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Factors Associated with Intent to Leave the Nursing Profession in the United States: an integrated review

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Abstract

The ongoing regional nursing shortages in the United States, exacerbated by the COVID-19 pandemic, compromise patient safety and quality. Additionally, an aging workforce coupled with an aging population requiring more nursing care services limits organizations' ability to adequately staff their facilities. Nurses' turnover from the profession has been studied less than organizational turnover, thus, the purpose of this integrative review is to identify factors associated with intention to leave the nursing profession in the United States. Using Whittemore and Knafl's (2005) guidelines for integrative review methods, we conducted systematic searches in CINAHL, PubMed, and Web of Science in July 2024. There were 39 peer-reviewed studies that met inclusion criteria. Synthesis of findings resulted in four individual and four work-level themes associated with intent to leave the nursing profession. Individual themes included individual beliefs, health and wellbeing, individual work experiences, and career stability. Work-level themes included job characteristics, job demands/workload, resources and support, and work environment. Notably, job-level factors (i.e., workload, work environment, and support) were associated with professional turnover intention, which suggests that nurses do not believe their experiences will improve at another nursing job. Gaps in the literature include studies with nationally representative samples, studies using validated measures of health, and qualitative studies conducted with the aim of understanding why nurses want to leave the profession. To promote retention of nurses at the professional and organizational level, organizations should measure and modify relevant job-level factors, and the protection of nurses' wellness should be a top organizational priority.

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Author Contribution Statement

- KL and AWS conceived and planned the design of the review article. KL took lead on conducting literature searches with input and guidance from AWS. KL and AWS collaborated on data traction and analysis. KL took lead on writing the manuscript with input and revisions provided by AWS and CM. All authors contributed to the interpretation of findings, and all authors provided critical feedback on manuscript structure and content.

Conflicts of Interest

- The authors have no conflicts of interest to report, and no relevant financial or non-financial interests to disclose.

Background

Healthcare institutions' capacity to deliver high-quality and safe patient care relies significantly on maintaining adequate levels of nursing staff at all times. Ongoing U.S. nursing shortages threaten patient care, with projected annual registered nurse (RN) openings of 193,000 and a potential 9% shortfall (338,000 FTE RNs) by 2036. Shortage severity varies significantly by geographic area, with certain states as well as non-metro areas expected to have much higher shortages. (U.S. Bureau of Labor Statistics, 2024; Health Resources & Services Administration, 2024).

While the United States is producing a healthy supply of new nurses, demand for nurses will continue to grow as the proportion of older adults in the country continues to increase, accompanied by an increased need for nursing care, as an estimated 75% of people over age 65 have multiple chronic diseases (Buerhaus et al., 2017). Additionally, baby boomer nurses, making up a large portion of the workforce, are projected to leave the workforce as they reach retirement age in the coming years (Smiley et al., 2023).

When demand for nurses exceeds supply, it becomes difficult for healthcare organizations to appropriately staff their facilities. Nurse shortages compromise patient safety and increase hospital-acquired conditions and mortality (Rae et al., 2021; Shin et al., 2019; Aiken et al., 2002). They also lead to increased nurse burnout, injuries, and turnover intentions (Aiken et al., 2002; Unruh, 2008; Shin et al., 2018). Maintaining a robust nursing workforce requires identifying predictors of turnover intention.

While comprehensive reviews of the literature on intention to leave the nursing profession have been conducted, the most recent one was published in 2010, which reviewed literature from 1985-2009 (Flinkman et al., 2010). The authors identified numerous individual and work-level factors associated with intention to leave the nursing profession, including demographic factors, occupational commitment, job and pay dissatisfaction, burnout, and work-family conflict, which contributed to our understanding on this topic. However, the U.S. healthcare system has undergone substantial changes since 2009, including the passage of the Affordable Care Act (2010), an increased proportion of older adults beginning in 2011, and the COVID-19 pandemic (2020), which might lead to a change in factors leading to nurses' intent to leaving nursing. There is a necessity to conduct a review of recent literature on U.S. nurses' intention to leave nursing. The aim of this integrative review is to identify individual and work-level factors associated intent to leave the nursing profession in the United States. By identifying these factors, we can better protect against nurses leaving the profession prematurely and develop strategies, interventions, and policies aimed at increasing retention.

