritz & MacKinnon, 2007).

Materials

The present study utilised several questionnaires for data collection. The estimated completion time for the final survey was 30–40 min, which was made clear in the participant information sheet.

The Clinical Decision-making in Nursing Scale-40 (CDMNS-40; Jenkins, 1985) utilises 40 items to measure nurses' perceptions of decision-making ability. The CDMNS-40 has four subscales: search for alternatives or options, canvassing of objectives and values, evaluating and re-evaluation of consequences, search for information and unbiased assimilation of new

information. Items include 'I consider even the remotest consequences before making a choice'. Responses range from 1 (never) to 5 (always). Higher scores indicate greater perceptions of clinical decision-making ability. Cronbach's alpha for this study was $\alpha = .764$ for the total score, $\alpha = .429$ search for alternatives or options, $\alpha = .486$ for canvassing of objectives and values, $\alpha = .580$ for evaluating and re-evaluation of consequences, $\alpha = .293$ for search for information and unbiased assimilation of new information. Each subscale demonstrated low internal consistency (Tavsancil, 2006) and was therefore not used in the final analysis. Instead, the sum of each item was calculated to develop a total score, which was utilised throughout all data analyses.

The Clinical Decision-making in Nursing Scale-13 (CDMNS-13; Miley et al., 2023) is a revised version of Jenkins's (1985) scale, which utilises 13 of the original items to measure nurses' clinical decision-making ability. This shortened scale is a global clinical decision-making measure that allows for the use of more materials in a research context, thus supporting understanding of the construct. Responses range from 1 (never) to 5 (always). Higher scores indicate higher perceptions of clinical decision-making ability. Cronbach's alpha for this study was $\alpha = .693$. The CDMNS-13 has been reported in parallel to the CDMNS-40 and is presented in parentheses throughout the results section.

The Moral Distress Scale-revised (MDS-R; Hamric et al., 2012) utilises 21 items to assess moral distress experienced by healthcare workers. Participants are required to rate their experience of statements in terms of frequency and intensity. Statements include 'Witness diminished patient care quality because of poor team communication'. Responses range from 0 (none) to 4 (a great extent). Higher scores indicate higher levels of moral distress. Internal consistency for this study was $\alpha = .888$.

The Sussex-Oxford Compassion Scale for Self (SOCS; Gu et al., 2020) utilises 20 items to assess self-compassion. The SOCS has five subscales: recognising suffering, understanding the universality of suffering, feeling for the person suffering, tolerating uncomfortable feelings, acting or being motivated to act to alleviate suffering. Items include, 'I'm good at recognising when I'm feeling distressed'. Responses range from 1 (not at all true) to 5 (always true). Higher scores indicate greater levels of self-compassion. Internal consistency for this study was $\alpha = .921$, $\alpha = .850$ for recognising suffering, $\alpha = .775$ for understanding the universality of suffering, $\alpha = .825$ for feeling for the person suffering, $\alpha = .802$ for tolerating uncomfortable feelings, and $\alpha = .851$ for acting or being motivated to act.

The HEXACO Personality Inventory-Revised (HEXACO-PI-R; Ashton & Lee, 2009) utilises 60 items to assess individual personality dimensions. The HEXACO-PI-R has six subscales; honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience. Sample items include, 'People often call me a perfectionist'. Responses range from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate a higher prevalence of each personality dimension. Internal consistency for this study was $\alpha = .683$ for honesty-humility, $\alpha = .609$ for emotionality, $\alpha = .837$ for extraversion, $\alpha = .737$ for agreeableness, $\alpha = .708$ for conscientiousness, $\alpha = .758$ for openness to experience. The low reliability score observed for the honesty-humility facet of personality, alongside a low item-total correlation, indicated that item 42 was problematic. Therefore, this item was removed from the subscale to increase the internal consistency to .690. Likewise, the low reliability score observed for the emotionality subscale, alongside low item-total correlations, indicated that items 5 and 53 were problematic. We therefore removed these items from the subscale to increase the internal consistency to .695.

The Big-three Perfectionism Scale Short-form (BTPS-SF; Feher et al., 2019) utilises 16 items to assess individual perfectionism. The BTPS-SF has three subscales: rigid perfectionism, self-critical perfectionism, narcissistic perfectionism. Items include 'It is important to me to be perfect in everything I attempt'. Responses range from 1 (disagree strongly) to 5 (agree strongly).

Higher scores indicate greater levels of perfectionism. Internal consistency for this study was $\alpha = .918$ for rigid perfectionism, $\alpha = .885$ for self-critical perfectionism, and $\alpha = .800$ for narcissistic perfectionism.

The Philotimo Scale (Mantzios, 2021) utilises 5 items to measure personality traits consistent with philotimo. Items include 'I find it principled to help others even if I get stuck in a difficult situation'. Responses range from 1 (not at all like me) to 5 (extremely like me). Higher scores indicate greater traits of philotimo. Internal consistency for this study was $\alpha = .871$.

Procedure

Participants responded to an online invitation posted on social media platforms (X, Facebook) to take part in the study. They received a short introduction to the study before being directed to Qualtrics to complete the survey. Participants were initially presented with an information sheet and consent form. Participants were asked to indicate that they had read the consent form, and further continuation of the study implied consent. Having given consent, participants were presented with a short demographic questionnaire, before being directed to the online survey. Upon completion, participants were directed to a debrief form.

Ethical approval

Ethical approval was obtained from Birmingham City University's ethics committee (approval number, Miley/#10414/sub1/R(C)/2022/Mar/BLSSFAEC). Informed consent was obtained from all participants.

