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REVIEW

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Registered nurses' psychological capital: A scoping review

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Abstract

Aims: The aim was to examine the extent and scope of empirical research concerning registered nurses' psychological capital.

Background: In a time of global nursing shortage, identifying variables that could positively contribute to the retention of the nursing workforce is essential. Prior research has shown that psychological capital correlates positively with employees' better performance and well-being.

Design: A scoping review.

Data sources: A systematic literature search was conducted in the following databases: PubMed, CINAHL, PsycINFO, Web of Science and Scopus covering the period from 1 January 2005 to 7 May 2023.

Review methods: The JBI methodological guidance for scoping reviews was followed. The results were summarized narratively.

Results: A total of 111 studies reported in 114 peer-reviewed articles were included. Studies were carried out across 20 countries, with the majority from China (45), Australia (nine), Pakistan (nine), Canada (eight), South Korea (eight) and the United States (eight). A positive correlation was found between registered nurses' psychological capital and desirable work-related outcomes, such as work engagement, commitment and retention intention.

Conclusion: A comprehensive overview of research evidence suggests that psychological capital is associated with many positive work-related outcomes and might therefore be a valuable resource for reducing nurse turnover.

KEYWORDS
nursing, psychological capital, resilience, retention, scoping review

Summary statement

What is already known about this topic?

- The concept of psychological capital has been originally developed in the field of positive psychology.

- Psychological capital has been positively associated with many employees' desired work-related outcomes, for example better performance, positive attitudes and well-being.
- Nursing workforce researchers are increasingly interested in psychological capital as an emerging concept.

What this paper adds:

- This review of 111 studies presents a broad overview of the research concerning registered nurses' psychological capital conducted in 20 countries.
- Psychological capital correlated positively with newly graduated nurses' and registered nurses' positive, work-related outcomes such as engagement and retention intention as well as lower burnout level.

The implications of this paper:

- Findings from this review can inform nurse managers and leaders who develop and implement strategies to promote staff well-being and retention.
- Strengthening psychological capital might be beneficial both for individual registered nurses and the healthcare organizations where they work.
- There is a need for future research to investigate psychological capital outside the hospital settings and with longitudinal designs. The instruments identified need more cross-cultural validations.

1 | INTRODUCTION

In the current time of a global nursing workforce shortage (Buchan et al., 2022), many registered nurses (hereinafter referred to as RNs) report experiences of burnout (Galanis et al., 2021), compassion fatigue (Xie et al., 2021) and intention to leave the profession (Bruyneel et al., 2023). Moreover, the COVID-19 pandemic has challenged RNs' well-being (Couper et al., 2022). Excessive workloads and stress may have negative consequences. Burnout among healthcare professionals has been associated with a reduced quality of care (Mathur & VanderWeele, 2020) and nurses' depression has been found to be a predictor of medical errors (Melnyk et al., 2018). As a result, there is a need for research evidence on resources that could improve RNs' well-being and health. During the previous 20 years, researchers representing many disciplines have begun to show growing interest in positive human strengths and capabilities (Luthans & Broad, 2022), which are related to desired performance, attitudes and well-being, also at workplaces (Luthans & Youssef-Morgan, 2017).

The positive psychology movement began in the United States in the early 2000s. Psychologists and researchers shifted their focus from mental illness and weaknesses to individuals' strengths and virtues. (Luthans & Broad, 2022.) Building on this paradigm, researchers began to investigate the application of positive psychology in workplaces (Luthans & Youssef-Morgan, 2017). Based on a theoretical view that employees' positive psychological capacities can be developed and managed, Luthans and Youssef (2004) introduced the concept of psychological capital (hereinafter PsyCap) and developed an instrument (Psychological Capital Questionnaire, PCQ-24) to measure it (Luthans & Youssef-Morgan, 2017).

PsyCap has been defined as an individual's positive psychological state of development (Luthans & Youssef-Morgan, 2017). It is a multidimensional construct, most often described as consisting of four positive psychological resources: (1) Hope (persisting with and adapting goals to succeed), (2) Efficacy (having the confidence to succeed in challenging tasks), (3) Resilience (responding and recovering from difficulties and setbacks) and (4) Optimism (believing in oneself to succeed in the present and future) (abbreviated as HERO) (Luthans & Broad, 2022). These PsyCap dimensions have been chosen by researchers because they are state-like phenomena and, therefore, can be developed (Luthans & Youssef-Morgan, 2017).

PsyCap has been described as a higher order core construct. The HERO resources included in the PsyCap construct have been found to have a stronger association with outcomes such as positive performance together than individually (Luthans & Broad, 2022). Studies have also been concerned with other higher order constructs such as work engagement and overall fairness (Johnson et al., 2012). PsyCap is, however, the only core construct that consists of the four previously mentioned HERO resources. Online, face-to-face and microlearning PsyCap interventions have been developed and tested (Carter & Youssef-Morgan, 2022). According to a meta-analysis, PsyCap interventions have had a significant but small effect on employees' and students' PsyCap (Lupşa et al., 2020).