Methods

Design

This review of the literature uses Whittemore and Knafl's (2005) guidelines for integrative review methods. An integrative review method is an approach that summarizes past literature to provide a comprehensive understanding of a problem or phenomenon, in order to build

nursing science and inform nursing research, practice, and policy (Whittemore & Knafl, 2005). The stages of an integrative review are as follows: (1) problem identification; (2) systematic literature search; (3) data evaluation; (4) data analysis; and (5) presentation (Whittemore & Knafl, 2005).

Literature Search

Comprehensive, systematic literature searches were conducted in PubMed, CINAHL, and Web of Science databases, with the assistance of a health services research librarian in July 2024. Search strategies were adjusted for each database using MeSH terms, subject headings, and text-word searches to maximize search results. Search terms for identifying articles examining intent to leave included “Job Change”, “Personnel turnover”, “Career mobility”, “Intent”, and “Leave” as well as terms to specify a nursing population. Details on our search strategies by database are presented in Table 1. Additionally, references lists were searched for additional data sources per Whittemore and Knafl’s (2005) guidelines. Searches were limited to studies published since 2009, as the most recent review on intention to leave the nursing profession reviewed literature published 1985-July 2009 (Flinkman et al., 2010).

Inclusion and Exclusion Criteria

Inclusion criteria were: (1) studies of RNs employed in nursing roles in the U.S.; (2) studies that examined factors associated with intention to leave the profession of nursing, and (3) studies that were published in English. Studies were excluded if: (1) they were not peer reviewed research studies; (2) they were editorials, opinions, or discussions; (3) they included nurses working outside of the U.S.; (4) they exclusively addressed *job* turnover intention, (5) they addressed only intent to *stay* in the nursing workforce, (6) they surveyed nurses who had already left the workforce; and (7) if the study sample included only nurse practitioners, nurse administrators, or nurses working in academic positions.

Search Results

Combined, the database searches located 20,601 studies. After excluding duplicates and screening titles and abstracts, 532 articles remained for full-text screening. Application of full inclusion and exclusion criteria eliminated an additional 497 articles, leaving 36 studies for analysis. Three additional studies were located in reference lists, resulting in a total of 39 studies in the final analysis. Figure 1 illustrates the screening process, including reasons for exclusion of those studies that were reviewed in full.

Data Analysis

Per Whittemore and Knafl’s (2005) methodology for integrative reviews, data were extracted from each study and displayed in tables to facilitate comparison across studies. The data analysis process was iterative, with qualitative and quantitative data findings examined separately and then integrated. Qualitative data were analyzed for recurring themes in participants’ perceptions and experiences, while quantitative data were examined for statistical trends. These findings were integrated by mapping overlapping themes and examining how quantitative results supported or contradicted qualitative insights. Discrepancies were explored to provide a comprehensive interpretation of the evidence.

The findings were then categorized into broad themes, which were refined through a process of constant comparison. The analysis process was carried out collaboratively by KLL and AWS, allowing for a balanced interpretation of the evidence. Data integration and synthesis were achieved through consensus discussions and iterative refining of the themes identified. The quality of included studies was appraised using tools appropriate for the study design. Study strengths and weaknesses were evaluated using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklists (von Elm et al., 2014), the Critical Appraisal Skills Programme (CASP) Qualitative Checklist (CASP, 2022), and the Joanna Briggs Institute Critical Appraisal checklist for Quasi-Experimental studies (Joanna Briggs Institute, 2017). Studies were not excluded from analysis due to quality.

Results

Article Characteristics

The majority (28) of the articles used quantitative research designs, with the remaining articles using qualitative designs (n=8) (Hover & Williams, 2022; L. W. Moore et al., 2013; Pellico et al., 2009; Rozo et al., 2017; Simons & Mawn, 2010; Slusser et al., 2022; Wolf et al., 2017; Woodward et al., 2024), mixed-method (n=2) (Christianson et al., 2023; Maiden et al., 2011), and quality improvement (n=1) (Arbios et al., 2022). Most of the reviewed studies included RNs only, with a few including licensed practical nurses too. Several studies sampled nurses in a particular specialty, including critical care (n=3) and emergency (n=3). Several studies also specifically sampled newly licensed RNs in their samples (n=7) (Hover & Williams, 2022; Pellico et al., 2009; Simons & Mawn, 2010; Unruh et al., 2016; Unruh & Fottler, 2016; Unruh & Zhang, 2013; Vogelpohl et al., 2013). One study sampled only nurses aged 55 and older (Slusser et al., 2022), while another only sampled RNs that were Black, indigenous, or people of color (BIPOC) (Woodward et al., 2024).