Data analysis

Data analysis was conducted using IBM SPSS 28. All surveys were screened for completeness. Any responses with missing data were excluded from the final analysis ($n = 16$). Descriptive statistics including means, standard deviations, and frequencies were obtained to describe sample characteristics. The relationships between all study variables were examined using Pearson's bivariate correlations. Preliminary analyses and visual inspection of residual scatterplots suggested that the necessary assumptions for both regression and mediation analyses were met, including normality of data, linearity, homoscedasticity, independent errors, and no multicollinearity. Linear regression analyses were conducted to offer further insight into the strength of the relationships identified in correlation analyses. Given the exploratory nature of the present study, mediation analyses were deemed appropriate to develop a better understanding into the variable interactions and explore what factors influence the relationship between clinical decision-making and well-being. Mediation effects were determined using Hayes' (2017) PROCESS macro (model 4) with a bootstrap sample of 5000. Statistical significance was determined when $p < .05$.

Results

Descriptive statistics

The sample consisted of 143 nurses ($Mdn_{age} = 46$, range: 24–64). Female participants made up 91.6% ($n = 131/143$) of the sample, with just 7.7% ($n = 11/143$) identifying as male (nonbinary, $n = 1/143$, 0.7%). Most nurses within the sample practised full-time ($Mdn = 37.5$, range: 8–60) and were in a senior nursing position (62%, $n = 89/143$). For the present study,

junior nursing roles were categorised as band 5 and included newly qualified staff and staff nurses. Senior banded nurses were categorised as band 6 and above and included senior staff nurses, advanced nurse practitioners and chief nurses. See Table 1 for summary.

Bivariate correlations revealed that CDMNS-40 was negatively associated with moral distress experience ($r = -.233$, $p = .005$; CDMNS-13: $r = -.274$, $p < .001$). Regarding personality, honesty-humility ($r = .233$, $p = .005$; CDMNS-13: $r = .244$, $p = .003$), conscientiousness ($r = .346$, $p < .001$; CDMNS-13: $r = .314$, $p < .001$), and openness ($r = .252$, $p = .002$; CDMNS-13: $r = .209$, $p = .012$) were significantly associated with CDMNS-40. Higher scores on these dimensions were associated with increased decision-making ability. Similarly, higher philotimo scores were associated with greater perceptions of decision-making ability ($r = .385$, $p < .001$; CDMNS-13: $r = .332$, $p < .001$). However, higher narcissistic perfectionism scores were associated with lower perceptions of decision-making ability (CDMNS-13: $r = -.209$, $p = .012$).

Interestingly, only the emotionality dimension of personality was significantly associated with moral distress experience ($r = .169$, $p = .043$), in a positive linear direction. A further inspection into nurses' seniority revealed that self-compassion was only significantly associated with moral distress experience amongst senior nurses ($r = -.317$, $p = .002$) (Table 2).

A regression model used CDMNS-40 as the outcome variable, and the HEXACO personality dimensions, philotimo, and perfectionism as predictors. The model was statistically significant $F_{(10, 132)} = 6.01$, $p < .001$ and predictive capacity calculated through R^2 adj. was .261. Results revealed that openness to experience ($B = .176$, $p = .020$, 95% CI: 0.47, 5.39), conscientiousness ($B = .317$, $p < .001$, 95% CI: 3.33, 10.08), and philotimo ($B = .309$, $p < .001$, 95% CI: 0.39, 1.21) demonstrated significant predictive abilities (see Table 3). Similar findings were reported with the CDMNS-13 (see Table 4).

A second regression model, utilising only the senior sample of nurses ($n = 89/143$) investigated the predictive capabilities of self-compassion upon moral distress. The model was

Table 1. Descriptive statistics.

Characteristic	Junior nurses (N = 54)		Senior nurses (N = 89)		Full sample (N = 143)	
	n	%	*n*	%	*n*	%
Gender						
Female	49	90.7	82	92.1	131	91.6
Male	5	9.3	6	6.7	11	7.7
Non-binary	0	0	1	1.1	1	0.7
Mental health diagnosis						
Yes	18	33.3	22	24.7	40	28
No	32	59.3	65	73	97	67.8
Prefer not to say	4	7.4	2	2.2	6	4.2
Ethnicity						
White-British	48	88.9	79	88.8	127	88.8
Irish	1	1.9	4	4.5	5	3.5
Asian Indian	0	0	2	2.2	2	1.4
Other	5	9.2	4	4.5	9	6.3
Descriptive statistics for continuous variables						
	M	SD	M	SD	M	SD
Age	42.91	10.98	47.08	8.47	45.50	9.68
Years spent in profession	5.79	6.05	6.42	7.33	6.18	6.86
Hours practised per week	35.34	7.97	36.28	6.77	35.93	7.23

