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Relationship between nurse psychological empowerment and job satisfaction: A systematic review and meta-analysis

Huanhuan Li 🆔 | Ying Shi | Yuan Li | Zhuangjie Xing | Shouqi Wang | Jie Ying | Meiling Zhang | Jiao Sun

Nursing School of Jilin University, Changchun, China

Correspondence
Jiao Sun, Nursing School of Jilin University, Changchun, China.
Email: sunjiao@jlu.edu.cn

Abstract

Aims: This systematic review and meta-analysis aimed to synthesize and analyse studies that explored the relationship between the psychological empowerment and job satisfaction of nurses.

Background: Nurse turnover is an important cause of staff shortage. Job satisfaction is a major predictor of nurse turnover and is connected to the psychological empowerment of nurses.

Design: This systematic review and meta-analysis is based on the Joanna Briggs Institute guidelines.

Data Sources: A total of 1,572 articles on psychological empowerment and job satisfaction were retrieved from PubMed, PsycINFO, EMBASE and Web of Science. The articles were written in English and published before or by April 2017.

Methods: Studies on the relationship between psychological empowerment and job satisfaction were summarized.

Results: The majority of the included studies revealed that psychological empowerment and job satisfaction are significantly correlated. Only two studies showed that the two factors are not significantly correlated. The result of this meta-analysis is consistent with the results of most studies. One study reported that psychological empowerment partially mediates the structural empowerment and job satisfaction of school health nurses. Two studies, however, did not find that the mediating role of psychological empowerment between structural empowerment and job satisfaction.

Conclusion: The results of this review provided evidence for the importance of psychological empowerment for the job satisfaction of among nurses. Exploring the correlation between psychological empowerment and job satisfaction can provide guidelines and recommendation for the development of strategies to promote nurse retention and alleviate nursing shortage.

KEYWORDS
job satisfaction, meta-analysis, nurse, psychological empowerment, systematic review

1 | INTRODUCTION

Nursing shortage is a global problem that has influenced the overall world healthcare system. Europe and the USA are expected to face nursing shortages of 0.59 and 0.80 million, respectively, by 2020 (Hudspeth, 2013). China may likely face a shortage of 1.59 million (Liu, Aungsuroch, & Yunibhand, 2016). Nursing shortage may negatively affect patient safety (Sasso et al., 2017) by increasing the rates

of hospital infection (Cimiotti, Aiken, Sloane, & Wu, 2012), rehospitalization (Ma, McHugh, & Aiken, 2015) and mortality (Aiken et al., 2014; Ball et al., 2017). Turnover, which occurs because of unsatisfactory work environments and workplaces, causes nursing shortage (Copanitsanou, Fotos, & Brokalaki, 2017; Nantsupawat et al., 2017). Job satisfaction, a major predictor of nursing turnover (Poghosyan, Liu, Shang, & D'Aunno, 2017), is defined as: (1) the fulfilment of desired demands in work settings; (2) happiness or gratifying emotional responses to working conditions; and (3) job value or equity (Liu et al., 2016). The job satisfaction of nurses is related to numerous important organizational outcomes (Saber, 2014), including organizational commitment (Ahmad & Oranye, 2010), turnover (Poghosyan et al., 2017) and quality patient care (Djukic, Kovner, Brewer, Fatehi, & Cline, 2013). In consideration of the currently low job satisfaction of nurses (Bolandianbafghi, Salimi, Rassouli, Faraji, & Sarebanhassanabadi, 2017; Liu et al., 2017; McGlynn, Griffin, Donahue, & Fitzpatrick, 2012), job satisfaction problems should be addressed.

1.1 | Background

Creating a good work environment is important to improve job satisfaction (Copanitsanou et al., 2017). A good work environment provides effective leadership, organizational support, adequate staff and resources (Al-Hamdan, Manojlovich, & Tanima, 2017). Other studies also suggest that empowerment is crucial for managing healthcare restructuring and improving the work environment (Spreitzer, 1995). An empowering work environment can improve job satisfaction and commitment, thus decreasing labour turnover (Laschinger & Finegan, 2005; Laschinger, Wong, McMahon, & Kaufmann, 1999; Menon, 2001).

Organizational empowerment has two different perspectives: structural empowerment and psychological empowerment. Structural empowerment theory indicates that work performance improves when employees can access empowering conditions, including information, resources, support and professional development opportunities (Kanter, 1993). Structural empowerment is related to the work–life balance of a nurse and positively affects the organizational commitment and job satisfaction of nurses (Asiri, Rohrer, Al-Surimi, Da'ar, & Ahmed, 2016; Orłowska & Łaguna, 2016; Read & Laschinger, 2015). Employees with access to empowerment structures are more likely to meet organizational goals than those without.

Psychological empowerment is a microcosmic perspective of an individual's perception of work and of their role in an organization (Cicolini, Comparcini, & Simonetti, 2014). Spreitzer defined psychological empowerment as the psychological perception of or attitude of employees towards their work and their organizational roles. Psychological empowerment includes four cognitive experiences: meaning (the fit between job requirements and beliefs, or the value of a work objective, compared with an individual's own ideals or standards); competence (the confidence or belief of an individual in his/her abilities to perform activities proficiently); self-determination (the sense of choice or control over one's work/ autonomy and in the

Why is this review needed?

- Nursing shortage is a global problem that has influenced the overall world healthcare system.
- Nurse turnover is a factor that causes staff shortage. Job satisfaction is a significant predictor of nurse turnover.
- Job satisfaction is connected to the psychological empowerment of nurses.

What are the key findings?