A significant body of research has been conducted on employees' PsyCap and its outcomes. Relationships have been reported between PsyCap and desired work-related outcomes, such as positive

attitudes, behaviours, well-being and better performance. (Luthans & Youssef-Morgan, 2017.) Moreover, a negative association has been found between PsyCap and undesired outcomes such as stress, turnover intent and cynicism (Avey et al., 2011).

PsyCap has been investigated among professional groups such as teachers (Mikus & Teoh, 2022), and highly specialized knowledge workers (Toth et al., 2022). However, the work of RNs differs from that of other professionals. RNs provide nursing care and services by promoting health, preventing illnesses and relieving suffering (International Council of Nurses, 2021). Therefore, PsyCap also needs to be investigated among RNs and reviews compiling this research evidence are necessary. After nearly two decades of research concerning RNs' PsyCap, there is a need to examine emerging empirical evidence and identify gaps in the research. To the best of our knowledge, this is the first scoping review undertaken to identify comprehensive research evidence on RNs' PsyCap and related outcomes. A systematic review and meta-analysis of 29 studies concerning the overall levels of PsyCap among nurses measured with the PCQ-24 has been published (Yuan et al., 2023). Given the potential impact of PsyCap for RNs throughout their career, a broad overview of this topic is warranted. This scoping review will inform leaders, managers, researchers and educators about PsyCap and associated work-related outcomes in the nursing workforce.

2 | REVIEW METHODS

2.1 | Aim

The aim was to examine the extent and scope of empirical research concerning RNs' PsyCap. Four questions guided the synthesis of the review:

1. What kind of research has been previously conducted on PsyCap?
2. What instruments have been used to measure PsyCap?
3. What level of PsyCap has been demonstrated among RNs?
4. What have been the work-related outcomes related to PsyCap?

2.2 | Design

A scoping review was conducted to chart the existing evidence base, following the guidance presented in the JBI Reviewer's Manual concerning scoping reviews (Peters et al., 2020). These guidelines are based on the methodology introduced by Arksey and O'Malley (2005) and further developed by Levac et al. (2010). The scoping review method was selected because it allows for examining the extent, range, and nature of research on a topic (Peters et al., 2020).

The study involved performing the eight phases proposed by Peters et al. (2020): (1) defining the objective and research questions; (2) developing inclusion criteria; (3) planning the search, study selection, data extraction and charting; (4) searching for; (5) selecting; (6) extracting and (7) analysing the evidence; and (8) summarizing and presenting the findings. The review was not registered, as scoping reviews do not currently meet the inclusion criteria for the PROSPERO database (Pollock et al., 2021). The PRISMA Extension for Scoping Reviews (PRISMA-SCR) (Tricco et al., 2018) was followed to ensure quality and transparency.

2.3 | Search methods

To inform the data search process, the PCC (Participants, Concept and Context) framework (Peters et al., 2020) was used: Participants were defined as RNs; the concept of interest was psychological capital and the context was defined as all healthcare settings.

A search strategy was developed with an information specialist working at a medical library. The search string was first developed in PubMed and then adapted for other databases (Supplementary Table S1). The concept of interest was a higher order core construct of PsyCap. Therefore, individual PsyCap strengths (hope, efficacy, resilience and optimism) were not included in the search strategy.

A systematic literature search covering the period from 1 January 2005 to 7 May 2023 was performed. The year 2005, which was when Luthans and Jensen published their first study concerning RNs PsyCap, was chosen as the first year covered by the search. The search was conducted in the following databases: PubMed, CINAHL, PsycINFO, Web of Science and Scopus. The inclusion criteria were as follows: English language, original studies and peer-reviewed journal articles, available as a full text.

After identifying citations in the electronic database search, duplicates were removed and citations were screened independently by two researchers using a two-step process. The first screening was focused on titles and abstracts based on the inclusion and exclusion criteria and was followed by a full-text review.

2.4 | Quality appraisal

An assessment of the quality of the included studies was not performed. According to the JBI Reviewer's Manual concerning scoping reviews, quality assessment is not a necessary part of the scoping review process (Peters et al., 2020). Instead of a quality appraisal of the studies included, this review provides a broad overview of the empirical evidence.

2.5 | Data abstraction

One researcher extracted the following data from each study: country of origin, design and purpose, sample and setting, the instrument used and key findings.

2.6 | Synthesis

Due to the broad nature of the review question, preparing a narrative and descriptive summary of the findings including the charted results

was considered the most appropriate method. The features and empirical findings are presented in tables.

3 | RESULTS

3.1 | Study selection

The database searches resulted in identifying 1850 records. After removing duplicates ($n = 391$), a total of 1459 records were screened by title and abstract, and 1247 of these were excluded. The full texts of 212 articles were assessed for eligibility, and 98 were excluded for various reasons. Ultimately, 111 studies published in 114 peer-reviewed articles were included. The search results from the databases and the selection process are presented in a flow diagram (Figure 1).