Table 2 summarizes the studies' methods and design while Table 3 describes which study elements are present and absent from each article. Supplemental Content A describes the strengths and weaknesses of each study design using an appropriate critique tool for the study's methodology.

Individual Factors Associated with Nurses' Intent to Leave Nursing

Individual Beliefs: Several studies (n=8) found relationships between individual nurse's beliefs and intent to leave the profession. Moore et al. found that perceived self-efficacy was negatively associated with intent to leave the profession, while perceived helplessness (one's belief that they are unable to act effectively) was positively associated with intent to leave the profession (K. Moore et al., 2021). Similarly, those who perceived themselves as having greater mastery of nursing were less likely to report intent to leave (Yu et al., 2023). Four studies found that those nurses with a commitment, calling, or dedication to the nursing profession and their patients were less likely to report an intent to leave the profession (Hover & Williams, 2022; Kleier et al., 2022; Slusser et al., 2022; Woodward et al., 2024). Altruism was positively associated with intent to leave the profession, with the authors noting that this likely reflected nurses' belief that they could no longer work toward the wellbeing of others through nursing (Dotson et al., 2014). Overall, these findings

indicate that nurses' beliefs about their own abilities and the nursing profession impact their intention to leave.

Health and Wellbeing: Over a dozen studies (n=18) found associations between nurse health and wellbeing and their intention to leave the profession of nursing. Nurses who reported poor mental health symptoms including hyperarousal, suicidal thoughts and behaviors, and mental strain were more likely to report intent to leave nursing (K. Moore et al., 2021; Pellico et al., 2009; Stovall & Hansen, 2021). Similarly, work-related mental health outcomes including moral distress, secondary traumatic stress, burnout, compassion fatigue, and job stress were associated with intent to leave nursing (Bunch et al., 2024; Christianson et al., 2023, 2024; Frieze et al., 2024; Rozo et al., 2017; Wolf et al., 2017; Woodward et al., 2024; Yu et al., 2023). However, nurses also reported that going to counseling helped them remain in the profession despite experiencing these poor mental health outcomes (Hover & Williams, 2022). Additionally, nurses reported that the physical strain of working as a nurse and related occupational injuries led them to consider leaving nursing (Pellico et al., 2009; Slusser et al., 2022). Conversely, numerous studies (n=5) found that job satisfaction was negatively associated with intent to leave the profession (DiMattio & Spegman, 2019; Dotson et al., 2014; Unruh et al., 2016; Unruh & Fottler, 2016; Zurmehly et al., 2009).

Individual Work Experiences: Several studies found that negative workplace experiences were associated with intent to leave the nursing profession. Nurses reported that experiencing or witnessing bullying or lateral violence caused them to consider leaving the profession (Hover & Williams, 2022; Pellico et al., 2009; Simons & Mawn, 2010). Relatedly, nurses reported that experiencing disruptive relationships with their colleagues caused them to consider leaving nursing (L. W. Moore et al., 2013), with one study finding that experiences of racism in the workplace caused nurses to consider leaving the profession (Woodward et al., 2024). Others studies found that nurses who reported experiencing abusive or violent behavior at work were more likely to report intention to leave nursing (Christianson et al., 2023; Frieze et al., 2024). Further, literature associated experience with a patient safety incident and intent to leave the profession. Some nurses who made medications errors considered leaving the nursing profession due to guilt or fear (Maiden et al., 2011), while nurses who were involved in a patient safety incident that resulted in serious patient harm or death also showed higher intention to leave the profession (Stovall & Hansen, 2021). Findings from the included literature indicate that negative workplace experiences cause nurses to consider leaving nursing, not just their jobs.

Career Stability: A few studies (n=3) found that some aspects of career stability were negatively associated with intent to leave the nursing profession. For example, one study found that the financial stability provided by the profession as a reason they did not intend to leave nursing, reporting that they needed the reasonable wages nursing provides to pay back student loans or fear that they could not meet their financial needs if they left the profession (Christianson et al., 2023). An additional qualitative study found that availability of other nursing jobs was associated with reduced intent to leave the profession, as nurses who were unhappy in their current positions could leave to go elsewhere (Hover & Williams, 2022).