Table 2. Bivariate correlations between clinical decision-making, moral distress, self-compassion, personality, perfectionism, and philotimo (n = 143).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
(1) CDMNS-40																			
(2) CDMNS-13	.866**																		
(3) MDS-R	−.233**	−.274**																	
(4) SOCS	.097	.113	−.150																
(5) SOCS-RS	.168*	.149	−.141	.733**															
(6) SOCS-UUS	.286**	.377**	−.124	.501**	.407**														
(7) SOCS-FPS	−.033	−.042	−.106	.874**	.483**	.235**													
(8) SOCS-TUF	.045	.036	−.124	.870**	.512**	.217**	.787**												
(9) SOCS-MTA	−.019	.015	−.097	.866**	.456**	.294**	.781**	.751**											
(10) Honesty-Humility	.233**	.244**	−.045	.028	.088	.216**	−.147	.005	.010										
(11) Emotionality	−.108	−.076	.169*	−.295**	−.128	−.063	−.291**	−.336**	−.282**	.139									
(12) Extraversion	.119	.140	−.085	.506**	.163	.251**	.553**	.507**	.458**	−.119	−.230**								
(13) Agreeableness	.099	.161	−.091	.172*	.092	.127	.105	.187*	.162	.314**	−.055	.219**							
(14) Conscientiousness	.346**	.314**	−.106	.022	.085	.084	−.027	.007	−.040	.172*	−.023	−.004	.101						
(15) Openness	.252**	.209*	.132	.059	.019	.114	.067	.025	.025	.083	−.007	.122	.062	.089					
(16) Philotimo	.385**	.332**	.103	.030	.044	.205*	−.011	.007	−.075	.231**	−.041	.126	.131	.079	.128				
(17) RP	.095	.102	.124	−.131	−.024	−.106	−.120	−.126	−.134	−.091	.169*	−.121	−.105	.365**	.148	.192*			
(18) SCP	.007	.077	.103	−.482**	−.209*	−.178*	−.541**	−.438**	−.459**	.060	.315**	−.505**	−.173*	.165*	−.001	.111	.600**		
(19) NP	−.147	−.209*	.140	.001	−.013	−.195*	.120	.010	.021	−.425**	.024	.052	−.439**	.050	−.038	−.149	.442**	.212**	

Note: CDMNS-40 – Scores on the clinical decision-making in nursing scale – 40 item; CDMNS-13 – Scores on the clinical decision-making in nursing scale-13 item; MDS-R – Scores on the moral-distress scale-revised; SOCS – Total score on the Sussex-Oxford self-compassion scale; SOCS-RS – Scores on the recognising suffering dimension of the Sussex-Oxford self-compassion scale; SOCS–UUS – Scores on the understanding the universality of suffering dimension of the Sussex-Oxford self-compassion scale; SOCS–FPS – Scores on the feeling for the person suffering dimension of the Sussex-Oxford self-compassion scale; SOCS-TUF – Scores on the tolerating uncomfortable feelings dimension of the self-compassion scale; SOCS-MTA – Scores on the being motivated to act to alleviate suffering dimension of the Sussex-Oxford self-compassion scale; Honesty-Humility – Subscale of the HEXACO-PI-R; Emotionality – Subscale of the HEXACO-PI-R; Extraversion – Subscale of the HEXACO-PI-R; Agreeableness – Subscale of the HEXACO-PI-R; Conscientiousness – Subscale of the HEXACO-PI-R; Openness – openness to experience subscale of the HEXACO-PI-R; Philotimo – Scores on the philotimo scale; RP – Rigid perfectionism subscale of the big-three perfectionism scale short-form; SCP – Self-critical perfectionism subscale of the big-three perfectionism scale short-form; NP – Narcissistic perfectionism subscale of the big-three perfectionism scale short-form.
*Significance p < .05.
**Significance p < .01.

Table 3.   Summary of the predictive capability of personality, perfectionism, and philotimo upon scores on the CDMNS-40 ($n = 143$).

Variable	B	SE	Standardised B	t	Significance	95% Confidence interval for B	
						Lower	Upper
Honesty-Humility	1.79	1.64	.095	1.09	.276	−1.45	5.03
Emotionality	−1.38	1.33	−.081	−1.04	.301	−4.01	1.25
Extraversion	1.14	1.40	.075	.809	.420	−1.64	3.92
Agreeableness	−1.45	1.67	−.075	−.867	.387	−4.75	1.85
Conscientiousness	6.70	1.71	.317	3.93	**< .001**	3.33	10.08
Openness	2.93	1.24	.176	2.36	**.020**	0.471	5.39
Philotimo	0.796	0.207	.309	3.85	**< .001**	0.388	1.21
RP	-0.130	0.266	−.055	−.489	.626	−0.655	0.396
SCP	0.029	0.205	.016	.141	.888	−0.376	0.434
NP	-0.234	0.277	−.084	−.842	.401	−0.782	0.315

Note: Honesty-Humility, subscale of the HEXACO-PI-R; Emotionality, subscale of the HEXACO-PI-R; Extraversion, subscale of the HEXACO-PI-R; Agreeableness, subscale of the HEXACO-PI-R; Conscientiousness, subscale of the HEXACO-PI-R; Openness, subscale of the HEXACO-PI-R; Philotimo, scores on the philotimo scale; RP, rigid perfectionism subscale of the big-three perfectionism scale short-form; SCP, self-critical perfectionism subscale of the big-three perfectionism scale short-form; NP, narcissistic perfectionism subscale of the big-three perfectionism scale short-form. Bold figures indicate significance, $p < .05$.

Table 4.   Summary of the predictive capability of personality, perfectionism, and philotimo upon scores on the CDMNS-13 ($n = 143$).

Variable	B	SE	Standardised B	t	Significance	95% Confidence interval for B	
						Lower	Upper
Honesty-Humility	7.18	.735	.087	0.977	.330	−0.736	2.17
Emotionality	−0.571	.598	−.076	−0.955	.341	−1.76	0.612
Extraversion	1.34	.631	.201	2.12	**.036**	0.092	2.59
Agreeableness	−0.290	.750	−.034	−0.387	.700	−1.77	1.19
Conscientiousness	2.48	.768	.268	3.24	**.002**	0.965	4.00
Openness	0.933	.559	.128	1.67	.097	−0.173	2.04
Philotimo	0.235	.093	.208	2.53	**.012**	0.051	0.419
RP	−0.043	.119	−.042	−0.358	.721	−0.279	0.193
SCP	0.155	.092	.191	1.69	.094	−0.027	0.338
NP	−0.239	.125	−.195	−1.92	.058	−0.485	0.008

