Well-being, job satisfaction, stress and burnout in speech-language pathologists: A review.

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Abstract

Purpose: The purpose of this review was to evaluate the factors that influence well-being, job satisfaction, stress, and burnout in speech-language pathologists (SLPs), and to identify the impact of these variables on worker recruitment and retention.

Method: A systematic literature search was conducted. Four electronic databases (PsycARTICLES & PsycINFO, PubMed/Medline, CINHAL and ABI/INFORM) were searched. The search was limited to articles published in English between 1998 and June 2018. To be eligible for inclusion, studies needed to investigate or report well-being, job satisfaction, stress or burnout in SLPs. The methodological quality of each paper was assessed using the "Strengthening the Reporting of Observational Studies in Epidemiology" (for quantitative data) and "Consolidated criteria for Reporting Qualitative research" (for qualitative data) checklists. A data-driven thematic analysis of the literature was used to identify key themes.

Result: Seventeen of 2050 studies met the inclusion criteria, of which fifteen were cross-sectional surveys yielding quantitative data. Two were qualitative studies. There was consistent evidence for SLPs in the USA and Canada experiencing satisfaction in their jobs. Facet analysis revealed six contributory themes, three of which were clearly associated with well-being: workload/caseload size, professional support, and salary. The contribution of job control (autonomy), length of time in practice and work setting was inconclusive. Evidence for stress and dissatisfaction leading to workforce attrition was found.

Conclusion: Job satisfaction, stress, and burnout were found to be associated with various occupational features, including elements of demand, support and reward. No previous studies have investigated the interaction between different elements of a job, which might boost satisfaction or ameliorate stress in SLPs. This is the first review using a systematic approach to focus on well-being, satisfaction, stress and burnout in SLPs and suggests more work needs to be done to help identify and improve the well-being of the workforce.

Introduction

Evidence suggests that healthy workers are productive workers and that the cost to a nation when the workforce is unwell, is significant (Black, 2008; Hartshorne, 2006; Cox & Jackson, 2005). In the case of Speech-Language Pathologists (SLPs), this cost arises on two fronts: both with regards to a healthy, productive workforce and with respect to the societal impact that a lack of services due to an unproductive or unwell workforce has on the well-being of children, young people and adults with communication and swallowing difficulties (Hartshorne, 2006).

Subjective well-being (SWB) refers to the cognitive and affective evaluations that people make about how well they feel (Wright, Cropanzano, & Bonett, 2007). It is an inclusive term and is used to refer to happiness, positive affect, the absence of negative affect, and life satisfaction (Bowling, Eschleman, & Wang, 2010). Measures of SWB have been associated with measures of job satisfaction (Waddell & Burton, 2006), a construct which includes receiving recognition for a job well done, feeling close to people at work and receiving fair wages (Macdonald & MacIntyre, 1997). The correlation between job satisfaction and performance is well documented, as is the

negative effect of stress on an individual's ability to do their job well (Callaghan & Coldwell, 2014).

Stress or "distress" is the emotional strain/tension that results from adverse, unwanted or unmanageable circumstances (Cooper, Dewe, & O'Driscoll, 2001). The Job Demand Control Support (JDCS) model (Johnson & Hall, 1988; Karasek, 1979) has been used extensively to investigate the stress that may result from occupational experiences (Hausser, Mojzisch, Niesel, & Shulz-Hardt, 2010; Van der Doef & Maes, 1999). The model describes the demand (e.g. workload), control (e.g. levels of

autonomy) and professional support (e.g. from managers and colleagues) that contribute to stress.

Described as an extreme form of occupational stress, (Cooper et al., 2001), "burnout" is experienced particularly by those working in the helping professions. It was characterised in 1981 by Maslach and Jackson as including emotional exhaustion, depersonalisation and feelings of reduced personal accomplishment. This classification was updated by the World Health Organisation in 2018, to include 1) feelings of energy depletion or exhaustion; 2) increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and 3) reduced professional efficacy. The consequences of high levels of stress and burnout include physiological responses e.g. headache, musculoskeletal disorders, heart disease (Cox & Jackson, 2005) and psychological responses e.g. anxiety, depression (Fernandes & Da Rocha, 2009). Stress and burnout can have behavioural responses, including absenteeism, difficulties recruiting and a higher turnover of staff (Denham & Shaddock, 2004; Gallego, et al., 2015; Leka, Griffiths, & Cox, 2004).

The professional occupations, including those in the health sector, experience more stress than any other (Health and Safety Executive, 2015; Office for National Statistics, 2017). While the stressors for other healthcare professionals such as doctors and nurses are well documented (McVicar, 2003; van Doorn, van Russeveldt, van Dam, Mistiaen, & Nicolova, 2016), less is known about the workplace health of SLPs. For this reason, this review focused on the job satisfaction, stress and burnout of SLPs.

The review questions were:

1. Are SLPs satisfied with their jobs?

2. What levels of stress or burnout do SLPs experience in their jobs?

3. What are the work factors that are associated with SLP job satisfaction and stress/burnout?

4. What are the effects of job satisfaction and stress/burnout on recruitment and retention?

Method

Search Strategy

Four electronic databases (PsycARTICLES & PsycINFO, PubMed/Medline, CINHAL and ABI/INFORM) were methodically searched for peer-reviewed articles published between 1998 and June 2018 and written in English. Search terms were categorised into two groups: (a) population, (b) occupational health. The first group included variants on the professional title of SLPs: "speech and language pathologist", "speech pathologist", "speech and language therapist", and "speech therapist". Because SLPs are sometimes included in studies that investigate allied health professionals (AHPs), key words also included the terms "allied health professionals" and "rehabilitation professionals". The second group included terms used to describe the occupational health of workers: "well-being", "job satisfaction", "stress", and "burnout". Selection of the terms in this group was based on terminology that is commonly used within the field of occupational health to operationalise well-being at work. First, terms from the first group were entered using the Boolean operator OR e.g. "speech and language therapist" OR "speech and language pathologist", then the same procedure was used with terms from the second group e.g. "stress" OR "burnout". Finally, the results from the first two searches were combined with the Boolean operator AND e.g. results of "speech and language therapist" OR "speech and language pathologist" AND results of "stress" OR "burnout" (Supplementary

Appendix 1). Supplementary to this search strategy, the reference lists of articles located were used to source any additional, relevant articles.

Selection of Studies

To be eligible for selection, the following criteria needed to be met: Papers were required to be empirical studies that reported primary research data that included information on either: 1) the well-being, job satisfaction, stress or burnout of SLPs, or 2) the well-being, job satisfaction, stress or burnout of AHPs where SLPs were included, mentioned explicitly in the analysis and reported on separately to other AHPs within the participant group. No restrictions were placed on study design, as this search aimed to be as inclusive as possible.

Quality Assessment

The quality of papers presenting quantitative data was assessed using an adaptation of the "Strengthening the Reporting of Observational Studies in Epidemiology" (STROBE) recommendations (Vandenbroucke et al., 2014). Adaptation was necessary, because although the articles reviewed could be classified as epidemiological, the STROBE guidelines were developed for use in medical research. The quality and credibility of papers presenting qualitative data were assessed using the "Consolidated criteria for Reporting Qualitative research" (COREQ) checklist (Tong, Sainsbury & Craig, 2007). Mixed methods papers that produced both types of data were assessed under both sets of criteria.