3.2 | Characteristics of the studies

All the studies ($n = 111$) were quantitative, included questionnaire surveys and were mainly cross-sectional ($n = 106$), followed by a longitudinal ($n = 3$) design. One prospective, randomized controlled study investigated the PsyCap group training intervention (Gon et al., 2023), and one study developed and tested the PsyCap instrument aimed at nurses (Lu et al., 2023). Supplementary Table S2 includes the main details of the studies.

The studies had been conducted in 20 different countries: the majority of them in China ($n = 45$), followed by Australia ($n = 9$), Pakistan ($n = 9$), Canada ($n = 8$), South Korea ($n = 8$), the United States ($n = 8$), Iran ($n = 5$), Turkey ($n = 5$) and India ($n = 3$).

The participants were newly graduated nurses (hereinafter referred to as NGNs) ($n = 10$), NGNs and experienced RNs ($n = 1$) and nurses with various titles (e.g. registered, qualified, general and clinical) ($n = 100$). The samples included RNs as well as other healthcare professionals or employees (e.g. licensed practical nurses, midwives, nurse managers, head nurses, charge nurses, supervisors, physicians and doctors) in 36 studies (Table 1).

As reported in Table 1, in most of the studies ($n = 98$), at least part of the data had been collected from the hospital settings, and some also concerned the healthcare sector, outpatient clinics, nursing homes, medical centres, elderly care institutions, primary healthcare units and acute health facilities.

The sample size varied across studies, from 54 nurses to 7382 RNs. Two studies included nurses and patients. A total sample size exceeding 1000 nurses was reported in 12 studies. In 59 studies, it was reported that over 90% of respondents were female. The reported response rates varied from 6% to 100%.

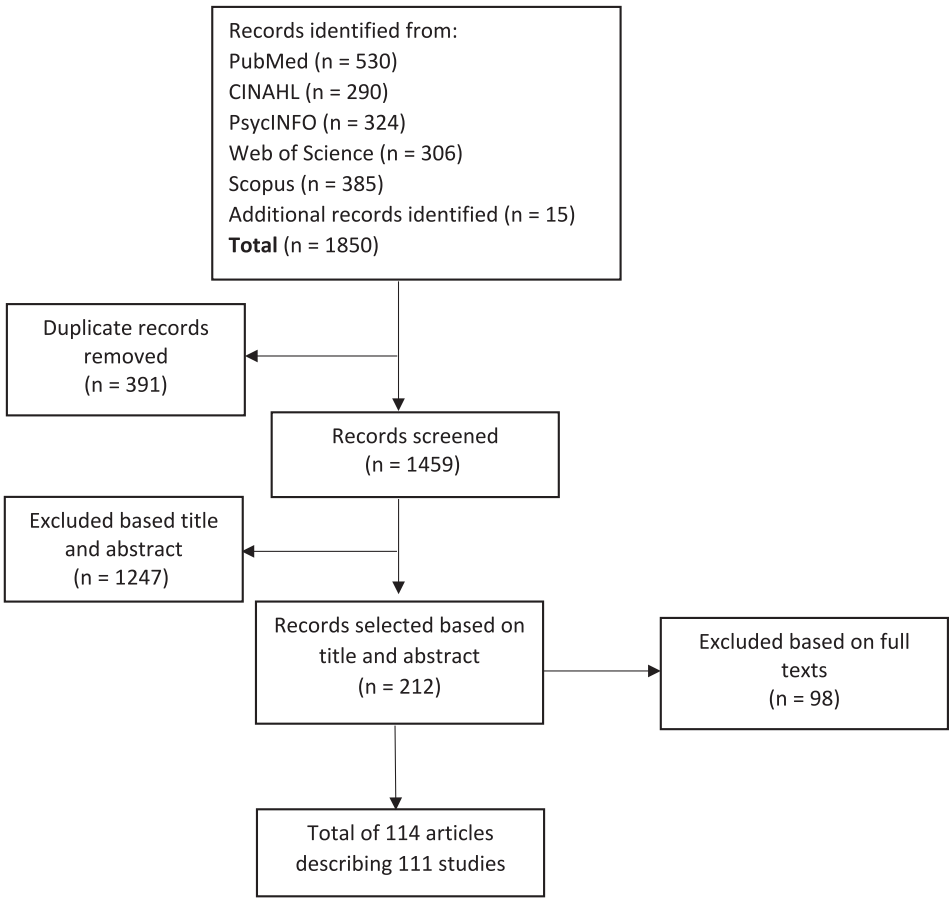

FIGURE 1 Flow chart of the study selection process for this review.

TABLE 1 Studies included in the scoping review ($n = 111$).