Note: Honesty-Humility, subscale of the HEXACO-PI-R; Emotionality, subscale of the HEXACO-PI-R; Extraversion, subscale of the HEXACO-PI-R; Agreeableness, subscale of the HEXACO-PI-R; Conscientiousness, subscale of the HEXACO-PI-R; Openness, subscale of the HEXACO-PI-R; Philotimo, scores on the philotimo scale; RP, rigid perfectionism subscale of the big-three perfectionism scale short-form; SCP, self-critical perfectionism subscale of the big-three perfectionism scale short-form; NP, narcissistic perfectionism subscale of the big-three perfectionism scale short-form. Bold figures indicate significance, $p < .05$.

statistically significant F $(5, 83) = 3.41$, $p = .008$ and predictive capacity calculated through adjusted R^2 was .120. Results revealed that understanding universality of suffering ($B = −6.92$, $p = .029$, 95% CI: $−13.09$, $−0.74$) and tolerating uncomfortable feelings ($B = −7.31$, $p = .043$, 95% CI: $−14.38$, $−0.25$) demonstrated significant predictive abilities (see Table 5).

Mediation analyses examined the direct and indirect effects of clinical decision-making on moral distress via the personality dimension 'openness to experience'. Findings suggest that

Table 5. Summary of the predictive capability of self-compassion upon moral distress in the senior nursing sample ($n = 89$).

Variable	B	SE	Standardised B	t	Significance	95% Confidence interval for B	
						Lower	Upper
SOCS-RS	−1.58	2.70	−0.071	−.586	.560	−6.94	3.78
SOCS-UUS	−6.92	3.11	−0.240	−2.23	**.029**	−13.09	−0.744
SOCS-FPS	6.11	4.28	0.273	1.43	.157	−2.40	14.62
SOCS-TUF	−7.31	3.55	−0.335	−2.06	**.043**	−14.38	−0.250
SOCS-MTA	−2.97	3.91	−0.129	−0.760	.450	−10.75	4.81

Note: SOCS-RS, recognising suffering subscale of the Sussex-Oxford compassion towards self-scale; SOCS-UUS, understanding the universality of suffering subscale of the Sussex-Oxford compassion towards self-scale; SOCS-FPS, feel for person suffering subscale of the Sussex-Oxford compassion towards self-scale; SOCS-TUF, tolerating uncomfortable feelings subscale of the Sussex-Oxford compassion towards self-scale; SOCS-MTA, being motivated to act to alleviate suffering subscale of the Sussex-Oxford compassion towards self-scale. Bold figures indicate significance, $p < .05$.

CDMNS-40 had a significant direct effect on moral distress ($B = −1.75, p < .001$, 95% CI: −2.76, −0.738), and this remained significant when exploring this effect via openness to experience ($B = .315$, 95% CI: 0.033, 0.691). These results are summarised in Figure 1. Similarly, the direct and indirect effects of CDMNS-40 on moral distress via philotimo were examined using mediation analyses. CDMNS-40 had a significant direct effect on moral distress ($B = −1.97, p < .001$, 95% CI: −3.03, −0.913), and this remained significant when exploring this effect via philotimo ($B = .536$, 95% CI: 0.109, 1.01). Therefore, both openness to experience and philotimo significantly mediate the relationship between CDMNS-40 and moral distress (see Figure 2). Similar findings were observed with the CDMNS-13 (see Figures 3 and 4).

Discussion

The present study sought to explore the relationship between clinical decision-making and well-being across the nursing population and examine the effect of personality, philotimo, and perfectionism on clinical decision-making ability. Findings indicate that clinical decision-making ability is associated with moral distress across this population, with lower perceived decision-making
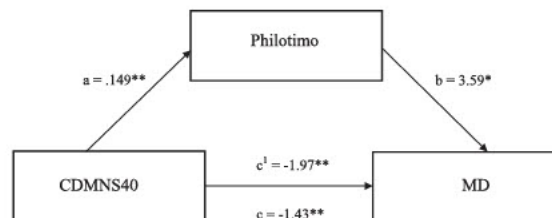

Figure 1. The mediating effect of philotimo in the relationship between CDMNS-40 and moral distress. Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon philotimo; b is the effect of philotimo on moral distress; c^1 is the direct effect of clinical decision-making on moral distress; c is the total effect of clinical decision-making on moral distress. * $p < .05$, ** $p < .01$. Note: MD - scores on the moral distress scale-revised.
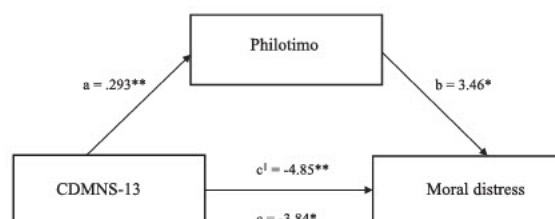
Figure 2.   The mediating effect of philotimo in the relationship between CDMNS-13 and moral distress.
Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon philotimo; b is the effect of philotimo on moral distress; c^1 is the direct effect of clinical decision-making on moral distress: c is the total effect of clinical decision-making on moral distress. * $p < .05$, ** $p < .01$.

ability lending itself to increased moral distress experience. This confirms that decision-making is significantly associated with nurses' wellbeing and offers potential insight as to why moral distress prevalence is elevated across nursing roles (Berhie et al., 2020; Mehlis et al., 2018).

In line with existing research into perfectionism and decision-making more broadly, narcissistic perfectionism was significantly negatively associated with nurses clinical decision-making ability (Chen et al., 2022; Wang et al., 2020). A central theme of narcissistic perfectionism is the quest for the 'perfect self' and that any kind of imperfection is intolerable (Flett et al., 2014). Given these unrealistic expectations, it is unsurprising that scoring high in these traits is associated with lower perceptions of decision-making ability, as it is not possible to reach such personal standards. The observed relationship may therefore be understood by the critical outlook upon one's own behaviour and an inability to achieve unrealistic expectations regarding decision-making.