Data analysis and evidence synthesis

Disparate study designs and approaches to data analysis prevented the use of meta-analysis. To enable the synthesis of the findings of the search, a data-driven thematic analysis of findings was conducted (Dixon-Woods, Agarwal, Jones, Young &

Sutton, 2005). The aim of this was to facilitate a fully inclusive review of findings. One author (CE) used open coding techniques to identify major themes.

Although "well-being" was entered as a search term, no studies explicitly included the construct as an outcome. The three remaining constructs (job satisfaction, stress and burnout) were analysed as follows: Firstly, the presence or absence and level of the construct reported was examined. Secondly, the factors associated with these concepts were classified into themes. Themes were included if they appeared in three or more studies.

Result

Literature search

The search yielded 2050 papers. Duplicates (640) were removed, after which the titles and/or abstracts of the remaining 1410 articles were reviewed for relevance. This resulted in 25 studies being identified. The inclusion criteria were then applied to the full text of these studies, after which 15 papers remained. The main reason leading to the exclusion of full text articles was the failure to separate SLP data from the other AHPs in the study. One study was excluded because the investigation specifically reported satisfaction with elements particular to a location i.e. the structure and functioning of newly established Family Health Support Centres in Brazil (Molini-Avejonas, Aboboreira, Couto & Samelli, 2014). Two publications were added after reference checking, bringing the total number of papers reviewed to 17. The process for the inclusion of studies in the review can be found in Figure 1.

Figure 1: Flowchart of the inclusion process of articles reviewed

Studies included

Of the seventeen papers that were sourced, eight studies took place in the USA, three were carried out in Australia and two in the UK. One study took place in Canada, one in Italy, one in Iran, and one in South Africa. Descriptions of the study location, population, design, area investigated, measurement method and results are summarised in a data extraction table (Table I).

Three study designs were present within the literature: thirteen consisted of cross-sectional surveys that yielded quantitative data. Two were mixed-methods studies, where qualitative and quantitative data was gathered as part of large-scale cross-sectional surveys. Of these, one paper (Loan-Clarke, Arnold, Coombs, Bosley & Martin, 2009) only reported their qualitative findings, which they then quantified (the quantitative element of the study was reported elsewhere and did not separate out SLPs). Finally, two used qualitative designs.

Participant numbers ranged from 23 to 1207 in the cross-sectional surveys (reported response rates ranged from 19.6% to 71.2%). One mixed methods study had 293 participants and the other had 516. Seven participants were interviewed in one of the qualitative studies, and eighteen were interviewed in the other.

All studies included in the review reported the job satisfaction, stress/stressors, or burnout experienced by SLPs. These constructs were sometimes considered to be predictors of outcomes (e.g. job satisfaction predicting retention), and sometimes as outcomes (e.g. stress as the outcome of lack of support).

A variety of scales were used in the cross-sectional studies to measure job satisfaction, stress or burnout. Six of the fifteen studies that gathered quantitative data used questionnaires that were designed by the authors. The Speech-Language Pathologist Stress Inventory (SLPSI; Fimian, Lieberman, & Fastenau, 1991), the Job

Satisfaction Survey (JSS, Spector, 1997), the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) and the Maslach Burnout Inventory (MBI, Maslach, Jackson & Leiter, 1996) were all used twice. In addition, five other published scales were used (see Table I). Statistical analysis included inferential tests and structural equation modelling, some studies limited their analysis to descriptive statistics, and not all provided central tendency data. The two mixed methods studies used content analysis to explore open-ended items, with one of these (Loan-Clarke et al, 2009) quantifying the data to perform frequency distribution analysis. One qualitative study identified themes within the data collected from interviews, which they then coded; the other used phenomenological analysis to interpret findings.

Quality appraisal

The fifteen studies yielding quantitative data were assessed using the STROBE statements. Of these, twelve included sixteen or more of the possible twenty-three criteria. One contained thirteen criteria, one contained twelve, and one contained eleven criteria. The majority of the quantitative papers included the following methodological strengths: the study objectives, sources and methods of recruitment, variables under investigation and data sources/measurement were clearly described and appropriate. The methodological criteria least often included was bias, with only two studies discussing the attempt to deal with possible bias (in the measurement instruments). Only two studies included information about how the sample size was reached (funding restrictions) but none mentioned the determination of sample size with regard to statistical analysis (e.g. through power analysis), although one did state that the final numbers of participants was sufficient for sound statistical analysis. The reporting of results was variable, with descriptive statistics more commonly provided

and fewer studies engaging in further analysis. Two papers provided effect sizes. The quality appraisal for the papers reporting quantitative data can be found in Table II.

The four papers presenting qualitative data were assessed using the COREQ criteria. For the two qualitative studies which conducted interviews, one study met seventeen of the thirty-two criteria. Not all items were applicable to the second study, which met eleven of the thirty that were germane. For both, the protocol was provided, sampling methods were described, and themes were clearly presented and supported with quotations from participants. Credibility was achieved for both papers through clear reporting of methods and consistency between data and results (Silverman, 2011). However, neither paper provided information about the research team and its reflexivity (although Warden, Mayers & Kathard, [2008] did include the gender and occupation of the interviewer), about how the final sample size was reached (e.g. whether the need for, or relevance of saturation was considered), or whether participant checking (i.e. participants providing feedback on findings) took place. Only one (Warden et al., 2008) stated the methodological orientation that underpinned the study. The two mixed methods papers that gathered qualitative data through large-scale surveys (Heritage, Quail & Cocks, 2018; Loan-Clarke, et al., 2009) did not lend themselves well to the COREQ criteria, with some items being irrelevant. Of the fourteen criteria that were relevant to both, nine were met in each case. Both presented themes clearly, but the Loan-Clarke et al. (2009) study provided only one example of a question asked and did not include participant quotations. This resulted in a lack of transparency regarding consistency between data and findings, meaning credibility was potentially threatened. The quality checklist for the four papers reporting qualitative results can be found in Table III.

Findings of the review:

Level of well-being

Only one study reported well-being as a specific construct under investigation. Using A Shortened Stress Evaluation Tool (ASSET), McLaughlin, Adamson, Lincoln, Pallant and Cooper (2010) investigated well-being as a predictor of intent to leave a job or the profession. The ASSET psychological well-being mean score was not provided, meaning it is not possible to comment on the level of well-being for participants in their study. The remaining studies specifically investigated job satisfaction, stress (or stressors) and/or burnout. These terms were not used to operationalise well-being as a construct, although well-being was sometimes used as a general term in discussion sections.