The perception of being able to work in many roles and settings as a nurse was also reported in a qualitative study to be associated with decreased intent to leave the profession, with older nurses reporting future career opportunities as a factor keeping them from retiring or leaving the field of nursing (Slusser et al., 2022).

Demographics: Several studies found associations between nurse demographic characteristics and intent to leave the profession, though these findings were not consistent across the included literature. Findings on the association between marital and parental status on intent to leave the profession were mixed (Cortelyou-Ward et al., 2010; Unruh & Zhang, 2013; Yu et al., 2023). Likewise, the association between age and intent to leave was inconsistent across studies (Frieze et al., 2024; Martin et al., 2024), as was the association with race (Kaminski-Ozturk et al., 2024; Unruh & Zhang, 2013; Yu et al., 2023). Lastly, one study examined the relationship between urbanicity and intent to leave nursing, and found that younger urban RNs were more likely to report intent to leave compared with their rural counterparts (Martin et al., 2024). Of note, while almost every study collected demographic data, few studies examined the relationship between nurse demographic information and intent to leave nursing.

Work-level Factors Associated with Nurses' Intent to Leaving Nursing

Job Characteristics: Many studies examined the relationship between job characteristics and intent to leave the profession, but statistically significant findings were limited. One study found that number of hours worked was negatively associated with intent to leave, which may suggest that nurses who are not enjoying their jobs are both working fewer hours and planning to leave the profession, while those nurses who worked day shift reported lower intent to leave compared to those who worked other shifts (Unruh & Zhang, 2013). Another study found that offering flexible scheduling options was a good strategy to keep nurses from planning to leave the profession (Slusser et al., 2022). Several studies also found a negative association between pay satisfaction and intent to leave nursing (Christianson et al., 2024; Dotson et al., 2014; Frieze et al., 2024; Pellico et al., 2009).

Only a few studies examined how employment in various nursing roles impacted intent to leave the profession. One study found that nurses in direct care roles and nurses in management roles had reduced odds of reporting intent to leave the profession compared with other roles (Christianson et al., 2023). Another study found that nurses working in a travel nurse role and who were younger reported stronger intent to leave the profession than would be expected from either factor individually (O'Hara & Reid, 2024).

Job Demands: Higher job demands, job difficulty, and workload were all associated with greater intent to leave the nursing profession (n=7) (Frieze et al., 2024; Martin et al., 2023; Slusser et al., 2022; Unruh & Fottler, 2016; Unruh & Zhang, 2013; Wolf et al., 2017; Woodward et al., 2024). Additionally, inability to cope with job demands resulted in other factors that are associated with intent to leave the profession, including perceived inability to provide quality care (Unruh & Zhang, 2013), time pressure (Pellico et al., 2009), work-family conflict (Pellico et al., 2009; Unruh & Fottler, 2016), and inappropriate role expectations (Slusser et al., 2022; Wolf et al., 2017).

Resources and Support: Numerous studies examined the relationship between job resources and support and intent to leave the nursing profession (n=9). Several studies found that greater organizational, unit, or supervisor support was associated with decreased intent to leave nursing (Cortelyou-Ward et al., 2010; Fitzpatrick et al., 2010; Unruh & Zhang, 2013; Zurmehly et al., 2009), while having poor communication with leadership or concerns about management were associated with increased intent to leave (Frieese et al., 2024; Yu et al., 2023). Similarly, increased access to resources (including personnel, equipment, and finances) was associated with decreased intention to leave the nursing profession (DiMattio et al., 2010; Fitzpatrick et al., 2010; Zurmehly et al., 2009), while understaffing was associated with increased intent to leave (Christianson et al., 2023; Wolf et al., 2017).

Further, nurses who reported decreased access to the information necessary to perform their professional duties reported increased intent to leave (Fitzpatrick et al., 2010; Zurmehly et al., 2009). Similarly, newly licensed RNs who reported receiving poor quality job orientations were more likely to report intent to leave the profession, likely because orientation did not provide them with sufficient knowledge and expertise to be successful in their nursing practice (Unruh & Zhang, 2013). Related to this, insufficient power (both formal and informal) to access the resources and information necessary to successfully practice nursing was associated with intent to leave the profession (Fitzpatrick et al., 2010; Zurmehly et al., 2009). Lastly, access to opportunities for professional growth and career mobility was negatively associated with intent to leave the profession (Fitzpatrick et al., 2010; Zurmehly et al., 2009). Broadly, nurses who are given the resources and support needed to perform their nursing duties are less likely to report intention to leave nursing.