Authors, year	Country	Sample	Setting
[1] Luthans & Jensen, 2005	United States	71 registered nurses and licensed practical nurses	A hospital
[2] Laschinger et al., 2012	Canada	420 newly graduated nurses	Acute care hospitals
[3] Laschinger & Grau, 2012	Canada	165 newly graduated nurses	Hospitals, acute care settings
[4] Sun et al., 2012	China	733 qualified nurses, nursing assistants and head nurses	University hospitals
[5] Wang et al., 2012	China	1332 nurses	General hospitals
[6] Peng et al., 2013	China	473 nurses	General hospitals
[7] Read & Laschinger, 2013	Canada	342 newly graduated nurses	Hospitals, acute care settings
[8] Laschinger & Fida, 2014	Canada	342 (time 1), 205 (time 2) newly graduated nurses	Acute care hospitals
[9] Bakri & Ali, 2015	Pakistan	233 nurses	Private sector hospitals
[10] Bao & Taliaferro, 2015	United States	260 nurses	A teaching hospital
[11] Boamah & Laschinger, 2015	Canada	205 newly graduated nurses	Acute care hospitals
[12] Ding et al., 2015	China	1496 nurses	General hospitals
[13] Hao et al., 2015	China	824 nurses	Polyclinics
[14] Laschinger & Nosko, 2015	Canada	244 newly graduated nurses, 631 experienced nurses	Hospitals, acute care settings
[15] Pineau Stam et al., 2015	Canada	205 newly graduated nurses	Healthcare settings
[16] Bonner, 2016	United Kingdom	137 registered general nurses	Teaching hospital
[17] Brunetto, Xerri, et al., 2016	Australia	242 clinical, registered, and enrolled nurses	Private hospitals
[18] Brunetto, Rodwell, et al., 2016	Australia	242 nurses and nurse managers	Acute hospitals
[19] Estiri et al., 2016	Iran	384 staff nurses	Public hospitals
[20] Laschinger et al., 2016, Laschinger et al., 2018	Canada	406 newly graduated nurses	Hospitals
[21] Shahpouri et al., 2016	Iran	208 nurses	A hospital
[22] Erkutlu & Chafra, 2017	Turkey	1215 certified nurses	University hospitals
[23] Karatepe & Avci, 2017	Cyprus	212 nurses	Public hospitals
[24] Malik & Dhar, 2017	India	520 nurses, 163 supervisors	Hospitals and nursing homes
[25] Pan et al., 2017	China	161 nurses	Tertiary hospitals
[26] Wang et al., 2017	China	1016 nurses	General hospitals
[27] Yim et al., 2017	South Korea	447 registered nurses	Veterans' administration hospitals
[28] Zhou et al., 2017	China	538 nurses and head nurses	General hospitals
[29] Grover et al., 2018	Australia	401 nurses	Healthcare sector
[30] Kim & Yoo, 2018	South Korea	156 newly graduated nurses	Tertiary hospitals, a university hospital
[31] Malik, 2018	India	530 nurses, 146 supervisors	Hospitals, nursing homes
[32] Yun & Kang, 2018	South Korea	301 staff nurses and charge nurses	Hospitals
[33] Zhou, Zhu, et al., 2018	China	351 nurses, primary nurses, and head nurses	General hospitals
[34] Zhou, Yang, et al., 2018	China	1354 nurses	Tertiary hospitals
[35] Dwyer et al., 2019	United States	136 newly licensed graduate nurses	Hospitals
[36] Kawalya et al., 2019	Uganda	800 nurses, midwives and nursing assistants	Public hospitals
[37] Li et al., 2019	China	200 registered nurses	A public hospital
[38] Shaheen et al., 2019	India	200 nurses, 200 patients	Tertiary healthcare hospitals

(Continues)

TABLE 1 (Continued)