Level of job satisfaction

The level of job satisfaction in SLPs was reported in seven studies. Hutchins, Howard, Preclock and Belin (2010) reported "high degrees" of satisfaction, based on the overall mean of a self-designed questionnaire. Blood, Ridenour, Thomas, Dean-Qualls and Scheffner-Hammer (2002b), found that clinicians working in state schools in the USA had average job satisfaction scores on the JSS (i.e. mean score of 126.8 within one SD of the expected mean score of 136.5). The JSS was also used by Kalkhoff and Collins (2012), at which time SLPs in the USA scored significantly higher (M=147.3, SD=29.5) than the norm for the average American worker (M=136.5, SD=12.1) on overall job satisfaction. Moreover, 50 respondents (51%) in this study had high satisfaction (individual mean scores >1SD above the JSS mean) and 31 (32%) had average job satisfaction (individual mean score within one SD of the mean). A UK study by Cox and Cruice (2010) reported that 27% of overseas-trained SLPs were satisfied with waiting lists, 30% with caseload size, 30% with status, and 52% with salary. Loan-Clarke et al. (2009) reported that 13% of their participants cited job

satisfaction as a reason to remain working in the National Health Service (NHS) in the UK.

Edgar and Rosa-Lugo (2007) asked participants working in public schools in the USA to rate how strongly they "favoured" 24 different elements of their jobs. They concluded that the five areas which had the most satisfaction included working with children (74%), school schedule (54%), school hours (45%), school assignment (41%) and the availability of an experienced mentor (41%). The four areas where most dissatisfaction was reported were overwhelming workloads (44%), the role of the SLP being misunderstood (41%), salary (40%), and large caseloads (35%).

Kaegi, Svitch, Chambers, Bakker and Schneider (2002) compared a sample of 56 clinicians working in Canada across three locations: rural Alberta (n=29), urban Alberta (n=18) and Ontario (n=9). There were significant differences in the length of time in the job across groups, with those who had worked longer (clinicians in Ontario) being less satisfied. The authors found that 66% of the clinicians working in rural Alberta, 72% of those employed in urban Alberta and 12% working in Ontario were satisfied with their jobs. Despite apparent differences between groups, when length of time worked was used as a covariate in analysis no significant differences in satisfaction were found between them.

Level of stress and burnout

While burnout is specifically conceptualised using the three dimensions mentioned previously, and therefore might be viewed as a separate construct to stress, the World Health Organisation (2018) defines it as a 'syndrome conceptualised as resulting from chronic workplace stress that has not been successfully managed'. Stress and burnout were therefore considered together. Three studies identified in the review investigated stress and three reported on burnout. Three studies reported the

relationship between stress and behavioural responses in participants and one of the qualitative studies identified burnout in their themes.

One of the three papers investigating stress (Blood et al., 2002c) compared stress levels of participants to an earlier study (Fimian et al., 1991). In both studies, respondents completed the SLPSI, a measurement tool specifically designed to investigate the effect on stress levels of particular stressors for SLPs. Participants who completed the SLPSI in the 2002 study were reported as having "barely noticeable" stress when compared to the original 1991 sample. However, no statistical test to determine significance was reported. Harris et al. (2009) found that state school clinicians in Utah, who also completed the SLPSI, had significantly less stress than the original sample.

Blood, Blood, Scheffner-Hammer and Dean-Qualls (2002a), using the Health Profession Stress Inventory (HPSI), compared their findings to normative means for nurses (M=61.2), pharmacists (M=56.0) and general physicians (M=46.9) and found that SLPs working in US healthcare had 'comparatively low' levels of stress (M=48.5). Once again, significance testing was not reported by the authors.

Burnout in Iranian SLPs was investigated by Kasbi et al. (2018). Of the 182 participants in the study, 99.7% reported some level of burnout (44% had mild burnout, 53.5% moderate burnout, and 2.2% severe burnout). Kaegi et al.'s 2002 questionnaire included the statement, "I suffer from burnout", to which 79 (51%) respondents agreed or strongly agreed. In a study of Italian AHPs, Bruschini, Carli and Burla (2018) found that 10% of SLPs were at risk of burnout. They defined 'burnout risk' as having high scores on the Emotional Exhaustion and Depersonalisation subscales of the MBI, and low scores on the Personal Accomplishment subscale. The AHP data (which included the SLPs) showed that 32% were experiencing high levels of emotional exhaustion,

13% depersonalisation and 9% reduced personal accomplishment. No statistically significant differences were found between the different groups of AHPs.

One qualitative study added to the literature on burnout. McLaughlin et al. (2008) identified feelings of decreased personal accomplishment (one element of burnout) in their interviewees, which led them to conclude that the SLPs were possibly at risk of developing burnout.

Job factors associated with job satisfaction, stress and burnout

Studies explored a variety of factors that might contribute to job satisfaction or stress/burnout. Examples of findings include the achievement of a balance between work and home predicting job satisfaction (Smith-Randolph & Johnson, 2005), a lack of correlation between educational qualification and job satisfaction (Blood et al., 2002) and no relation between distance travelled to work and risk of burnout (Bruschini et al., 2018). However, the weight of evidence pointed toward workload/caseload (demand), control, support, work setting, and salary as important factors associated with the outcomes, with three or more studies reporting on these factors (although not always being reported as a specific objective of the study). These factors were therefore considered as themes for the purpose of structuring this section of the review.

Workload and/or caseload size

Satisfaction with workload or caseload size was the most frequently cited factor, with thirteen of the papers including findings about this element of the job. In the USA, studies on the relationship between job satisfaction and workload and/or caseload size have described varied results. Blood, et al. (2002b) identified a significant negative correlation between caseload size and job satisfaction for SLPs. Smith-Randolph and Johnson (2005) found that a "realistic" workload was a predictor of job satisfaction and

Edgar and Rosa-Lugo (2007) reported that 34.6% of their 382 participants were dissatisfied with caseload size and 44.2% were dissatisfied with workload.

Hutchins, et al. (2010) reported that while SLPs were generally satisfied with their jobs, there was a significant relationship between caseload size and workload satisfaction specifically. The perception of a high caseload was associated with increased stress in Harris et al.'s study in 2009; and Blood, et al., (2002c) described overwork and large caseloads as "chronic" stressors for school-based SLPs. However, Blood et al. (2002a) found no statistical relationship between caseload size and stress. Finally, Kalkhoff & Collins (2012) argued that job satisfaction was not predicted by caseload size but no statistical information to support this claim was provided.

Studies from countries outside of the US are not as plentiful. Kaegi et al. (2002) reported a negative association between caseload size and satisfaction in Canadian SLPs. In Cocks and Cruice's (2010) study of overseas-trained clinicians working in the UK, 30% of their 23 participants reported larger UK caseload sizes compared to those in their home country, and this was linked to job dissatisfaction. Cross-tabulation analysis of this small sample revealed that of the participants who were dissatisfied, all had larger caseloads than they had in their home country. In contrast, while Bruschini et al. (2018) did not comment on workload specifically, they did investigate demands using the Health and Safety Executive's (HSE's) Management Standards Indicator Tool. No significant correlations were found between demand (which included workload) and burnout risk.

Data from qualitative enquiries supplemented the statistical information. Workload was the main source of stress for SLPs interviewed in Australia (McLaughlin, Lincoln & Adamson, 2008), and in the UK, Loan-Clarke et al. (2009) reported that over 20% of participants reported excessive workloads.