Regarding individual differences, the honesty-humility, openness to experience, and conscientiousness dimensions of personality were positively associated with clinical decision-making ability. These elements are deemed indicators of moral character, relating to justice, fairness, and care (Kim & Cohen, 2015; Međedović & Petrović, 2016; Ścigała et al., 2020; Webster et al., 2021). Furthermore, openness and honesty are coined as the professional standards for
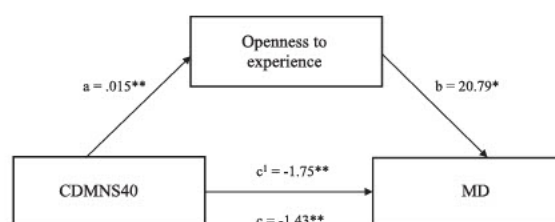

Figure 3.   The mediating effect of openness to experience in the relationship between CDMNS-40 and moral distress.
Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon openness to experience; b is the effect of openness to experience on moral distress; c^1 is the direct effect of clinical decision-making on moral distress: c is the total effect of clinical decision-making on moral distress. * p < .05, ** p < .01. Note: Openness to experience – subscale of the HEXACO-PI-R (higher scores represent higher traits of openness to experience); MD - scores on the moral distress scale-revised.
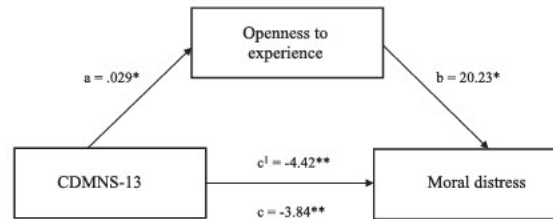
Figure 4. The mediating effect of openness to experience in the relationship between CDMNS-13 and moral distress.
Note: All presented effects are unstandardised; a is the effect of clinical decision-making upon openness to experience; b is the effect of openness to experience on moral distress; c^1 is the direct effect of clinical decision-making on moral distress: c is the total effect of clinical decision-making on moral distress. * *p* < .05, ** *p* < .01. Note: Openness to experience – subscale of the HEXACO-PI-R (higher scores represent higher traits of openness to experience).

good medical practice (Nursing & Midwifery Council, 2022). It is therefore unsurprising that scoring high in these traits is associated with increased decision-making abilities. Furthermore, openness to experience significantly mediated the relationship between clinical decision-making and moral distress, suggesting that being open to new experiences, may reduce associations between moral distress and clinical decision-making. This aligns with existing literature which emphasises the positive influence of openness traits on wellbeing and self-efficacy (Audet et al., 2021).

Additionally, philotimo was positively associated with clinical decision-making ability, and further mediated its relationship with moral distress. Given that philotimo encompasses the virtues of respect, honesty, benevolence, and moral responsibility (Mantzios, 2021), the findings of the present study align with previous literature outlining the positive associations between these areas and wellbeing (Aghababaei et al., 2016; Aghababaei & Arji, 2014; Martela & Ryan, 2016; Weziak-Bialowolska et al., 2021). Recognising the significance of philotimo within the healthcare environment prompts upcoming research to explore concepts of morality and integrity to broaden the potential impact of clinical decision-making.

Contrary to expectations, self-compassion did not relate to clinical decision-making or moral distress within this study. This opposes existing literature where self-compassion has been shown to predict both decision-making competency and wellbeing (Bailis et al., 2021; Homan, 2016; McKay & Walker, 2021). Further inspection into this relationship revealed that self-compassion was only significantly negatively associated with moral distress experience across senior banded nurses. One possible explanation for this is level of education. Joy et al. (2023) found that senior nursing roles tended to possess a greater education level, and that this allowed for greater reflection, and subsequently increased self-compassion awareness. The interaction observed within this study may therefore be understood through nurses' education level; perhaps prompting healthcare organisations to encourage education opportunities if the benefits of self-compassion are to occur. However, self-compassion remained a non-significant moderator of the relationship between clinical decision-making and moral distress across senior roles. This may be explained by the strike action that took place within the National Health Service during the period of this study. Andrews et al. (2020) found that to be self-compassionate, nurses needed a 'stable base' where they felt safe and secure in the workplace. The strike action evoked major changes within the healthcare system, preventing nurses from achieving this (Booth, 2022). The unexpected findings regarding self-compassion may be an indirect result of nurses' industrial action.

There were two limitations to the present study. First, when observing differences between junior and senior nurses, the sample sizes did not reach desirable power estimates for further regression analyses (Cohen, 1992). Therefore, replicating this study with a larger sample of senior nurses is essential to provide more precise estimations of interactions, and validate the conclusions drawn. Second, the present study is cross-sectional. It is beyond the scope of cross-sectional studies to infer cause and effect; future research should utilise a more experimental design to allow inferences to be made about the role of personality and self-compassion on clinical decision-making and moral distress.

Conclusion

Findings from the present study should inform future research and practice in aiming to mitigate the impact of clinical decision-making on nurses' wellbeing. Recognising the influence of openness to experience and philotimo characteristics on the relationship between clinical decision-making and moral distress highlights the importance of acknowledging the role of individual differences when supporting nurses with clinical decision-making. Further consideration should be applied to potential differences between junior and senior nurses. Although sample sizes were limited in the present research, key differences between these two populations regarding the relationship between clinical decision-making and self-compassion require further consideration. This study emphatically underscores the significance of individual differences, specifically openness to experience and philotimo characteristics, in understanding the impact of clinical decision-making on nurses' wellbeing, providing crucial insights for shaping future research and enhancing practical support and education in the field.