- Twenty studies investigated psychological empowerment and job satisfaction.
- Most included studies reported that psychological empowerment and job satisfaction are significantly positively correlated. Two studies, however, reported that these two factors are not significantly correlated.
- Meta-analysis showed that the psychological empowerment and job satisfaction of nurses are significantly correlated.

How should the findings be used to influence policy/practice/research/education?

- Leadership is a component of a good work environment. Managers must consider the direct effect of psychological empowerment on nurse outcomes given their effect on patient care outcomes.
- Hospital supervisors and managers should convey the hospital development status, prospects, strategic guidelines and other information to the nursing staff; provide a reasonable reward to nurses on the basis of their performance; and establish collegial relationships with their staff. Thus, nurses realize their influence on patient outcomes, thereby increasing their self-worth, competence and self-determination.
- Additional longitudinal, intervention and qualitative studies should be conducted to validate the causal relationships between the psychological empowerment and job satisfaction of nurses.

commencement and maintenance of work activities in the workplace); and impact (the sense of ability to influence important work outcomes) (Spreitzer, 1995). High psychological empowerment level is associated with low stress, burnout and turnover intention, and high organizational commitment and job satisfaction (Ibrahem, Elhoseeny, & Mahmoud, 2013; Ouyang, Zhou, & Qu, 2015; Oyeleye, Hanson, O'Connor, & Dunn, 2013).

Psychological empowerment may mediate structural empowerment and nurse outcomes, such as job satisfaction. Given that psychological empowerment is an important internal incentive factor, empowerment takes effect only when employees feel empowered

(Conger & Kanungo, 1988). For example, nurses with access to structural empowerment are more likely to positively believe in their ability to contribute meaningfully to the workplace than those without; these positive beliefs consequently increase job satisfaction (Laschinger, Almost, Purdy, & Kim, 2004; Laschinger, Finegan, Shamian, & Wilk, 2004).

Structural empowerment focuses on organizational behaviour factors and lacks a personal psychological aspect, such as the sense of competence and autonomy, which are necessary components of psychological empowerment (Conger & Kanungo, 1988; Mishra & Spreitzer, 1998). Although many empirical studies have explored the impact of organizational empowerment on job satisfaction, only one review has systematically analysed the relationship between organizational empowerment and job satisfaction (Cicolini et al., 2014). This review specifically focused on the impact of structural empowerment on job satisfaction. Some studies have shown that psychological empowerment and job satisfaction are related, whereas some have shown that these two factors are unrelated. However, no systematic review has comprehensively analysed the relationship between psychological empowerment and job satisfaction. Psychological empowerment is important for nurse outcomes as an internal incentivizing force. The employee's initiative is not necessarily a direct result of the transfer of power. Empowerment can improve employee performance depending on the psychological feelings of employees (Conger & Kanungo, 1988). In this review, we synthesized and analysed related studies to identify the relationship between the psychological empowerment and job satisfaction of nurses.

2 | THE REVIEW

2.1 | Aim

The aim of this review was to summarize studies on the relationship between nurse psychological empowerment and job satisfaction, and to provide recommendations to researchers and nursing managers. This review addresses the following questions:

1. Can psychological empowerment promote the job satisfaction of nurses?
2. Does psychological empowerment mediate structural empowerment and job satisfaction?
3. Are the dimensions of the psychological empowerment scale correlated with job satisfaction subscales?
4. Can the result of this review provide recommendations to researchers and nursing managers?

2.2 | Design

A systematic review and meta-analysis were conducted in accordance with the Joanna Briggs Institute guidelines (Joanna Briggs Institute, 2011) and Preferred Reporting Items for systematic reviews and meta-analysis (PRISMA) guidance (Moher, Liberati, Tetzlaff, & Altman, 2010). This review aimed to summarize the findings

of previous studies to provide a comprehensive understanding of the relationship between the psychological empowerment and job satisfaction of nurses and the mediating role of psychological empowerment between structural empowerment and job satisfaction.

2.3 | Search methods

We searched the online databases PubMed, Web of Science, EMBASE and PsycInfo. To obtain recently published studies relevant to psychological empowerment and job satisfaction, the search included articles that were published before April 2017. We selected search strategies that used specific terms embedded in each database to maximize sensitivity. Additional articles were retrieved by manually searching the references of all selected full-text articles. Key search terms included nurse*, empower*, job satisfaction and work satisfaction (see Table 1 for search strategies).

2.4 | Inclusion criteria

We included articles that satisfied the following criteria: (1) papers published in English; (2) a study sample that included nurses; (3) studies that investigated the impact of psychological empowerment on job satisfaction and/or the relationship between psychological empowerment and job satisfaction; (4) studies that investigated the mediatory role of psychological empowerment in structural empowerment and job satisfaction; and (5) studies that reported direct measures of structural empowerment, psychological empowerment and job satisfaction.

2.5 | Study selection and outcomes

The electronic database search yielded 1,572 publications. We first imported all records into EndNote X7 reference management

TABLE 1 Literature search strategy

Database (no time limit)	Search terms	Number of articles
PubMed	nurse* and empower* and (job or work satisfaction)	578
EMBASE	nurse* and empower* and (job or work satisfaction)	296
PsychINFO	nurse* and empower* and (job or work satisfaction)	134
Web of science	nurse* and empower* and (job or work satisfaction)	564
Duplicates removed		731
Studies retained after both review (YES articles)		20
FINAL study selection (after quality assessment)		20

[†]*Signifies that any word beginning with this term would be included in the search.
[‡]The scope of the search for all databases, except for Web of Science, was unlimited.

software. Then, we used the automated *Find Duplicates* function to exclude any duplicate studies, thus reducing the search results to 731 publications. We then screened the titles and abstracts of all records and identified 72 articles as potentially correlated with psychological empowerment and job satisfaction. After reviewing the articles, we included 20 of the 72 publications (see Table 2 for further details). Figure 1 illustrates the search and retrieval process.