Control/Autonomy

Due to the subjective nature of some of the reporting and the scarcity of correlational data, the evidence for job control and its relationship to stress in SLPs is inconclusive. Only one study specifically stated the investigation of control as an objective. Bruschini et al. (2018) found that a lack of control, as measured by the HSE Management Standards Indicator Tool (e.g. having the ability to make choices over how work is completed), was associated with a risk of burnout. Four other quantitative studies included some elements of control in their questionnaires, and both qualitative papers mentioned it.

Harris et al. (2009) reported that the Bureaucratic Restrictions subscale of the SLPSI – which contains some items that measure control - was strongly correlated (r>0.79) with stress scores i.e. dissatisfaction with bureaucratic restrictions was correlated with higher stress. Blood, et al. (2002a) found that clinicians working in healthcare reported being able to participate in making decisions about their jobs, were able to use their abilities to the fullest extent during their jobs and knew what type of job performance was expected. Clinicians therefore appeared to have adequate levels of control over occupational demands, resulting in low levels of stress around autonomy. Similarly, a lack of control over service delivery was not reported as a stressor for the school-based SLPs in Blood et al.'s (2002c) study, in which stress was "barely noticeable".

Kaegi et al., (2002) found that the large majority of SLPs in their study had "enough authority to do their job" whereas, while interviewing clinicians, McLaughlin et al. (2008) identified stress in SLPs that was due to a lack of autonomy. Warden et al (2008) reported that SLPs struggled to gain the same level of control when working

in comparison to when they were student practitioners. However, they did not comment on whether this affected their job satisfaction or stress.

Professional support

Professional support (or the lack thereof) featured in seven studies. Three identified the contribution of a lack of support to stress or burnout, one linked support to job satisfaction, one reported that support was perceived to mediate stress, one described satisfaction with the support SLPs received, and the last mentioned sources of support for SLPs.

Harris et al. (2009) found that a lack of professional support accounted most strongly for an increase in stress and Bruschini et al. (2018) found that poor support from management was associated with an increased risk of burnout, but support from colleagues (e.g. strong team relationships) protected against burnout. Blood et al. (2002c) reported that little interaction with peers and supervisors as well as low functional support (i.e. support from family) predicted higher levels of stress. Smith-Randolph and Johnson (2005) reported that the presence of adequate support staff predicted job satisfaction. Kaegi et al. (2002) found that 64.5% of the 47 SLPs in Alberta and 33% of the nine in Ontario were satisfied with the help received from supervisors and were also satisfied with their jobs. When interviewed, clinicians in Australia identified support as mediating stress (McLaughlin et al., 2008) and SLPs in South Africa cited the multidisciplinary team and administrative colleagues as sources of support (Warden et al., 2008). The available data therefore implies that a lack of support contributes to dissatisfaction and stress/burnout in SLPs.

Work setting

Four quantitative studies reported on the differences between groups: three compared rural to urban settings and one contrasted SLPs working in schools with

those employed in medical settings. In addition, one qualitative paper mentioned work setting as a source of job satisfaction.

No difference in stress between rural and urban settings was found by the three studies that compared these groups of clinicians (Blood, et al., 2002c; Blood, et al., 2002b; Harris, et al., 2009). Kalkhoff and Collins (2012) compared clinicians working in schools across the USA to those working in medical settings and reported that those employed in medical settings were significantly more satisfied generally than those employed in schools. Specifically, SLPs in medical settings were significantly more satisfied with promotion, contingent awards, operating conditions, and co-workers. Finally, clinicians interviewed by Warden et al. (2008) reported that they found working in a teaching hospital environment to be a source of job satisfaction.

Length of time in practice

Length of time working was reported in five papers. Kaegi et al (2002) identified a negative association between job satisfaction and the length of time working for school-based SLPs. Contrastingly, Blood, et al. (2002b) reported that increasing number of years in a job was a predictor of increasing job satisfaction for school-based SLPs in their study. Blood, et al. (2002a) also reported significant correlations between lower stress and years at the current job, with those who had been working longer reporting lower levels of stress. Bruschini et al. (2018) found no significant correlation between the length of time worked and the risk of burnout, and Kalkhoff and Collins (2012) reported no significant relationship between the length of time an SLP had been in their current job and their job satisfaction.

Salary

Seven studies included salary as a factor that contributed to job satisfaction or stress. Blood et al. (2002c) found that an "inadequate salary" featured in the top eleven

sources of stress for school based SLPs, with 33% of participants reporting it as a perceived stressor. Forty percent of the 382 participants in Edgar and Rosa-Lugo's (2007) study were dissatisfied with their salaries and Blood et al. (2002b) reported that SLPs in their sample had low satisfaction with pay. SLPs working in healthcare also reported feeling that they were inadequately paid (Blood 2002a), and half of the 23 clinicians surveyed by Cocks & Cruice (2010) were dissatisfied with their salary. Unhappiness with salary was also associated with an increase in stress in the study by Harris et al. (2009). Smith-Randolph and Johnson (2005) stated in their abstract, discussion and conclusion sections that "intrinsic factors such as competitive pay" were weaker in significance for predicting career satisfaction and desire to stay in the job. However, there was nothing in the results section that specifically mentioned this. Overall, findings do suggest a link between perceived incommensurate salary and job dissatisfaction and stress/burnout.

The effect of SLP job satisfaction, stress/stressors and burnout on recruitment and retention

The main effect of job satisfaction, stress/stressors and burnout which has been investigated over the last twenty years, is worker movement. The effects of job satisfaction and/or stress/stressors on recruitment and retention were reported in five studies. Analysing responses to open-ended items on a questionnaire, Loan-Clarke et al. (2009) reported that 13% (n=310) of participants cited job satisfaction/enjoyable or interesting work as a reason to remain working in the National Health Service (NHS) in the UK. Conversely, 7.5% (n=110) stated that job satisfaction in their new place of work meant that leaving the NHS had been the right thing to do. They also reported that 6.8% (n=162) of their participants described specific stressful events as a reason to "seriously think about leaving" the NHS, 20.2% (n=109) left the NHS due to stress,

and 13.3% felt that stress reduction was an action that could be taken by NHS management to increase the chance that they would remain in or return to the NHS.

Heritage et al. (2018) reported that a lack of job satisfaction contributed significantly to the intention to leave the profession. In addition, their qualitative content analysis identified elements of job satisfaction which encouraged participants to stay in their current position (e.g. the fulfilling nature of the job) and revealed that workload-related stress was related to SLPs' decision to attempt to find a different position.

Dissatisfaction with workload was identified to have the biggest impact on retention (i.e. remaining in a current position) by Edgar and Rosa-Lugo (2007), and dissatisfaction with salary interacted with both retention and longevity. Finally, clinicians interviewed by McLaughlin et al. (2008) made connections between job satisfaction, stress, barriers to clinical effectiveness and leaving their current position.