Disclosure statement

Funding

Ethics approval

Approval was obtained from Birmingham City University's ethics committee (Approval number, Miley/#10414/sub1/R(C)/2022/Mar/BLSSFAEC). Approval letter has been submitted as a supplementary file.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Appendix B: Conference Presentation (Chapter 7 findings)

Examining Nurses' Experiences of Clinical Decision-Making: A Qualitative Investigation of Coping Behaviours, Health-Promoting Behaviours and Self-Compassion.

M.Miley, H.Egan, M.Mantzios, K.Connabeer

School of Psychology, Birmingham City University

Background

Nurses are required to make clinical decisions on a day-to-day basis within the nursing role. Decision-making more broadly has been linked to psychological wellbeing and professional quality of life. There are little qualitative explorations into nurse's experience of clinical decision-making, its impact upon health and wellbeing and any coping strategies employed to manage its effect.

Effective coping is important across the nursing profession where exposure to potential stressors is high (Dobnik et al.,2018; Nowakowska et al.,2017). Adaptive coping styles have been seen to reduce stress, anxiety, and secondary traumatic stress symptoms across nursing students and professionals (Hosaini & Ariapooran, 2014; Samson, 2019).

Self-compassion describes the tendency to be understanding and compassionate towards oneself in the face of personal shortcomings (Neff., 2003) and has been associated with reduced burnout (Hashem & Zeinoun, 2020), increased mental health and wellbeing (Dikmen & Ilkay, 2022), reduced stress (Dikmen & Ilkay, 2022) and reduced compassion fatigue (Duarte et al., 2016) across nurses.

Aims

Examine nurses' experiences of clinical decision-making and the impact upon health and wellbeing.

Explore the role of coping behaviours, health-promoting behaviours and self-compassion in relation to clinical decision-making and its impact.

Methods

Design.
Semi structured interviews were used to explore nurses' experience of clinical decision-making, its impact on wellbeing, as well as the coping strategies used to minimise any acknowledged affect.

Participants.
All participants ($n = 23$, $M_{age} = 42.0$, $SD = 11.7$) were qualified in the nursing profession across the United Kingdom. Eligibility criteria ensured that all participants had practised in the nursing profession for a minimum of 6-months to ensure that they had sufficient experience of clinical decision-making to understand and respond to the interview questions.

Procedure.
All participants were asked to provide informed consent and complete a series of demographic questions. Participants then attended an online interview via Microsoft Teams, which took an average of 50 minutes. Participants were asked to discuss their experiences of clinical decision-making with reference to self-compassion, health-promoting behaviours and coping behaviours. Participants were then provided a thorough debrief.

Ethical Approval.
Ethical approval was obtained from the Business, Law and Social Sciences ethics committee at Birmingham City University (Miley/#11242/sub3/R(B)/2023/Feb/BLSSFAEC).

Data Analysis.
Thematic analysis was used to analyse the data, using Braun and Clarke's (2006) recommended steps.

Results

Three main themes were derived:

1. **We're not doctor's handmaidens anymore**
   - The nursing role has changed massively over recent years
   - Nurses are becoming more autonomous practitioners
   - Participants tend to enjoy the increased autonomy when they are adequately supported

'Because nursing has developed, we're not doctors handmaidens anymore, we're autonomous practitioners and the hospital nurses are as autonomous practitioners as we are in general practice. And things have changed so much since I started nursing. I mean you don't do your state finals anymore, you do a degree, it's completely different'

2. **Managing the impact of clinical decision-making**
   - Being involved in clinical decision-making influenced nurses work-life balance (ability to 'switch off'), heightened feelings of anxiety, as well as promoting rumination and sleep issues when they were not adequately supported.
   - The consequences of decision-making (litigation, blame culture) contributes towards the anxiety around decision-making.
   - Nurses tend to use social and peer support to cope with the impact of clinical decision-making.
   - Nurses were aware of the importance of self-compassion but the nursing role was a significant barrier (time to be self-compassionate, prioritising patients)

'So, I'd be lying if I said that I don't take it home with me, and I'd be lying if I said that it's not causing me anxiety and stress because it absolutely has.'

3. **We're trained to do what other people tell us to do**
   - Training on clinical decision-making is not currently sufficient.
   - Clinical decision-making skills have stemmed from experience as opposed to thorough training.
   - Models of clinical supervision are not adequate.
   - Some policies and training do not accurately capture nurses' involvement in clinical decision-making.
   - Senior nurses in particular identified support as an issue.

'So, I think some form of clinical supervision would be good and I'm not sure it's really built into our role. It is for kind of your preceptorship period, it is for your medics, but as senior nurses we don't really have anywhere to talk. I mean we can set up our own networks, but I think it would be nice if there was a more formal recognition of clinical supervision'

Conclusions

Overall, this research offers insight into nurses' experiences of clinical decision-making in relation to its impact upon well-being and potential strategies of support. This research highlights the impact clinical decision-making has upon an individual's ability to achieve a healthy work-life balance, with implications extending to nurses' professional and psychological wellbeing.

The findings of this study provide clarity into the importance of regular organisation-led support and training, to equip nurses with the skills to navigate clinical decision-making and minimise its affect both inside and outside of the working environment. Future research should explore the role of organisational support in greater detail to further understanding into effective strategies and allow healthcare organisations to facilitate elements to support nurses' management of the decision-making process.