2.6 | Quality appraisal

All articles were screened for quality in accordance with the published "Quality Assessment and Validity Tool for Correlational Studies" adopted by previous systematic reviews (Cicolini et al., 2014; Estabrooks, Floyd, Scott-Findlay, O'Leary, & Gushta, 2003; Meijers et al., 2006). This tool comprises 13 questions for examining and scoring the design, sample, measurement and statistical analysis of each study. Research quality could be classified as low (0–4), medium (5–9) or high (10–14) by using this tool. Questions were written in dichotomous answer format and a total of 14 points could be assigned to the 13 criteria. Twelve items were scored as 0 (=not met) or 1 (=met) and items related to the measurement of outcomes were scored out of two.

2.7 | Data abstraction

Two reviewers used a designed form for data extraction. The following data were extracted: authors; year and country; study design; aim of the study; sample of the study population; quantitative measures in terms of psychological empowerment, structural empowerment and job satisfaction; reliability of the measurement; and analysis (see Table 2 for further details).

2.8 | Data analysis

Extracted data were encoded using the Comprehensive Meta-analysis Version 2 software program. The same program was used to calculate the weighted mean correlation (*R*) of each article. Pearson and Spearman correlation coefficients (*r*) were used to analyse effect size. When the regression coefficients (β) were reported instead of the correlation coefficient, we converted the former into the latter using the formula $r = \beta + 0.5\lambda$, where λ is an indicator variable that is equal to 1 when β is non-negative and 0 when β is negative (Clement et al., 2015; Peterson & Brown, 2005). Meta-analysis was performed only with data that consisted of two or more independent correlations ($k \geq 2$).

Random-effects models were selected on the basis of the possible heterogeneity of the sample groups and methodological characteristics of the included studies. *Q*-statistic and I^2 index were used to determine the homogeneity of correlations across studies. The *Q*-value was used to examine the degree of heterogeneity and I^2 was used to describe the proportion of variance in the total variance of the study population: 25% indicates low heterogeneity, 50% indicates moderate heterogeneity and 75% indicates high heterogeneity (Higgins, Thompson, Deeks, & Altman, 2003).

A publication bias test was performed to determine the degree of publication bias in the meta-analysis. Bias was determined on the basis of Rosenthal's fail-safe number (FSN). A high FSN value indicates a highly robust mean effect size. In a meta-analysis, Scheerman et al. (2016) stated that the recommended tolerance is $5k + 10$, where *k* is the number of included studies. The FSN is calculated only when $k > 2$. If the FSN value is larger than the recommended tolerance, then the results are robust.

3 | RESULTS

3.1 | Study characteristics

Most of the studies included in this review were rated as medium quality and used a non-experimental and cross-sectional design. Two studies used a longitudinal design (Laschinger, Nosko, Wilk, & Finegan, 2014; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004). One had a mixed-method design with retrospective pre-tests (Cramer et al., 2014) and the other used a quasi-experimental design (Engström, Wadensten, & Häggström, 2010). A summary of the quality assessment of the included studies is provided in Table 3. Table 2 presents the characteristics of the studies included in this review. All studies had a quantitative research design and were published between 1997 and 2016.

The included studies were conducted in several countries, including China (Chang, Shih, & Lin, 2010; Ouyang et al., 2015), the United States (Cramer et al., 2014; Fuller, Morrison, Jones, Bridger, & Brown, 1999; Kostiwa & Meeks, 2009; Larrabee et al., 2003; Morrison, Jones, & Fuller, 1997; Sparks, 2011), Ireland (Casey, Saunders, & O'Hara, 2010), England and Malaysia (Ahmad & Oranye, 2010) and Sweden (Engström et al., 2010). The majority of the studies, however, were conducted in Canada (Dahinten, Lee, & MacPhee, 2016; Laschinger, Finegan, & Shamian, 2001; Laschinger, Purdy, & Almost, 2007; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004; Laschinger et al., 2014; Manojlovich & Laschinger, 2002; Tourangeau, Cranley, Laschinger, & Pachis, 2010; Wagner, Warren, Cummings, Smith, & Olson, 2013).

Eleven studies explored the correlation between the psychological empowerment and job satisfaction of hospital nurses. Some studies were carried out in communities and hospitals (Dahinten et al., 2016), long-term care facilities (Tourangeau et al., 2010), nursing homes (Engström et al., 2010, 2010; Kostiwa & Meeks, 2009) and school health clinics (Chang et al., 2010). In addition to Registered Nurses, nursing assistants (Fuller et al., 1999; Kostiwa & Meeks, 2009; Morrison et al., 1997), nursing managers (Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004; Laschinger et al., 2007; Morrison et al., 1997; Tourangeau et al., 2010), registered practical nurses (Morrison et al., 1997; Tourangeau et al., 2010), midwives (Casey et al., 2010) and caregivers from nursing homes and home care services (Engström et al., 2010) were also investigated.