Authors, year	Country	Sample	Setting
[39] Tong et al., 2019	China	791 nurses, 945 general practitioners	Township hospitals
[40] An et al., 2020	South Korea	285 nurses	A tertiary hospital
[41] Brunetto et al., 2020	Australia/United States	225 nurses, 125 allied health workers, 86 community care workers, 83 personal carers, 26 doctors	Hospitals, community care programs, aged care facilities
[42] Chamisa et al., 2020	South Africa	228 nurses	Public hospitals
[43] Dudau et al., 2020	Australia	247 nurses, 245 local government employees	Local hospitals
[44] Hao et al., 2020	China	314 nurses	General hospitals
[45] Huo et al., 2020	Pakistan	303 nurses	Public and private hospitals
[46] Jiang & Zhou, 2020	China	506 nursing practitioners, 364 charge nurses, 105 associate nursing professors, 77 nursing professors	Third-class hospitals
[47] Kalyar et al., 2020	Pakistan	557 nurses, 87 head nurses	Public hospitals
[48] Kasemy et al., 2020	Egypt	268 nurses, 272 physicians, 540 other employees	Hospitals
[49] Kim & Kweon, 2020	South Korea	108 psychiatric registered nurses	Psychiatric hospitals
[50] Pieters & Matheus, 2020	Namibia	672 nurses (registered, enrolled, students)	Public hospitals and clinics
[51] Sabir et al., 2020	Pakistan	254 nurses	Primary healthcare units
[52] Slåtten et al., 2020	Norway	333 nurses, 88 doctors, 588 health professionals and staff	A hospital
[53] Woo & Kim, 2020	South Korea	192 registered nurses	General hospitals
[54] Wu & Lee, 2020	Taiwan	164 nurses	A regional hospital, a medical center
[55] Yan et al., 2020	China	4677 nurses	Hospitals
[56] Allahyari Bouzanjani et al., 2021	Iran	247 nurses	A cardiovascular hospital
[57] Bae et al., 2021	South Korea	166 clinical nurses	Two university hospitals
[58] Chevalier et al., 2021	France	1076 nurses	Private and public hospitals
[59] Elliott & Fry, 2021	Australia	464 clinical nurses, 36 midwives	Acute health facilities
[60] Guo et al., 2021	China	1717 clinical nurses (enrolled, registered)	Tertiary hospitals
[61] Kalyar et al., 2021	Pakistan	329 nurses	Public hospitals
[62] Li & Wu, 2021	China	418 nurses, 644 doctors	General hospitals
[63] Liu et al., 2021	China	766 registered nurses	General tertiary hospitals
[64] Mubarak et al., 2021	Pakistan	243 nurses	Hospitals
[65] Ren et al., 2021	China	1009 nurses	A general hospital
[66] Rubbab et al., 2021	Pakistan	214 nurses	Public hospitals
[67] Shah & Huang, 2021	Pakistan	347 nurses and physicians	Major teaching hospitals
[68] Salur & Yıldırım, 2021	Turkey	122 nurses, 83 physicians	A hospital
[69] Shan et al., 2021	China	446 nurses	A tertiary hospital
[70] Tang et al., 2021	China	957 registered nurses	Hospitals
[71] Wang, Dai, et al., 2021	China	562 nurses	Hospitals
[72] Wang, Liang, et al., 2021	China	321 nursing staff	Elderly care institutions
[73] Wang, Zhao, et al., 2021	China	111 nurses, 58 doctors, 74 other staff	Medical and health organization
[74] Yıldırım et al., 2021	Turkey	697 registered nurses	Tertiary university hospitals
[75] Zhang et al., 2021, Tian et al., 2023	China	7382 registered nurses	Public and private hospitals

TABLE 1 (Continued)

Authors, year	Country	Sample	Setting
[76] Zheng et al., 2021	China	75 registered nurses	Hospitals
[77] Zhu, Kunaviktikul, et al., 2021	China	565 nurses	General hospitals
[78] Zhu, Shen, et al., 2021	China	386 nurses	Tertiary level hospitals
[79] Alan et al., 2022	Turkey	466 nurses	A public university hospital
[80] Ali et al., 2022	Pakistan	350 nurses	Public hospitals
[81] Almeida & Miclos, 2022	Brazil	12 senior nurses, 56 assistant nurses, 118 auxiliary nurses	Basic health units in primary healthcare
[82] Brunetto et al., 2022	Australia	85 nurses, 48 allied health professionals, 30 medical practitioners	Hospitals
[83] Du et al., 2022, Du et al., 2023	China	633 clinical registered nurses, 25 nurse managers	A tertiary grade A hospital
[84] Duan et al., 2022	China	515 registered nurses	A public hospital
[85] Hinkley, 2022	United States	1167 registered nurses	Hospitals
[86] Hong et al., 2022	China	111 nurses, 132 professional and administrative staff	Medical and health organization
[87] Jeong & Kim, 2022	South Korea	148 nurses	Two university hospitals
[88] Jin et al., 2022	China	606 registered nurses	Tertiary grade A hospitals
[89] Kawalya et al., 2022	Uganda	800 nurses and midwives	Public hospitals
[90] Kaya & Eskin Bacaksiz, 2022	Turkey	292 staff nurses, 49 nurse managers	A public university hospital, a private university hospital
[91] Liu, Li, Yan, & Shi, 2022	China	212 primary, 113 intermediate and 14 senior nurses	A tertiary grade A general hospital
[92] Liu, Li, Liu, & Yang, 2022	China	526 registered nurses	Tertiary medical institutions
[93] Mazhari et al., 2022	Iran	200 nurses	Hospitals
[94] Sajedi et al., 2022	Iran	200 ICU nurses	Hospitals
[95] Schuster et al., 2022	United States	424 paediatric oncology registered nurses	Hospitals
[96] Wang et al., 2022, Wang et al., 2023	China	658 registered clinical nurses	A tertiary hospital
[97] Xerri et al., 2022	United States	120 nurses, 103 allied health employees, 17 doctors	Hospitals and private practices
[98] Xiao et al., 2022	China	4865 registered nurses	Tertiary hospitals
[99] Xue et al., 2022	China	723 registered nurses	Hospitals
[100] Yao et al., 2022	China	288 registered nurses	Tertiary hospitals
[101] Chang et al., 2023	China	952 psychiatric registered nurses	Public tertiary psychiatric hospitals
[102] Flinkman et al., 2023	Finland	514 registered nurses	Social and healthcare settings
[103] Gon et al., 2023	China	54 nurses	A hospital
[104] Grubaugh et al., 2023	United States	4328 newly graduated nurses	Acute care organizations, paediatric hospitals, an outpatient service location, a home health organization
[105] He et al., 2023	China	230 nurses, 230 cancer patients	A tertiary first-class cancer hospital
[106] Liu & Zhu, 2023	China	169 nurses, 80 doctors, 13 technicians	General and specialized hospitals
[107] Lu et al., 2023	China	619 registered nurses	Tertiary hospitals