Appendix C: Ethics Approval Letter (from Chapter's 3-8)

Appendix C1: Chapter 3 Ethical Approval Letter

BIRMINGHAM CITY
University

Faculty of Business, Law & Social Sciences Research Office
Curzon Building, 4 Cardigan Street
Birmingham
B4 7BD

BLSSethics@bcu.ac.uk;

14/Jan/2022

Miss Molly Miley

molly.miley@mail.bcu.ac.uk

Re: Miley /#9949 /sub1 /R(A) /2021 /Nov /BLSS FAEC - Investigating the role of self-compassion, health behaviours, and coping strategies in clinical decision-making.

Dear Molly ,

Thank you for your application and documentation regarding the above activity. This has been reviewed by members of the Faculty Academic Ethics Committee. Before the activity may begin, the following condition(s) must be addressed:

2. - Please tick the box for psychological risks greater than a participant is likely to expect in their daily life.

14. - There is a large amount of data (demographics and scales) being collected without a clear strategy of what to do with these data. Please provide more details in order to fulfil the GDPR principle of data minimisation and also to justify taking up a significant amount of participants' time.

16. - Some of the data on the demographic questionnaire appears to be different from the typical demographic data collected and looks like it may be integrated into the primary analyses - Please confirm that everything in the demographic questionnaires will deleted after the two weeks.

35. - Please change the contact information from psychethics to BLSSethics

38. - Please see the faculty guidance for information on how to collect gender identity data

38. - The title of the poster appears to be incomplete

Please update your application to address the above conditions and resubmit your application as soon as possible. We will check up on your resubmission after a minimum of 2 weeks, to catch any problems you may have with resubmitting. If you need longer than this, please contact BLSSethics@bcu.ac.uk; . I will then take Chair's action and issue an approval letter if the above condition(s) has/have been satisfied. Your activity may not begin until an approval letter is issued.

I look forward to hearing from you.

Yours Sincerely,

Dr. Kyle Brown

On behalf of the Business, Law and Social Sciences Faculty Academic Ethics Committee

Appendix C2: Chapter 4 Ethical Approval Letter

BIRMINGHAM CITY University

Faculty of Business, Law & Social Sciences Research Office
Curzon Building, 4 Cardigan Street
Birmingham
B4 7BD

BLSSethics@bcu.ac.uk;

20/Oct/2022

Miss Molly Miley

molly.miley@mail.bcu.ac.uk

Dear Molly ,

Re: Miley /#9949 /sub1 /Am /2022 /Oct /BLSS FAEC - Investigating the role of self-compassion, health behaviours, and coping strategies in clinical decision-making.

Thank you for your application for approval of amendments regarding the above study. I am happy to take Chair's Action and approve these amendments.

Provided that you are granted Permission of Access by relevant parties (meeting requirements as laid out by them), you may continue 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 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;

If you would like to provide feedback on the ethics process, please complete the feedback form using this link.

I wish you every success with your activity.

Yours Sincerely,

Miss Nimrah Khan
Research Ethics Officer

On behalf of the Business, Law and Social Sciences Faculty Academic Ethics Committee

Appendix C3: Chapter 5 Ethical Approval Letter

BIRMINGHAM CITY University

Faculty of Business, Law & Social Sciences Research Office
Curzon Building, 4 Cardigan Street
Birmingham
B4 7BD

BLSSethics@bcu.ac.uk;

27/Apr/2022

Miss Molly Miley

molly.miley@mail.bcu.ac.uk

Re: Miley /#9949 /sub1 /Am /2022 /Apr /BLSS FAEC – Investigating the role of self-compassion, health behaviours, and coping strategies in clinical decision-making.

Dear Molly,

Thank you for your application for approval of amendments regarding the above study. I am happy to take Chair's Action and approve these amendments.

Provided that you are granted Permission of Access by relevant parties (meeting requirements as laid out by them), you may continue 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 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. Kyle Brown

On behalf of the Business, Law and Social Sciences Faculty Academic Ethics Committee

Appendix C4: Chapter 6 Ethical Approval Letter

BIRMINGHAM CITY University

Faculty of Business, Law & Social Sciences Research Office
Curzon Building, 4 Cardigan Street
Birmingham
B4 7BD

BLSSethics@bcu.ac.uk;

11/Apr/2022

Miss Molly Miley

molly.miley@mail.bcu.ac.uk

Dear Molly ,

Re: Miley /#10414 /sub2 /R(C) /2022 /Apr /BLSS FAEC - Investigating the role of self-compassion, resilience, personality, perfectionism, and philotimo upon experiences of clinical decision-making within the nursing population.

Thank you for your application and documentation regarding the above study. I am pleased to confirm that Birmingham City University has agreed to take on the role of Sponsor for BCU's part in the research.

The Faculty Academic Ethics Committee has approved this activity for review by the external ethics committee(s) stated in the application.

Birmingham City University can confirm that our insurance indemnity cover includes the actions of researchers working in suitable premises and under appropriate supervision. Our policy cover will not apply to liability that is more specifically insured under any policy covering medical negligence, malpractice or indemnity, professional errors, omissions or negligence.

A copy of BCU's insurance details is available at:
https://icity.bcu.ac.uk/Legal-Services-and-Compliance/Insurance/Index

If you wish to make any changes to your proposed study (by request or otherwise), then you must submit an Amendment application to us. 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.

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 study.

Yours Sincerely,

Professor Maxine Lintern

On behalf of the Business, Law and Social Sciences Faculty Academic Ethics Committee

Appendix C5: Chapter 7 Ethical Approval Letter

BIRMINGHAM CITY University

Faculty of Business, Law & Social Sciences Research Office
Curzon Building, 4 Cardigan Street
Birmingham
B4 7BD

BLSSethics@bcu.ac.uk

28/Feb/2023

Miss Molly Miley

molly.miley@mail.bcu.ac.uk

Dear Molly,

Re: Miley /#11242 /sub3 /R(B) /2023 /Feb /BLSS FAEC – Investigating the impact of clinical decision-making upon nurses wellbeing and what strategies are adopted to minimise its affect

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.