Finally, McLaughlin et al. (2010) investigated SLP intention to leave their job and the profession. While the authors did not comment on stress levels per se, they did identify particular stressors which predicted intention to leave. Low job security predicted intent to leave a job and spending more than 50% of one's time on administrative duties predicted intent to leave the profession. Scoring low on the 'positives of the profession' e.g. not having professional needs met, predicted both intent to leave the job and intent to leave the profession. A low score on the ASSET psychological well-being score did not predict intent to leave the job or leave the profession. Participants who achieved a higher negative affect score as measured by the Positive and Negative Affect Scale (PANAS) were more likely to leave the profession.

Discussion

The objective of this review was to investigate the current status of SLPs, with respect to well-being, job satisfaction, stress and burnout, and to explore factors associated with, and the effect of, these outcomes. Evidence in the data for the presence and levels of job satisfaction and stress/burnout, the contributory elements of a job to these constructs, and their impact, was integrated.

Comparison of findings is problematic, due to differing methodologies and a variety of study foci. Context varied widely and inclusion of statistical reporting was mixed, with some studies concentrating on descriptive measures and others using inferential tests. However, it was possible to identify certain themes, facilitating a review that used the principles of a systematic review, but is thematic in nature (Dixon-Woods, et al., 2005).

The review revealed high levels of job satisfaction for SLPs in the USA and Canada. The data regarding stress and burnout is less conclusive. Studies did not provide compelling evidence for the presence of high levels of negative stress, and there were conflicting reports about the presence of burnout. However, papers reporting on retention and recruitment identified stress as one of the reasons that SLPs leave their jobs.

In the studies reviewed, there did not appear to be strong links between methodology and interpretation of findings; and established theories of occupational health at work. For example, three themes related to the Job Demand Control Support model (Johnson & Hall, 1988; Karasek, 1979), yet no individual study adopted or even mentioned this framework. The JDCS model has been used extensively in research investigating the biopsychosocial work experience (Hausser et al., 2010) and could potentially be applied to the SLP workforce in the future. The main way of

operationalising demand in the identified studies was to consider workload or caseload size. The review found consistent evidence that excessive workloads and/or caseloads are correlated with a lack of satisfaction and an increase in stress and burnout. Evidence was also found for a relationship between a lack of control and higher stress/burnout, but no study focused on the relationship between control and job satisfaction. A lack of professional support appeared to be correlated with both stress/burnout and job dissatisfaction.

The evidence for the remaining three themes was variable. The link between perceived inadequate salary and dissatisfaction and/or stress appears to have been confirmed, but there was mixed evidence regarding the impact of the length of time worked, and limited evidence with regards to the role of work setting, with only one study finding that SLPs working in medical settings in the USA were more satisfied than those working in schools. Future work is necessary to determine the impact of these variables on SLPs job satisfaction, stress and burnout.

Several studies investigated recruitment and retention in the profession. While attention on recruitment/retention is necessary for influencing policy and practice, there has been scant attention paid to the mental health of SLPs as a workforce. This review identified that job satisfaction, stress and burnout are important considerations for healthcare organisations aiming to improve recruitment and retention of staff.

Methodological issues

Several methodological shortcomings were identified in this research area. Firstly, study design was restricted to cross-sectional surveys and there are no longitudinal studies on the topic. The paucity of qualitative studies means that there is meagre rich, in-depth data that might offer an insight into the lived experiences of SLPs. A further methodological restriction involved the measurement of job

satisfaction. Almost half the papers reported using self-designed questionnaires and in no instances was construct validity discussed. Moreover, the determination of sample size received scant attention. Studies did not always include information that allowed for meaningful comparison between, for example, the sample and pre-established norms. In addition, only two studies provided effect sizes.

Strengths and limitations of the review

This is the first review that has aimed to synthesise research about the occupational well-being of speech-language pathologists. A strength of the review is its broad approach, that enabled the synopsis of information sourced from a disparate body of literature. The dissimilar nature of the studies resulted in the inability to determine the strength of evidence for the themes identified, which might be viewed as a limitation of the review. However, the presentation of the data provides insight into some aspects of the well-being of SLPs, as well as the causes for and effects of job satisfaction and stress/burnout in this workforce.

As in every review, bias may have occurred. First, this review is limited by its exclusion of non-English language papers. However, a lack of resources meant that the translation of texts from other languages into English language was not possible. A second concern is publication bias, with studies which report statistically significant results being more likely to be published in scientific journals. However, due to limited resources, only studies identified in electronic online searches were included in the review.

Conclusion

In summary, the identified themes in the literature investigating workload/caseload size, control, professional support, salary, length of time in practice and work setting have been reviewed. However, the impact of many of these risk

factors on SLP satisfaction and well-being remains poorly understood. There is a need for more theoretically-driven studies on the topic, and a need for longitudinal data to establish cause and effect relationships between predictor and outcome variables. In addition, limited information on the contribution of individual factors to SLP well-being is available, with only one study taking into account individual differences i.e. Mclaughlin et al. (2010) with the use of the PANAS. Finally, no previous studies have investigated the interaction between different elements of the job, which might boost satisfaction or ameliorate stress in SLPs.

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Table I: Studies reporting job satisfaction, stress or burnout in Speech and Language Therapists (1998-2018)

Reference	Participants Sample size (n) Response rate Country of study Group studied Employment setting	Study design	Area investigated	Measurement method Method/metric used Measures of analysis	Results
Bruschini et al. (2018)	n = 391 (101 SLPs) / Lazio, Italy SLPs, Physiotherapists (PTs), & Occupational Therapists (OTs) Hospitals & private health care clinics	Cross-sectional survey	Burnout	Self-report: Maslach Burnout Inventory (MBI) & Health & Safety Executive Management Standards Indicator Tool Student t-tests, chi-square tests	-14% of total sample at risk of burnout, no sig differences between SLPs, PTs, & OTs. -High risk scores for MBI subscales: Emotional Exhaustion 32% Depersonalisation 13% Personal Accomplishment 9% -Correlations between burnout risk & working hours (t=-2.195*) -Control, (x^2=9.60**) management support (x^2=14.05**), relationships (x^2=5.51*), role (x^2=16.01**) & change (x^2=4.62*) associated with the risk of burnout
Heritage et al. (2018)	n = 293 / Australia SLPs (Members of Speech Pathology Australia)	Mixed methods: online cross-sectional survey (quantitative	Embeddedness, intentions to leave (the job and the profession)	Self-report: Role Conflict & Role Ambiguity scales, Satisfaction with Life Scale, Job in General	-role conflict & role ambiguity contributed to turnover intention (τ_b=0.22**) JS contributed to turnover intention (τ_b=-0.57***) and