(Continues)

TABLE 1 (Continued)

Authors, year	Country	Sample	Setting
[108] Pariona-Cabrera et al., 2023	Australia	254 nurses and personal care assistants	Aged care facilities
[109] Salehi et al., 2023	Australia	85 nurses, 30 medical practitioners, 48 allied health professionals	Hospitals
[110] Tang et al., 2023	China	916 psychiatric nurses	Grade-III mental facilities
[111] Zhang et al., 2023	China	318 general nurses, 372 nurse specialists	Provincial general hospitals

3.3 | PsyCap instruments

The Psychological Capital Questionnaire PCQ-24 ($n = 74$) or shorter PCQ-12 ($n = 13$) was used in most of the studies. PCQ-24 has a six-point Likert-type scale (strongly disagree to strongly agree). However, 15 studies used a PCQ-24 scale from 1 to 5 and one from 1 to 7 (Supplementary Table S3). The Cronbach's alpha value for the full PCQ-24 instruments mainly exceeded 0.80 in the reviewed studies (Supplementary Table S2). Other instruments reported were the Nurse Psychological Capital Questionnaire (PCQ-R) ($n = 6$) and the Nurse Psychological Capital Scale (NPCS) ($n = 1$).

3.4 | Level of PsyCap

NGNs and experienced RNs assessed their PsyCap level from moderate to good. Different instruments, scales and reporting strategies have been used, which need to be considered when comparing or generalizing PsyCap levels across studies (Supplementary Table S3).

NGNs' PsyCap mean scores have varied from 4.26 (Laschinger et al., 2012) to 5.16 (Boamah & Laschinger, 2015) (PCQ-24, scale 1–6) in Canada. NGNs in one study carried out in the United States reported a PsyCap mean score of 4.43 (PCQ-24, scale 1–6) (Dwyer et al., 2019), and in Korea, 2.94 (PCQ-24, scale 1–5) (Kim & Yoo, 2018). In a longitudinal study, the NGNs' reported PsyCap score increased statistically significantly (Mean = 4.56 to 4.65, PCQ-12, scale 1–6) in a 1-year period (Laschinger et al., 2018).

RNs in one study conducted in South Korea reported the lowest (Mean = 3.01) PsyCap score (Yim et al., 2017) and nurses in South Africa the highest (Mean = 4.66) score (Chamisa et al., 2020) when measured with PCQ-24 (scale 1–6).

Sociodemographic characteristics, such as older age (Chevalier et al., 2021; Laschinger & Nosko, 2015; Yim et al., 2017; Zhou et al., 2017; Zhu, Shen, et al., 2021), longer work experience (Laschinger & Nosko, 2015; Liu, Li, Yan, & Shi, 2022; Yim et al., 2017; Zhou et al., 2017; Zhu, Shen, et al., 2021), higher educational level (Tang et al., 2023) and working on a higher occupational level (supervising nurse, nurse manager, head nurse) (Kaya & Eskin Bacaksiz, 2022; Yim et al., 2017; Zhou et al., 2017), have been associated with higher PsyCap scores. Married nurses (Liu, Li, Yan, & Shi, 2022; Zhou et al., 2017), NGNs living with a friend (Kim & Yoo, 2018) and nurses working at daytime units (Kaya & Eskin Bacaksiz, 2022) have reported higher PsyCap scores. Male nurses reported higher PsyCap than females in two studies (Chevalier et al., 2021; Liu et al., 2022).

3.5 | Outcomes of PsyCap

PsyCap has correlated positively with many desired work-related outcomes and negatively with undesired work-related outcomes. These correlations, however, were reported to be moderate or low in many studies (Supplementary Table S4).