TABLE 2 Study characteristics

Authors, year and country	Study design	Aim	Subjects	Measures	Reliability Cronbach α	Analysis
Dahinten et al. (2016), Canada	Cross-sectional	To examine the relationships among the SE, PE and JS of staff nurses	1,007 staff nurses	Revised MMSS 25-item CWEQ-II PES	0.71–0.87 NO 0.85–0.92	Pearson correlations analysis; hierarchical multiple regression analysis
Ouyang et al. (2015), China	Cross-sectional	To describe the JS, PE and OC of Chinese nurses and to explore the impact of PE and OC on the nurses' JS.	726 nurses	Job Satisfaction Survey PES	0.91 0.78	Pearson correlation analysis; stepwise multiple regression analysis
Cramer et al. (2014), America	A mixed-method design with retrospective pre-tests	To describe the outcomes and impact of a geriatric workforce research project	84 RNs	General Job Satisfaction Scale PES	0.89 0.75	Multivariate analysis; fixed-effects analysis
Tourangeau et al. (2010), Canada	Cross-sectional	To examine the role of work relationships have in JS and turnover intention.	nursing $n = 111$; RPN $n = 119$; non-professional $n = 305$, allied health professionals $n = 33$ and managers $n = 107$	General Job Satisfaction Scale PES	0.78 0.86	Bivariate regression analyses; stepwise regression modelling
Ahmad et al. (2010), England and Malaysia	Cross-sectional	To examine the relationships among nurses' empowerment, JS and OC	556 Registered Nurses in England ($n = 168$) and Malaysia ($n = 388$)	Job Satisfaction scale developed PES	0.783–0.901 NO	Spearman's rank correlation analysis; multiple regression analysis
Kostiwa et al. (2009), America	Cross-sectional	To evaluate CNAs' experience of PE and their perceptions of the service quality	60 CNAs 56 employees (RN, LPN, social services, activities, housekeeping and administrative staff)	PES The overall scale	0.83–0.87 0.93–0.94	Multiple linear regression analysis; correlations analysis
Morrison et al. (1997), America	Cross-sectional	To explore the relation between leadership style and empowerment and its effect on JS	275 nursing staff (executives, nurse managers, LPNs, RNs, NAs and various administrative staff)	PES Job satisfaction scale	0.72 intrinsic 0.90 extrinsic 0.78	Hierarchical Regression analysis; correlation analysis
Chang et al. (2010), China	Cross-sectional	To examine the mediating role of PE in the relationship between JS and OC.	330 school health nurses	CWEQ-II PES The Job Satisfaction Scale	0.89 0.83 0.77	Linear regression Path analysis; Structural equation modelling
Laschinger et al. (2004), Canada	A longitudinal predictive design	To test a model linking changes in SE and PE to changes in JS.	185 staff nurses	CWEQ-II PES Job Diagnostic Survey	0.77 at Time1 0.82 at Time2 0.87 at Time1 0.89 at Time2 0.78 at Time1 0.84 at Time2	Structural equation modelling

(Continues)

TABLE 2 (Continued)

Authors, year and country	Study design	Aim	Subjects	Measures	Reliability Cronbach α	Analysis
Laschinger et al. (2014), Canada	A longitudinal survey	To examine the effect of both contextual and individual factors on individual nurse JS.	545 staff nurses	PES The Job Diagnostic Survey	0.79 0.83	Multilevel structural equation modelling techniques.
Wagner et al. (2013), Canada	Cross-sectional	To explore the relationships among resonant leadership, SE, PE, SAW, JS and OC in RNs.	148 RNs	CWEQ-II PES Overall job satisfaction	0.78–0.81 0.62–0.72 0.72	Pearson's chi-square analysis; structural equation model
Sparks et al. (2011), America	Cross-sectional	To investigate the relative influence of nurses' characteristics, PE, generation and quality of work life on JS.	223 RNs	PES The Global Job Satisfaction Questionnaire	0.79–0.85 NO	Correlations, chi-square test; general linear modelling procedures
Casey et al. (2010), Ireland	A descriptive, non-experimental, relational survey	To test an expanded model of empowerment that specifies the relationships among SE, PE, CSE and JS.	244 nurses and Midwives	CWEQ-II PES Job satisfaction scale	0.68–0.88 0.62–0.72 0.79	Regression analysis and Spearman's rank correlation analysis
Laschinger et al. (2007), Canada	A non-experimental, predictive design	To test the relationship with supervisors, and empowerment to JS	141 nurse managers	CWEQ-II PES The job satisfaction subscale of the Pressure Management Indicator	0.79–0.82 0.87–0.92 0.88	Structural equation modelling analyses
Laschinger et al. (2004), Canada	A descriptive, correlational design	To test the SE, PE in work environment to emotional exhaustion, JS and physical and mental health	286 nurse managers	CWEQ-II PES The job satisfaction subscale of the Pressure Management Indicator	0.79–0.82 0.87–0.92 0.84–0.88	Hierarchical multiple regression and correlation analyses
Larrabee et al. (2003), America	A non-experimental, predictive design	To investigate the relative influence of nurse attitudes, context of care, and structure of care on JS and intent to leave.	90 registered staff nurses	WQI PES	0.95 0.91	Correlation analyses Multivariate regression analyses
Fuller et al. (1999), America	Cross-sectional	To investigate the transformational leadership affects JS depends on the level of employees' intrinsic task motivation.	230 nurse (NAs, LPNs, RNs)	PES Job satisfaction scale	0.7 0.89	Moderated multiple regression analysis

(Continues)

TABLE 2 (Continued)