	/	and qualitative data)		Scale, Global Job Embeddedness Scale Non-parametric correlations, ordinary least squares regression, bootstrapping, + directed content analysis	occupation attrition intentions (τ_b=-0.34**). -Model testing relationships revealed JS, role conflict, role ambiguity, embeddedness, perceived availability of other jobs all significantly contributed to intention to leave (F [7, 259] = 26.92***, R^2=0.364, f^2=0.572 – large effect size). -Themes from qualitative phase supported quantitative findings: reasons to stay incl perceived unavailability of other jobs, satisfaction; reasons to leave incl workplace climate, workload related stress, feelings of being burnt out, & links/support
Kasbi et al. (2018)	n = 182 73% Iran SLPs Participants at 13th National Iranian Congress of Speech Therapy	Cross-sectional survey	Burnout	Maslach Burnout Inventory (MBI) Frequency counts Chi squared & regression analysis	44% (n=80) had mild burnout, 53.5% (n=97) had moderate burnout, 2.2% (n=4) had severe burnout x^2 analysis: Significant relationships between burnout and caseload size (p=0.02), income (p=0.03) & training opportunities (p=0.05) Caseload size predicted level of burnout (r=0.12*)
Kalkhoff & Collins (2012)	n = 98 19.6% USA	Cross-sectional survey	Job satisfaction	Self-report: Job Satisfaction Survey (JSS)	-SLPs in both settings generally satisfied. 32% average, 51% high

	SLPs (American Speech-Language Hearing Association members) Schools and medical settings			Frequency distributions, means. Single sample t-test, post hoc Bonferroni correction technique, Pearson product moment correlation, chi-squared test, linear multiple regression, one-way ANOVA	-Higher satisfaction on JSS than normative mean for average American worker (M=147.3 SD 29.5, M=136.5 SD 12.1, t=3.624*) -SLPs in medical settings significantly higher total JS scores than those in schools (M=159.82 SD 30.89, M=139.07 SD 25.07, t=3.608*) -medical:10% low, 15% average, 74% high satisfaction -schools: 22% low, 42% average, 36% high: sig difference for each category across settings (x^2=14.2***) -JS NOT predicted by caseload size, age, years-at-position at $p<0.05$ sig level
Cocks and Cruice (2010)	n = 23 / (posted online) United Kingdom Overseas-trained SLPs working in the United Kingdom Mostly NHS (n=13), also universities, charities, schools, etc.	Online cross-sectional survey	Experience & perspectives of overseas-trained SLPs	Self-report: self-designed questionnaire Frequency counts, cross tabulations + identification of themes for open ended questions	-Benefits (compared to home countries): job "lifestyle" e.g. more holidays/clearer career structure; clinical advantages e.g. ability to pursue clinical specialism; CPD, support & supervision -Negatives: 6/22 (27%) satisfied with waiting lists (longer than in home countries); 9/15 (60%) reported large caseloads (larger than in home countries) leading to dissatisfaction; 9/23 (39%)

					satisfied with status, half satisfied with salary -Cross-tab analysis: ALL dissatisfied participants had larger caseloads than at home.
Hutchins et al. (2010)	n = 75 41% Vermont, USA State school SLPs	Cross-sectional survey	Job satisfaction, workload satisfaction, caseload size & best practice	Self-report: self-designed questionnaire Descriptive statistics (measures of central tendency), correlation coefficients *r*	-Generally satisfied, least satisfied with workload (M=2.41 SD 1.1 on 5 point Likert scale) -Sig relationships between workload satisfaction and: salary (r=0.33***), liking the caseload (r=0.66***), professional advancement (r=0.28**), working in schools (r=0.38***), administrative support (r=0.46***), caseload size (r= -0.36***), school hours (r=0.31***), schedules (r=0.44***), parental involvement (r=0.36***), others understanding the role (r=0.35***)
McLaughlin, et al. (2010)	n = 620 21% Australia SLPs All: public, private practice, non-government, private sector	Cross-sectional survey	Turnover & intention to leave	Self-report: ASSET (A Shortened Stress Evaluation Tool) – general stress; Allied Health Professionals' Likelihood Of Resignation Scale (self-designed questionnaire based on previous research – profession-specific stress); PANAS (Positive And Negative	31% intended to change jobs 13% intended to change professions Predictions: *More likely to leave a job if:* -age <34 years (B=.654*) -low job security (B=.663**) -not feeling that the work of an SLP met professional needs (B=.543*) *More likely to leave the profession if:*

				Affect Scale); questions by Blau on job search behaviours Logistic regression	-spend >50% on administrative tasks (B=1.742***) -not feeling that the work of an SLP met professional needs (B=1.300**) -high negative affect (B=.081*) -no children <18 (B=.967*) -hours of work & caseload (type of client) NOT predictors
Harris et al. (2009)	n = 97 42.4% Utah, USA State school SLPs	Cross-sectional survey	Job stress	Self-report: Speech-Language Pathologist Stress Inventory (SLPSI) Single-sample t-test, correlation coefficients *r*, step-wise multiple regression	-Sample mean sig below national mean (Fimian et al, 1991). M=2.4 SD 0.5, M=2.7 SD 0.6, t=-6.0***) -No difference between rural and urban settings All 6 subscales account for total stress score (R²=0.987, F = 1078***). Lack of professional support strongest
Loan-Clarke et al. (2009)	n = 516 43% United Kingdom Practising (NHS) & non-practising SLPs	Cross-sectional survey: qualitative data (paper part of a larger study using mixed methods design)	Reasons to stay, leave, and return to the NHS	Self-report: self-designed questionnaire Content analysis to code open-response questions – transformed to quantitative data & descriptive statistics produced – frequency analysis	-Reasons to stay: job security (24.2%), pension, CPD, JS/enjoyable/ interesting work (13%) -Reasons to leave: incl excessive workload/pressure/ stress (20.2%), childcare issues, lack of patient contact time, unable to give good patient care, pay -Reasons to return: flexible hours (11%), external rewards (e.g. location, pension, easy travel, work availability)

					-Negative general perceptions of NHS employment: excessive workload/stress/ pressure most commented on (22.5%)
McLaughlin et al. (2008)	n = 18 30% Australia SLPs Public & private sector	Qualitative: semi-structured interviews	Views on attrition	Semi-structured interviews Identification of themes	-8 themes identified: positive aspects of the career (e.g. working with and helping clients, interesting nature of the work), workload as a stressor, non-work obligations (reason to *stay* in job), effectiveness (decreased personal accomplishment), recognition (lack of understanding of the role), support (mediating stress), learning (difficulty accessing CPD) and lack of autonomy (clinical and administrative) -dominant theme: enjoyment and rewards of being an SLP -main source of stress: workload, perceived compromise in quality and quantity of care
Warden et al. (2008)	n = 7 / Western Cape, South Africa SLPs State hospital clinicians	Qualitative: in-depth interviews	Lived experience of SLPs in the public health service	In-depth interviews Phenomenological analysis	-5 themes identified -work setting (teaching hospital) contributes to JS -SLPs struggle to gain control -multidisciplinary team and administrative colleagues are sources of support