NGNs' higher PsyCap has been associated positively with job satisfaction (Laschinger et al., 2016; Read & Laschinger, 2013; Pineau Stam et al., 2015), career satisfaction (Laschinger et al., 2016; Read & Laschinger, 2013) and work engagement (Boamah & Laschinger, 2015; Read & Laschinger, 2013). NGNs reporting higher PsyCap have also reported a higher intention to remain in nursing (Kim & Yoo, 2018) and lower job turnover intentions (Dwyer et al., 2019; Read & Laschinger, 2013) as well as lower career turnover intention (Read & Laschinger, 2013). By contrast, NGNs' higher PsyCap was related to greater turnover intentions in one study (Laschinger et al., 2012). NGNs with higher PsyCap have reported lower levels of burnout (Dwyer et al., 2019; Read & Laschinger, 2013).

RNs reporting higher PsyCap scores have also reported higher work engagement in 11 studies (Bonner, 2016; Flinkman et al., 2023; Grover et al., 2018; Jin et al., 2022; Lu et al., 2023; Pan et al., 2017; Shaheen et al., 2019; Tian et al., 2023; Wang et al., 2017; Wu & Lee, 2020; Zhang et al., 2023). Furthermore, RNs indicating higher PsyCap, have reported higher organizational commitment (Huo et al., 2020; Peng et al., 2013; Zhou, Yang, et al., 2018), affective commitment (Brunetto, Rodwell, et al., 2016) and a higher intention to remain in the organization (Luthans & Jensen, 2005). PsyCap has been associated with RNs' reduced intention to quit (Brunetto, Rodwell, et al., 2016) and a lower turnover intention (Shahpouri et al., 2016; Xiao et al., 2022; Yim et al., 2017; Yun & Kang, 2018). Nurses' higher PsyCap has been linked to psychological flourishing (Chevalier et al., 2021) as well as innovative behaviour (Yan et al., 2020). Nurses' higher PsyCap was found to have a positive impact on the satisfaction of elderly cancer patients that the nurses were treating in a hospital (He et al., 2023).

PsyCap has correlated negatively with many RNs' undesired work-related outcomes. It correlated negatively with burnout in 12 studies (An et al., 2020; Bae et al., 2021; Bao & Taliaferro, 2015; Flinkman et al., 2023; Kim & Kweon, 2020; Li et al., 2019; Liu et al., 2021; Peng et al., 2013; Tang et al., 2023; Yıldırım et al., 2021; Zhou, Yang, et al., 2018; Zhu, Shen, et al., 2021), with stress in five studies (Hao et al., 2020; Kim & Kweon, 2020; Liu et al., 2021; Xue et al., 2022; Yim et al., 2017) and with psychological distress in three studies (Brunetto, Rodwell, et al., 2016; Xiao et al., 2022; Zhou et al., 2017).

4 | DISCUSSION

This scoping review of 111 studies adds to the knowledge base on the nursing workforce by providing a broad overview of the research concerning RNs' PsyCap worldwide. So far, researchers' interest has mainly focused on the level of PsyCap among RNs and associated work-related outcomes. RNs' PsyCap has mainly been studied using cross-sectional quantitative research designs and survey questionnaires.

The number of articles on the topic remained quite low until the year 2017, as only 21 articles were published in the period 2005–2016. A rapid increase in the rate of PsyCap studies was noted, with over half (66%, $n = 75$) of the articles published since 2020. This growing interest may result from the fact that the global shortage of RNs has led to efforts to seek new approaches to increase the attractiveness of the profession and retention of workforce. In addition to developing nursing practice environments, the development of mental health and well-being has been highlighted as an important component in retaining the healthcare workforce (Anderson et al., 2021). Moreover, strengthening PsyCap has been suggested as one of the ways to respond to current global mental health challenges caused by the COVID-19 pandemic (Luthans & Broad, 2022).

The studies included in this review suggest that RNs' PsyCap could be a positive, individual resource, which may have many desirable work-related outcomes. Consistently with studies concerning employees in other fields (e.g. manufacturing, the service sector, education) (Avey et al., 2011), an expected positive correlation was found between PsyCap and RNs' desired work-related outcomes, including engagement, commitment and retention intention. Nurses' higher PsyCap was found to have a positive impact on the satisfaction of elderly cancer patients the nurses were treating in one of the reviewed studies (He et al., 2023). It is especially relevant to further investigate whether RNs' PsyCap affects the quality of care and patient safety. This kind of research evidence might help achieve a more comprehensive understanding of RNs' PsyCap and the possible benefits for patient care.

In addition to experienced nurses, PsyCap has been investigated among NGNs. Most of this research has been conducted in Canada. Findings suggest that PsyCap is positively associated with NGNs' job satisfaction, mental well-being and intention to stay. This is an important finding in this review because previous research evidence has shown that NGNs experience difficulties when transitioning from education into professional practice (See et al., 2023). Strengthening NGNs PsyCap might make this transition smoother and improve the nurses' well-being.