Authors, year and country	Study design	Aim	Subjects	Measures	Reliability Cronbach α	Analysis
Laschinger et al. (2001), Canada	A predictive, non-experimental design	To test the relationship among SE and PE, job strain and JS.	404 staff nurses	PES A global measure of work satisfaction CWEQ-II	0.89 0.82 0.82	Path analysis; structural equation modelling analyses
Engstrom et al. (2010), Sweden	A quasi-experimental design.	To evaluate a training program aimed at strengthening caregivers' self-esteem and empowering them, and to study correlations between PE and JS.	46 female caregivers Intervention group (n = 14) Comparison group (n = 32)	PES The scale Psychosocial aspects of job satisfaction	NO NO	Spearman's rank-order correlation analyses
Manojlovich et al. (2002), Canada	Cross-sectional	To understand the determinants of JS for hospital nurses. Both workplace and personal factors can contribute to JS.	347 nurses	CWEQ PES Job Satisfaction Scale	0.95 0.88 0.81	Hierarchical Regression correlation analyses

†SE: structural empowerment; PE: psychological empowerment; JS: job satisfaction; OC: organizational commitment; LPN: licensed practical nurses; NAs: nursing assistants; RNs: Registered Nurses; CSE: critical social empowerment; PES: Psychological Empowerment Scale; CWEQ-II: Conditions for Work Effectiveness Questionnaire-II; WQI: Work Quality Index.

All studies measured the relationship between psychological empowerment and job satisfaction and analysed data via different methods: path analysis; structural equation modelling (SEM); multi-level SEM; hierarchic regression; "product variable approach" regression and Pearson and Spearman rank correlation analyses.

3.2 | Measurement instruments for empowerment and job satisfaction

All included studies measured psychological empowerment with the Psychological Empowerment Scale (PES). The studies included in this review used 10 instruments to measure job satisfaction.

Six studies (Laschinger et al., 2001; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004; Laschinger et al. 2014; Manojlovich & Laschinger, 2002; Sparks, 2011; Laschinger et al., 2014; Tourangeau et al., 2010) used the 4-item global instrument for job satisfaction that was previously modified by the job diagnostic survey of Hackman and Oldham (1975). All six studies reported Cronbach α reliabilities of >0.70. One study (Chang et al., 2010) used the job satisfaction scale, which is a 22-item scale based on the Job Diagnostic Survey. The job satisfaction scale consists of four subscales: relationships with colleagues, salary and rewards, management and growth and development. This study reported a Cronbach's α coefficient for job satisfaction of 0.77. Another study (Cramer et al., 2014) used the General Job Satisfaction Scale, a 5-item instrument derived from the theoretical and conceptual work that resulted in the Job Diagnostic Survey. This study reported a Cronbach's α coefficient of 0.89.

Three studies (Casey et al., 2010; Fuller et al., 1999; Morrison et al., 1997) used a 17-item scale modified by Warr et al. (1979) to measure job satisfaction. The modified scale contains some items that are related to empowerment: (1) freedom to choose your own work method (item 2); (2) recognition of good work (item 4); (3) opportunity to use your abilities (item 8); (4) attention paid to your suggestions (item 12); (5) amount of challenge presented by your job (item 16); and (6) the way your organization is managed (item 11). All three studies reported Cronbach α reliabilities of >0.70.

Pressure management indicator (PMI) was used to measure job satisfaction, energy level and the frequency of physical symptoms. Two studies (Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004; Laschinger et al., 2007) used the job satisfaction subscale of PMI to measure job satisfaction and the extent to which individuals are satisfied with the type of work they perform in terms of tasks and functions. The studies reported an α reliability of 0.88 for the job satisfaction subscale. Other job satisfaction scales were also used in the included studies (Table 2).

3.3 | Synthesis of results

The sections below begin with a descriptive analysis of all the studies included in this systematic review, followed by the results of

independent meta-analysis that was performed on a subset of the studies. The samples of the studies included in the meta-analysis comprised hospital nurses.

3.4 | Correlations between psychological empowerment and job satisfaction

Most studies reported that psychological empowerment and job satisfaction are significantly positively correlated. Cramer et al. (2014) used a fixed-effects method but failed to establish a relationship between psychological empowerment and job satisfaction. Another study used longitudinal analyses, but did not find that changes in psychological empowerment are predictive of changes in job satisfaction (Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004). Two studies investigated the relationship between the psychological empowerment and job satisfaction of nurse managers (Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004; Laschinger et al., 2007), including first-line and middle managers. One study reported that psychological empowerment directly and positively affects the job satisfaction of first-line managers but not that of middle managers (Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al., 2004).

Dahinten et al. (2016) revealed that psychological empowerment is not a predictor of extrinsic rewards and professional opportunities and yielded only small independent effects (R^2 of 1%–3%) for

other job satisfaction subscales (work culture and conditions, scheduling and family and work balance and collegial relationships). Another study reported that psychological empowerment is unrelated to the criticism, expectations and demand subscales of the job satisfaction of caregivers from nursing homes (Engström et al., 2010).

The meaning dimension of the PES is unrelated to any of the dimensions of job satisfaction and the impact subscale does not affect overall job satisfaction (Dahinten et al., 2016). Wagner et al. (2013), however, reported conflicting results, revealing that the impact subscale affects the job satisfaction of nursing managers. Meanwhile, Laschinger, Almost, et al. (2004); Laschinger, Finegan, et al. (2004) found that the four subscales of psychological empowerment, except for the confidence subscale, are significantly correlated with the job satisfaction of middle managers.