Edgar and Rosa-Lugo (2007)	n = 382 64.5% Florida, USA SLPs State school clinicians	Cross-sectional survey	Recruitment & retention of SLPs	Self-report: self-designed questionnaire Frequency distributions, percentages, cross-tabulations, ANOVAs; effect sizes: eta-squared	Satisfaction: top 5 positives all significantly related to retention: -working with children – 74% ($F[4,382]=3.91^*$, $²=0.044$), -school schedule – 53.7% ($F[4,382]=4.46^*$, $²=0.050$), -school hours – 44.5% ($F[4, 382]=5.99^{***}$, $²=0.066$), -school assignment – 40.6% ($F[4,382]=2.86^*$, $²=0.033$), -availability of experienced mentor – 40.8% ($F[4, 382]=3.13^*$, $²=0.036$) Top 4 negatives: workload (44.2%), misunderstanding the role of the SLP (41.1%), salary (40.1%), caseload (34.6%) -2 of these associated with longevity: workload ($F[4, 382]=2.67^*$, $²=0.030$) & salary ($F[4, 382]=3.99^*$, $²=0.045$) -workload associated with retention ($F[4, 382]=3.00^*$, $²=0.034$) (longevity: how long worked, retention: how long plan to continue)
Smith-Randolph and Johnson (2005)	n = 328 22% USA	Cross-sectional survey	Extrinsic & intrinsic job satisfaction, effect on	Self-report: self-designed questionnaire Frequency distribution, linear regression analysis	-Overall (all Allied Health Professionals): 81% satisfied with career -Predictors of satisfaction (SLP specific):

	Physiotherapists, Occupational therapists, SLPs		recruitment and retention		accomplishing career objectives (r=0.397**), realistic workload (r=0.254*), adequate support staff (r=0.263*), balance between work and home (r=0.389**), flexible schedule (r=0.359**), helping people overcome disabilities (r=0.190*) -Predictors of staying in post (SLP specific): accomplishing career objectives (r=0.380**), proper training (r=0.321**), flexible schedule (r=0.428**), role conflict (r= -0.242*), realistic workload (r=0.234*)
Blood, et al. (2002a)	n = 712 71.2% USA SLPs Based in healthcare	Cross-sectional survey	Occupational stress, relationship between occupational stress & life satisfaction	Self-report: Health Professions Stress Inventory (HPSI), Satisfaction with Life Scale (SWLS) Frequency distributions, correlation coefficients *r*	HPSI M=48.5 SD 12.8: low stress SWLS M=23.9 SD 6.1 -sig –ve relationship between job stress & life satisfaction (r= -0.75**) -sig –ve relationship between occupational stress & number of years in profession and job (r= -0.54**, r=0.49** respectively) -no sig relationship between caseload size & stress -"Moderate stress" around salary, workload, conflict between job & family responsibilities, not enough staff, not recognised as "true health professional".

-highest stress: workload, staffing, salary

Blood, et al. (2002b)	1207 60.4% USA SLPs Rural, suburban and urban schools	Cross-sectional survey	Job satisfaction	Self-report: Job Satisfaction Survey (JSS), practice-related questions Frequency distributions, hierarchical regression analysis	-JSS M=26.8 SD 14.2: <1SD from normative mean -42.4% generally satisfied -34.1% highly satisfied -significant +^{ve} correlations between JS & years in current position (r=0.59*), JS & age (r=0.52*) -significant –^{ve} correlation between JS & caseload size (r= -0.57*) -Predictors: following accounted for variance - number of years in current position (14%, F=39.3**), caseload size (12%, F=35.6**), age (10%, F=22.4**) -No differences between rural, suburban and urban

Blood, et al. (2002c)	n = 655 65.5% USA SLPs Rural, suburban and urban schools	Cross-sectional survey	Job stress, social support, frequency of interaction	Self-report: Speech-Language Pathologist Stress Inventory (SLPSI), Functional Social Support Scale (FSSS [Social Interaction Scale & Subjective Social Support Scale from Duke Social Support Index]) Frequency distributions, step-wise regression analysis, one way ANOVAs	-overall job stress: 82% "barely noticeable". No sig group differences between rural/suburban/urban -social support: 71% overall satisfaction -low functional social support & little interaction with peers & supervisors predicted high levels of stress (t[651]=32.1***, t[651]=6.35*** respectively) -correlation between SLPSI & FSSS high (r=-0.78**), between SLPSI & frequency of interaction high (r = -0.44**) -various "chronic" stressors: paperwork, overwork, lack of time, large caseloads
Kaegi et al. (2002)	n = 56 44% Canada SLPs (urban Ontario, urban Alberta, rural Alberta areas) Schools	Cross-sectional survey	Job satisfaction & burnout	Self-report: self-designed questionnaire ANOVA, post hoc: least squares difference tests with Bonferroni correction, correlation coefficients r + content analysis	-satisfied: rural Alberta – 66%, urban Alberta – 72%, Ontario – 12% -satisfaction & caseload negatively associated (r = -0.313*) -satisfaction & length of years working negatively associated (r= -0.294*) -burnout: rural Alberta – 52%, urban Alberta – 44%, Ontario – 56% -"authority to do the job": majority of Alberta SLPs, half in Ontario

	-helpful supervisors: over half of Alberta SLPs, 1/3 of Ontario SLPs -no significant difference between rural & urban for JS

Key:

/ = not reported

CPD = continuing professional development

HPSI = Health Professions Stress Inventory

JS = job satisfaction

JSS = Job Satisfaction Survey

MBI = Maslach Burnout Inventory

NHS = National Health Service

OT = Occupational therapist

PT = Physiotherapist

SLP = Speech-language pathologist

SLPSI = Speech Pathologist Stress Inventory

SWLS = Satisfaction with Life Scale

USA = United States of America

*p<0.05

**p<0.01

***p<0.0

Table II. Quality assessment of the papers presenting quantitative results (n=15)

Reference	Abstract & Title		Introduction		Method									Result					Discussion					Other info
	1a	1b	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Bruschini et al. (2018)	-	+	+	+	+/-	+	+/-	+	+	-	-	+	+	+/-	+	+	+	-	+	-	+	-	-
Heritage et al. (2018)	+	+	+	+	+	-	+	+	+	+	-	+	+	+	-	-	+	+	+	+	+	+	-
Kasbi et al. (2018)	-	+	+	-	+	+	+	+	+	-	-	+/-	+/-	-	+	+	+	-	+/-	+	+	-	+
Kaegi et al. (2002)	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+/-	+	+/-	+	+	+	+	+	-
Kalkhoff & Collins (2012)	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+	-
Cocks & Cruice (2010)	+	-	+	+	+	+	+	+	+	-	-	+	+	-	+	+	+	-	+	+	+	+	-
Hutchins et al. (2010)	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	-	+	+	+	+	-
McLaughlin et al. (2010)	-	+	+	+	+	+	+	+	+/-	-	+	+	+	+	+	+/-	+	+	+	+	+/-	-	-
Harris et al. (2009)	-	+	+	+	+	+	+	+	+	+	-	+	+	+	+	-	+	+	+	+	+	+	-
Edgar & Rosa-Lugo (2007)	+	+	+	+	-	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	-	-
Loan-Clarke et al. (2009)	+	+	+	+	+	+	+	+	+	-	+	+	+	+	-	+	-	-	+	-	+	-	+
Smith-Randolph & Johnson (2005)	+	+	+	+	+	-	+	+	+	-	-	-	+	-	+	+	-	+	+	+	+	+	+
Blood, et al. (2002a)	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	-	+	+	+	-	-
Blood, et al. (2002b)	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	-	+	+	+	+	-
Blood, et al. (2002c)	-	+	+	+	+	+	+	+	+	-	-	+	+	+	-	+	+	+	+	-	+	-	-