PsyCap levels of NGNs and experienced RNs have been reported as ranging from moderate to good (Mean = 3.01–5.16) when measured with the PCQ-24 (scale 1–6). In a systematic review and meta-analysis by Yuan et al. (2023), the pooled mean score of the PsyCap was 4.21. Findings concerning the association between RNs' PsyCap and sociodemographic characteristics were not systematic in the reviewed studies. Older RNs, those with longer work experience or working on a higher occupational level have reported higher levels of PsyCap. There were, however, also studies where this correlation was not confirmed. This finding is in line with earlier research evidence, where the relationship between employees' PsyCap and sociodemographic variables has been mixed (Wu & Nguyen, 2019).

The studies included in this review used many different instruments to measure PsyCap. The most used PCQ-24 instrument has been developed in the United States, using pre-existing, published scales in English to measure employees' PsyCap (Luthans & Youssef-Morgan, 2017). It is noteworthy that this instrument was not originally developed for healthcare environments and is not originally intended for the nursing workforce. Although the PCQ-24 instrument has been translated into many languages and used in different countries and continents, translation processes as well as cross-cultural validation and context adaptation with the samples of RNs were rarely reported. This should be considered when using and validating the PCQ-24 instrument in studies where the sample consists of RNs. One PsyCap instrument had been specially developed and tested for Chinese nurses. The Nurse Psychological Capital Scale (NPCS) had good psychometric properties in the Chinese local context. (Lu et al., 2023.) Moreover, the Nurse Psychological Capital Questionnaire (PCQ-R), adapted from the PCQ-24, was used in six studies conducted in China.

This review also exposes some gaps in the current knowledge. RNs' PsyCap has been mainly studied in hospital settings and studies that have mostly been cross-sectional. In a time of a global nursing shortage and when many RNs are overburdened, it would be important to investigate RNs' PsyCap outside hospitals, for example in residential care for older people, mental health services and primary healthcare settings. The reviewed studies were conducted across 20 countries. Nevertheless, the topic has been still explored in a limited number of studies especially in Europe. Conducting future research in different settings and countries as well as with longitudinal designs could expand the research evidence concerning RNs' PsyCap. Moreover, employees' PsyCap has been investigated at the team, unit, organization and collective levels (Luthans & Youssef-Morgan, 2017). This was not the case with the reviewed studies. Researchers have, so far, been interested in RNs' PsyCap only at the level of individuals. There is still limited evidence concerning PsyCap interventions. Only one study was found where the researchers developed and tested a PsyCap training intervention aimed at RNs (Gon et al., 2023).

The global COVID-19 pandemic has challenged RNs' resilience and well-being. In total, 15 of the studies found for this review had been carried out in 2020 and 2023 and included an examination of the nurses and healthcare professionals who had worked during the COVID-19 pandemic. Nursing professionals and their teams need positive individual resources and strengths to work in today's healthcare environments, also in times of crisis. Nurse managers should have resources for supporting and empowering nurses and, by doing so, provide opportunities to create attractive and meaningful workplaces (Kuokkanen et al., 2016). RNs wish to not only maintain health at work but also to feel that their work is meaningful and provides them with opportunities to learn, develop, improve skills and manage tasks.

4.1 | Review limitations

This scoping review has limitations. We conducted a comprehensive and systematic search. The search strategy included five electronic bibliographic databases. Consultation with a medical library information specialist to determine keywords, databases and search strings enhanced the rigour of this study. Despite using a comprehensive search strategy, some studies may have been missed. A total of 35 studies were excluded because of their language; Korean ($n = 20$), Chinese ($n = 10$), Persian ($n = 3$), Spanish ($n = 1$) and Turkish ($n = 1$). Moreover, a total of 19 studies were found concerning nursing students' PsyCap (Supplementary File F1). These studies were excluded from the review to make sure that the participants of the included studies were clearly defined. The studies included in the review were not assessed for quality. In addition to RNs, some of the studies included physicians, and other healthcare professionals and employees. A decision was made to include these studies, as the purpose of this scoping review was to provide an extensive overview of the available research. As a result, we should still be cautious in generalizing the research evidence to the nursing workforce.

5 | CONCLUSIONS

This scoping review provides evidence that PsyCap might be a capability and strength that could help RNs and their teams to cope in stressful healthcare settings. A total of 111 empirical studies over a 15-year period indicate that PsyCap is associated with many RNs' positive work-related outcomes. Moreover, a higher level of PsyCap appears to be related to NGNs' satisfaction, reduced turnover intention and lower levels of burnout. It is crucial to develop nursing practice environments, but at the same time, individual psychological resources, such as PsyCap, should be supported by nurse leaders, managers and educators.

AUTHORSHIP STATEMENT

All listed authors meet the authorship criteria. Mervi Flinkman, Helena Leino-Kilpi and Ann Rudman designed the study. Mervi Flinkman and Kirsi Coco collected the data. Mervi Flinkman analysed the data and prepared the manuscript. All authors critically revised the manuscript for important intellectual content and approved the final version for submission.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are available within this review and its supplementary materials.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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