3.5 | Meta-analysis of the correlation between the psychological empowerment and job satisfaction of nurses

Eleven studies examined the relationship between the psychological empowerment and job satisfaction of clinical nurses, whereas 10 studies reported the correlation between overall psychological empowerment and overall job satisfaction or the effect of overall psychological empowerment on overall job satisfaction (Ahmad &
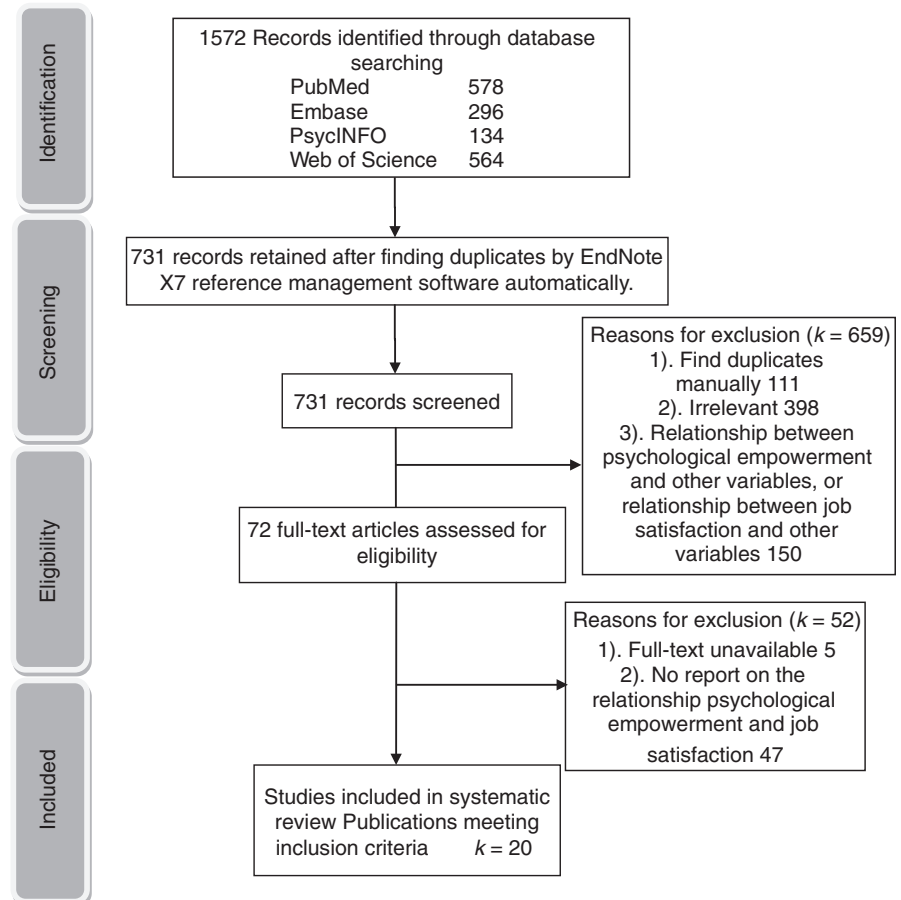

FIGURE 1 Flow diagram of literature search

TABLE 3 Summary of quality assessment

Criteria	Dahinten et al. (2016), Canada	Ouyang et al. (2015), China	Cramer et al. (2014), America	Tourangeau et al. (2010), Canada	Ahmad et al. (2010), England and Malaysia	Kostiwa et al. (2009), America	Morrison et al. (1997), America	Chang et al. (2010), China	Laschinger et al. (2004), Canada	Laschinger et al. (2014), Canada
Prospective studies	0	0	1	0	0	0	0	0	1	1
Probably sampling	0	0	0	0	1	1	1	1	1	0
Appropriate sample size	1	1	0	1	1	0	1	1	1	1
Sample drawn from more than one site	1	1	0	1	1	1	0	1	0	1
Anonymity protected	0	1	0	0	0	0	0	0	0	0
Response rate >60%	1	1	1	1	1	1	1	1	0	0
Reliable measure of outcome(s)	1	1	1	1	1	1	1	1	1	1
Valid measure of outcome (s)	0	0	0	0	0	0	0	0	0	0
Valid measure of empowerment	0	0	0	0	0	0	0	0	0	0
[a]Empowerment internal consistency	2	2	2	2	2	2	2	2	2	2
Theoretical framework used	0	0	0	0	1	0	0	0	1	1
Correlation analysis for multiple effects	1	1	0	1	1	1	1	1	0	1
Management of outliers addressed	1	1	1	1	1	1	1	1	1	1
Total score	8	9	6	8	10	8	8	9	8	9

Criteria	Wagner et al. (2013), Canada	Sparks et al. (2011), America	Casey et al. (2010), Ireland	Laschinger et al. (2007), Canada	Laschinger et al. (2004), Canada	Larrabee et al. (2003), America	Fuller et al. (1999), America	Laschinger et al. (2001), Canada	Engstrom et al. (2010), Sweden	Manojlovich et al. (2002), Canada
Prospective studies	0	0	0	0	0	0	0	0	0	0
Probably sampling	1	0	0	1	1	0	0	1	1	1
Appropriate sample size	0	1	1	0	0	0	1	1	0	1
Sample drawn from more than one site	1	0	1	0	0	0	0	0	0	0
Anonymity protected	0	1	0	0	0	0	0	0	1	0
Response rate >60%	0	1	1	1	1	1	1	1	1	1
Reliable measure of outcome(s)	1	1	1	1	1	1	1	1	0	1

(Continues)

TABLE 3 (Continued)