If you would like to provide feedback on the ethics process, please complete the feedback form using this link.

I wish you every success with your activity.

Yours Sincerely,

Dr. Angela Hewett

On behalf of the Business, Law and Social Sciences Faculty Academic Ethics Committee

Appendix C6: Chapter 8 Ethical Approval Letter

BIRMINGHAM CITY University

Faculty of Business, Law & Social Sciences Research Office
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Birmingham
B4 7BD

BLSSethics@bcu.ac.uk;

29/Feb/2024

Miss Molly Miley

molly.miley@mail.bcu.ac.uk

Dear Molly,

Re: Miley /#12759 /sub2 /R(B) /2024 /Feb /BLSS FAEC - Exploring nurses' experiences of clinical decision-making with consideration to various elements that can further support decision-making skills.

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.

If you would like to provide feedback on the ethics process, please complete the feedback form using this link.

I wish you every success with your activity.

Yours Sincerely,

Dr. Angela Hewett

On behalf of the Business, Law and Social Sciences Faculty Academic Ethics Committee

Appendix D: Interview Guide for Chapter 7

Introductory questions

- Thank you for agreeing to take part.

- What were your first thoughts when you were asked to take part in this research?

- Did you have any hesitations about taking part?

- What made you decide to enter the nursing profession?

- So, to begin with, can you tell me a little bit about your role?
    - What do you specialise in?
    - What are the day-to-day requirements of your role?
    - Are there elements to your role that you find more challenging than others? If so, what are these, and what makes these more challenging?

Decision-making questions

- Can you tell me a little about what kinds of decisions your role requires you to make about patients?

- Can you tell me a little bit more about how you make these decisions about patients?
    - What factors do you consider?
    - What factors do you believe have the biggest influence over the decisions made?

- Do you feel that you have responsibility for making these decisions about patients?
    - Is anyone else involved in the decision-making process?

- Is there ever any disagreement about decisions?
    - What are the disagreements usually centred around?
    - How are these resolved?

- Are there ever any instances where you have to make decisions that you feel are more challenging than others?
    - What makes these decisions more challenging than other decisions?
    - How do you and others around you feel when you have to make these decisions?

- Have there ever been occasions where you have had to make and/or implement a decision that you do not entirely agree with?
    - How did this make you feel?
    - How did you manage/ work through these feelings?

     o   Do you have any support during these circumstances? If so, what support is available?

Decision-making and coping behaviours

- When you're away from work, do you think about the decisions that have been made at work, by you or by others?
    - o   Does this impact on you? for example your health and wellbeing?
    - o   How do you manage this? What kind of things do you do to cope with this?
    - o   Do you feel that this has ever impacted your working life, and in what ways?
- Are you able to separate yourself from the decisions you make?
    - o   Is there anything you do to make this easier?
- If you have any negative feelings surrounding the decisions you have made at work, how would you normally deal with them when in the workplace?
    - o   How does this help you?
    - o   In what ways, if any, do you feel that these feelings have impacted your life outside of work?
    - o   How do you typically take care of yourself during these times? How easy or difficult is it for you to take care of yourself during these times?
    - o   Would you say you're very compassionate towards yourself during these instances? In what ways?
- Do you feel that making these decisions in your work environment influences your ability to be kind to yourself? In what ways?
    - o   What factors make it difficult to be kind to yourself during these situations?

COVID & Decision-making

- In what ways, if any, did the recent pandemic change the way in which you make decisions about patients?
    - o   Did it change how you approached these decisions? In what ways?
    - o   Did it change how you implemented these decisions? In what ways?
    - o   How did these changes make you feel?

- Do you think the COVID-19 pandemic changed the way in which you managed or coped with your feelings?
  - How did you take care of yourself?
  - Do you feel that you were compassionate to yourself, and in what ways?
  - Did this impact your wellbeing?

<u>Impact of strikes on decision-making</u>

- Have the recent strikes changed anything regarding your clinical decision-making?
- Have these strikes changed anything in regard to how you were able to cope with making these decisions?
  - Do you feel that this has impacted your wellbeing in anyway?
  - How have you managed this?

<u>Closing Questions</u>

- If you had the opportunity to talk to a newly qualified nurse, what would you want to tell them about clinical decision making?
- Is there anything you would like to suggest to improve your experience of clinical decision-making as a nurse?
- Is there anything else that you would like to add about your experience with clinical decision-making that you feel we haven't already covered within the interview?

Appendix E: Interview Guide for Chapter 8

Dissemination Agenda

Discussion of Findings

- Do you have any initial thoughts on the research?
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- Is there anything that you found particularly interesting? Why was this interesting?
  - Do you relate to these findings? Do you know anyone that relates to this?

- Are there any findings that particularly resonate with you, or you agree with?

- Are there any findings that you find surprising or don't agree with personally?

- Are there any findings that you feel would benefit from further exploration?

- How relevant do you think this research is for practice?

- What would you say are the most important findings from this research and what would you like to see come from this research?

Training and Support
- What training, if any, have you received regarding clinical decision-making?

- When you first qualified, did you receive any training on clinical decision-making specifically?

- What kind of support is currently available with your decision-making?
  - How helpful is this?

- Are there any barriers to you receiving support currently?

- What do you think would be helpful or support your clinical decision-making going forward?
  - Why do you think this would be helpful?
  - Do you think this is something that is possible to get implemented?
  - Are there any challenges/ barriers you feel you would face getting this implemented?

Do you have any final thoughts or comments?