Source: Vandenbroucke, 2014

1a Study design mentioned in title/abstract 1b Balanced summary in abstract 2 Background/rationale included, 3 Objectives stated, 4 Key elements of study design, 5 Setting, 6 Participants (sources & methods of recruitment), 7 Variables described, 8 Data sources/measurement included, 9 Bias addressed, 10 Study size explained, 11 Quantitative variables (how handled), 12 Statistical methods described & appropriate, 13 Participant numbers & reason for ineligibility, 14 Demographics described, 15 Outcome data (numbers or summary), 16 Main results (e.g. correlations), 17 Other analyses (e.g. subgroups, testing of models), 18 Key results (in reference to objectives), 19 Limitations, 20 Interpretation, 21 Generalisability discussed, 22 Funding mentioned

+ reported   - not reported   +/- some elements present/appropriate

Table III. Quality assessment of the papers presenting qualitative results (n=4)

	Research team & reflexivity														Study design											Analysis & findings						
	Personal characteristics					Relationship with participants			Theoretical framework		Participant selection			Setting				Data collection						Data analysis					Reporting			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Heritage et al., (2018)	*	*	*	*	*	*	*	*	+	+	+	+	*	**	**	-	*	*	*	*	*	*	*	-	-	+	-	-	+	+	+	+
Loan-Clarke et al. (2009)	*	*	*	*	*	*	*	*	+	+	+	+	*	**	**	+	*	*	*	*	*	*	*	+	-	+	+	-	-	-	+	-
McLaughlin, et al. (2008)	-	-	-	-	-	-	-	-	-	+	+	+	-	**	**	+	+	-	+	-	-	-	-	+	-	+	-	-	+	+	+	-
Warden, et al. (2008)	-	-	+	+	-	-	-	-	+	+	+	+	-	-	-	+	+	+	+	+	+	-	+	-	-	-	-	-	+	+	+	+

Source: Tong et al., 2007

1 interviewer identified, 2 credentials provided, 3 occupation, 4 male/female, 5 training/experience, 6 relationship established, 7 participant knowledge of researcher, 8 interviewer characteristics e.g. assumptions, 9 methodology, 10 sampling, 11 method of approach, 12 number of participants, 13 refusals/drop outs, 14 setting of data collection, 15 presence of non-participants, 16 characteristics of sample, 17 interview guide described, 18 repeat interviews? 19 audio/visual recording 20 field notes 21 duration 22 data saturation discussed, 23 transcripts returned? 24 number of data coders 25 description of coding tree 26 derivation of themes, 27 software, 28 participant checking, 29 quotations presented, 30 data and findings consistent, 31 clarity of major themes, 32 clarity of minor themes

+   reported
-   not reported
*   not applicable, as design was cross-sectional survey that gathered qualitative data
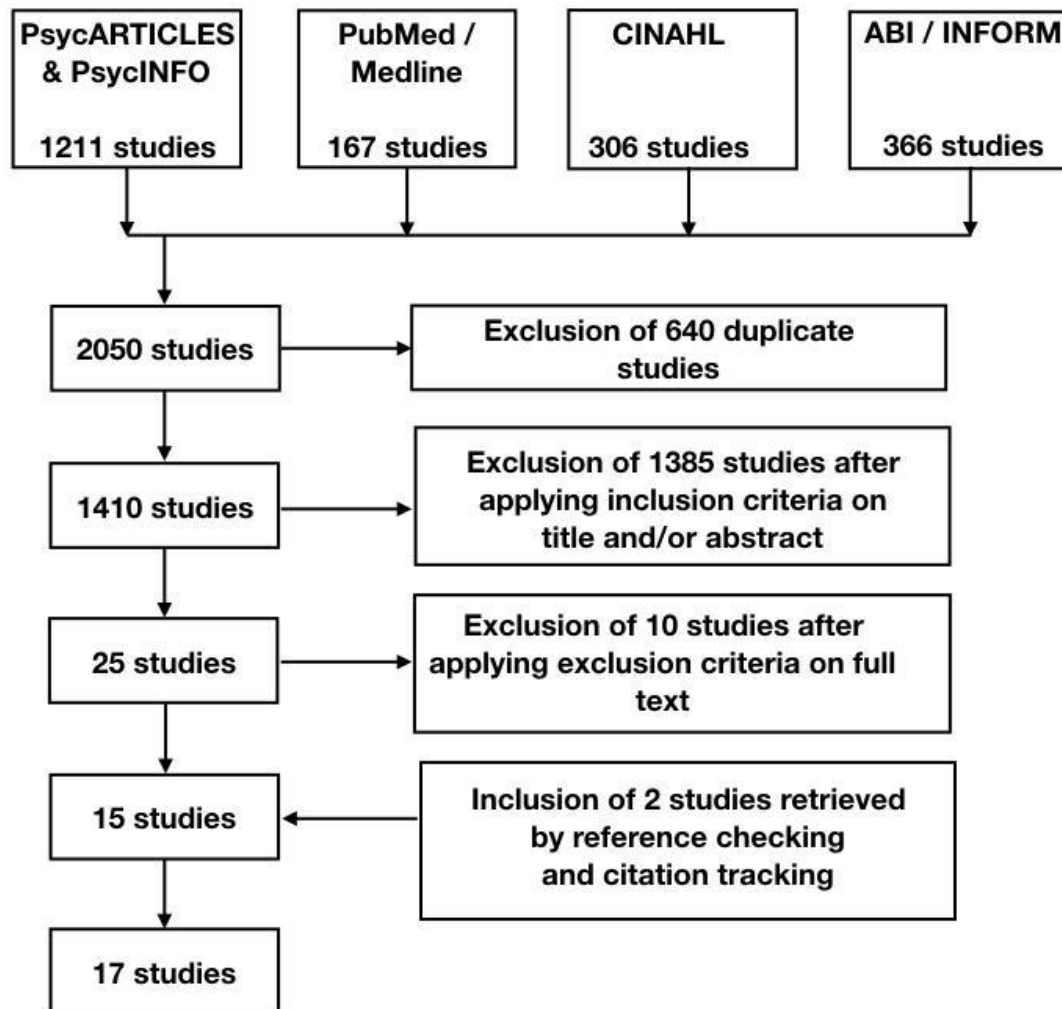**   not applicable, as data gathered over the phone or via questionnaire mailed to participants

Figure 1. Flowchart of the inclusion process for articles reviewed

Appendix 1 PsycARTICLES & PsycINFO search strategy

S1.	"Speech and language pathologist*"
S2.	"Speech pathologist*"
S3.	"Speech and language therapist*"
S4.	"Allied health profession*"
S5.	"Rehabilitation profession*"
S6.	S1 OR S2 OR S3 OR S4 OR S5
S7.	Wellbeing
S8.	Well-being
S9.	"Job satisfaction"
S10.	Stress
S11.	Burnout
S12.	S7 OR S8 OR S9 OR S10 OR S11
S13.	S6 AND S12