Criteria	Wagner et al. (2013), Canada	Sparks et al. (2011), America	Casey et al. (2010), Ireland	Laschinger et al. (2007), Canada	Laschinger et al. (2004), Canada	Larrabee et al. (2003), America	Fuller et al. (1999), America	Laschinger et al. (2001), Canada	Engstrom et al. (2010), Sweden	Manojlovich et al. (2002), Canada
Valid measure of outcome (s)	1	0	1	0	0	0	0	0	0	1
Valid measure of empowerment	1	0	0	0	1	0	0	0	1	1
aEmpowerment internal consistency	2	2	2	2	2	2	2	2	0	2
Theoretical framework used	0	1	1	1	1	1	0	1	0	1
Correlation analysis for multiple effects	0	1	1	0	1	1	0	0	1	1
Management of outliers addressed	1	1	1	1	1	1	1	1	1	0
Total score	8	9	10	7	9	7	6	8	6	10

†aScores 2 points.
‡Quality was assessed in accordance with a scoring system. However, the present convention precludes the use of total quality scores to determine inclusion–exclusion decisions as not all domains of quality are considered equal. The important issue is how the risk of bias or methodological limitations of primary studies interpretation of and confidence in review findings.

Oranye, 2010; Cramer et al., 2014; Dahinten et al., 2016; Larrabee et al., 2003; Laschinger et al., 2001; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al. (2004); Laschinger et al. 2014; Manojlovich & Laschinger, 2002; Ouyang et al., 2015; Sparks, 2011). Some studies revealed that psychological empowerment is related to job satisfaction, whereas other works reported that psychological empowerment and job satisfaction are not significantly correlated (Cramer et al., 2014; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al. (2004)). Hence, we conducted a meta-analysis of the 10 studies to identify the correlation between job satisfaction and psychological empowerment.

The meta-analysis showed that psychological empowerment and job satisfaction are significantly positively correlated ($R = .353$, $p < .001$). The total population included in the meta-analysis was 4,167 and the 95% CI was 0.208–0.484. See Figure 2 for details. The Q-statistic and I^2 index were 249.341 ($p < .001$) and 95.989, respectively, indicating the homogeneity of correlations across the studies. In addition, the FSN value was 1367, which is higher than the recommended tolerance ($5k + 10$, $k = 10$). Therefore, the results were considered robust.

3.6 | Psychological empowerment mediates structural empowerment and job satisfaction

Three studies stated that psychological empowerment mediates structural empowerment and job satisfaction (Chang et al., 2010; Dahinten et al., 2016; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al. (2004)). One study found that psychological empowerment partially mediates the structural empowerment and job satisfaction of school health nurses (Chang et al., 2010). Considering that the β coefficient for structural empowerment did not change during the second step of the regression after entering the psychological empowerment variable(s), other studies did not suggest that psychological empowerment mediates the effects of structural empowerment on job satisfaction. A change in psychological empowerment did not cause a significant change in job satisfaction beyond that accounted for by structural empowerment.

4 | DISCUSSION

Twenty related studies were included in this review. Research on the relationship between the psychological empowerment and job satisfaction of nurses is limited given that psychological empowerment theory developed later than structural empowerment theory. Most included studies indicated that psychological empowerment is related to job satisfaction or that psychological empowerment is a predictor of job satisfaction, whereas two studies did not find a connection between these two measures (Cramer et al., 2014; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al. (2004)). The results of the meta-analysis also showed that psychological empowerment and job satisfaction are significantly positively correlated. This result is consistent with the view of Conger and Kanungo (1988), who argued that
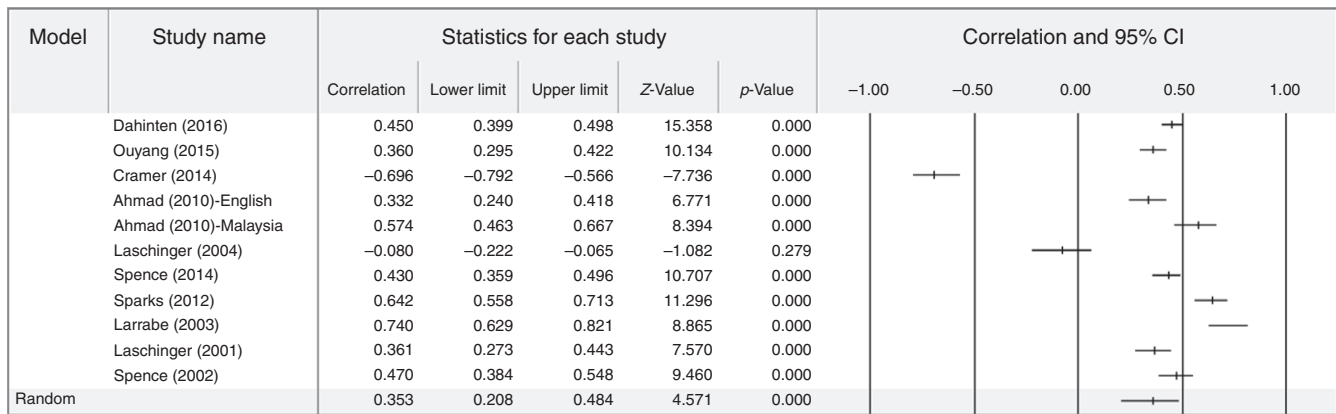
Model	Study name	Statistics for each study					Correlation and 95% CI				
		Correlation	Lower limit	Upper limit	Z-Value	p-Value	−1.00	−0.50	0.00	0.50	1.00
	Dahinten (2016)	0.450	0.399	0.498	15.358	0.000					
	Ouyang (2015)	0.360	0.295	0.422	10.134	0.000					
	Cramer (2014)	−0.696	−0.792	−0.566	−7.736	0.000					
	Ahmad (2010)-English	0.332	0.240	0.418	6.771	0.000					
	Ahmad (2010)-Malaysia	0.574	0.463	0.667	8.394	0.000					
	Laschinger (2004)	−0.080	−0.222	−0.065	−1.082	0.279					
	Spence (2014)	0.430	0.359	0.496	10.707	0.000					
	Sparks (2012)	0.642	0.558	0.713	11.296	0.000					
	Larrabe (2003)	0.740	0.629	0.821	8.865	0.000					
	Laschinger (2001)	0.361	0.273	0.443	7.570	0.000					
	Spence (2002)	0.470	0.384	0.548	9.460	0.000					
Random		0.353	0.208	0.484	4.571	0.000					

FIGURE 2 Correlation between psychological empowerment and job satisfaction

removing disempowering structures from the workplace strengthens the sense of autonomy among employees, who gain a strong belief that they have an impact at work. Some researchers also examined the relationships between various psychological empowerment dimensions and job satisfaction subscales. Findings suggested that not all aspects of psychological empowerment affect all aspects of job satisfaction and the results of reported studies are not unanimous. The non-significant role of the subscale may account for the lack of a significant relationship between overall psychological empowerment and overall job satisfaction reported by some studies.

Varying populations, sample sizes, backgrounds, organizational systems and national cultures may account for the different results obtained by the included studies. Furthermore, the inconsistencies in findings may be attributed to the different job satisfaction scales used in the studies. The heterogeneous results of the studies require further and in-depth studies in the future.

Three studies reported the mediating role of psychological empowerment between structural empowerment and job satisfaction included in this review. Two studies did not find that psychological empowerment mediates structural empowerment and job satisfaction (Dahinten et al., 2016; Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al. (2004)). This result is inconsistent with the findings of the cognitive empowerment model developed in Western countries (Thomas & Velthouse, 1990). These inconsistent findings have two possible reasons. First, employees from different countries have a different understanding of empowerment, a concept that originated in Western countries. In China, empowerment is interpreted as a dynamic complementarity and the prevention of conflicts with authority figures (Yip, 2004). If managers do not empower their employees, then individual employees do not derive empowerment from psychological perceptions. Second, these studies were set in different work environments. Hence, in the future, the mediating role of psychological empowerment should be studied in the same settings and contexts.

Conger and Kanungo (1988) pointed out that the often-improper management of empowerment ultimately degrades employee performance. Empowerment can produce effects only when the individual experiences or perceives psychological empowerment. A recent

study has also found that empowered nurses can empower their patients, resulting in positive health outcomes (Laschinger, Gilbert, Smith, & Leslie, 2010). Thus, an empowering work environment and the perception of workplace empowerment by nurses are important for nurses and patients.

4.1 | Recommendations for nursing management and future research

The results of this review can provide recommendations to nursing managers who, by implementing interventions that raise the level of psychological empowerment, aim to improve the job satisfaction of nurses. Hospital supervisors and managers can establish an effective information dissemination system and convey the status of hospital development, prospects, strategic guidelines and other information to the nursing staff in a timely manner. Thus, clinical nurses can see the impact of their work on the development of their departments and the hospital. Managers can provide a reasonable reward to nurses based on their performance. This reward can act as an inherent incentive for nurses and allow them to perceive the value and meaning of their work, thus affecting their sense of psychological empowerment. In addition, leaders also could help nurses recognize their autonomy and potential impact by holding regular meetings where the latter can provide suggestions for the workplace. At the same time, leaders should establish collegial relationships with nurses to increase their job satisfaction by helping them recognize their competence.

Most studies included in this review were observational or cross-sectional in design and showed that overall psychological empowerment and overall job satisfaction are significantly positively correlated. Only two studies were longitudinal (Laschinger, Almost, et al., 2004; Laschinger, Finegan, et al. (2004); Laschinger et al., 2014). Thus, additional longitudinal, interventional and qualitative studies are necessary to evaluate the causal relationships between nurse psychological empowerment and job satisfaction. Many studies employed a theoretical framework, which provided a rationale to hypothesize conceptual models and to test the relationships between ideas and variables (Lo-Biondo-Wood & Haber, 1998) for future research. Studies that tested the mediating role of

psychological empowerment between structural empowerment and job satisfaction are limited. Thus, studies with similar aims should be conducted in the future.

4.2 | Limitations

Most studies included in this review used a cross-sectional design and the variability in the measurement of job satisfaction might limit the ability to estimate causation and decrease the generalizability of the results. Results of the quality assessment revealed that some studies have small sample sizes, which may have affected the results. This review did not include qualitative studies, which may reveal valuable factors, such as the environment and culture of nurses. These factors may contribute to the relationship between the psychological empowerment and job satisfaction of nurses. The meta-analysis revealed high heterogeneity across studies. Heterogeneity possibly resulted from the differences in work environment, sample size and the diversity of measures and mixed cultures among included studies.

5 | CONCLUSION

The results of this review provided evidence for the importance of psychological empowerment in improving the job satisfaction of nurses. Exploring the impact of psychological empowerment and understanding the correlation between psychological empowerment and job satisfaction might be useful in creating a supportive and satisfying work environment for nurses and thus promote the retention and alleviate the shortage of nurses. This review will help managers and hospitals formulate strategies for developing and maintaining empowering workplaces. Researchers should conduct longitudinal, interventional and qualitative studies to further evaluate the relationships between nurse psychological empowerment and job satisfaction and the mediating role of psychological empowerment between structural empowerment and job satisfaction.

AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria (recommended by the ICMJE [http://www.icmje.org/recommendations/]):

- substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

ORCID

Huanhuan Li http://orcid.org/0000-0002-9555-0704

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