Work Environment: Several studies (n=7) also examined work environment (i.e., the setting, social features, and physical conditions in which nurses perform their jobs) as a factor related to intent to leave the nursing profession. Overall, nurses working in healthier or more positive work environments reported less intent to leave the profession (CortelyouWard et al., 2010; DiMattio et al., 2010; Frieese et al., 2024; Mays et al., 2011), as did nurses who reported better safety in their clinical setting (Frieese et al., 2024). Nurses who reported higher levels of job control or autonomy in the workplace were also less likely to report intent to leave nursing (Cortelyou-Ward et al., 2010; DiMattio et al., 2010; Unruh & Zhang, 2013). Finally, social features of the work environment, including quality of nurse-physician relationships (Cortelyou-Ward et al., 2010; DiMattio et al., 2010; Yu et al., 2023) and organizational culture (Wallen et al., 2010) were negatively associated with intent to leave the profession.

COVID-19 Pandemic Factors

Numerous studies included in this review were conducted during the COVID-19 pandemic. Many of them utilized similar variables to the research conducted pre-pandemic, and the findings were fairly consistent. The main difference was in the number of studies conducted on this topic, with 16 studies published just since the start of the pandemic in March 2020. Only a few studies examined COVID-19 specific factors (n=3). One study found that those who cared for COVID-19 patients were actually less likely to report intent to

leave nursing compared with those who did not (Christianson et al., 2023). Another study of older nurses found that pandemic concerns did not contribute to any intentions to leave nursing (Slusser et al., 2022). Similarly, another study found that the impact of COVID-19 on nurses' personal and home lives was not associated with intent to leave the profession (Yu et al., 2023).

Non-significant Factors

Across the literature, numerous individual and work-level factors were found to be unrelated to intent to leave the nursing profession. Examination of several demographic factors revealed no relationship with intention to leave, including age (DiMattio et al., 2010; O'Hara & Reid, 2024; Stovall & Hansen, 2021; Unruh & Zhang, 2013), gender (Fitzpatrick et al., 2014; Unruh & Zhang, 2013), and nursing tenure (Cortelyou-Ward et al., 2010; DiMattio et al., 2010; Stovall & Hansen, 2021; Unruh & Zhang, 2013). Another individual factor that was unrelated to intent to leave the profession was nursing specialty certification (Fitzpatrick et al., 2010, 2011, 2014). Work-level factors that were found to be unrelated to intent to leave included wages (Christianson et al., 2024; Unruh & Zhang, 2013) and hospital or unit-level programs intended to help retain or benefit nurses, including hospital Magnet status (Unruh & Zhang, 2013), use of meaningful recognition programs (Kelly & Lefton, 2017), and use of a nurse mentorship program (Wallen et al., 2010). See Supplemental Content B for a summary of these non-significant factors.

Critique of Included Literature

Study strengths and weaknesses were identified using critical appraisal tools appropriate for the study methodology. Supplemental Content A summarizes the strengths and weaknesses of each study and which tool was used for quality appraisal, while Table 3 summarizes which study elements were present or absent from each study. Methodological weaknesses were prevalent in quantitative studies, including inadequate control for confounders, poor handling of missing data, unclear participant eligibility, low survey response rates, and insufficient analysis of demographic factors. Discussions rarely addressed generalizability or non-significant results. Lastly, numerous quantitative studies did not explicitly describe using a theoretical framework to drive study aims and design or used frameworks intended to examine job turnover.

Across the included qualitative literature, common methodological weaknesses included lack of a guiding theory or philosophical underpinning to guide study aims and methods, limited discussion of participant recruitment and selection processes, failure to address data saturation, and limited reflection on researcher positionality. Additionally, several of the included qualitative studies were limited in their methodological rigor due to their data sources, which were open-ended questions in surveys or comment sections at the end of surveys.

Despite these methodological weaknesses and limitations, the included articles also had numerous methodological strengths. Nearly all articles provided detailed background information and rationale for the study investigation. Most articles also utilized well-validated measures and reported relevant reliability statistics. All quantitative studies

reported participant demographic data. All articles also discussed the research and practice implications of study findings, as well as potential study limitations.

The most methodologically rigorous of the included quantitative studies pointed to several factors that are especially impactful for intent to leave the nursing profession. High workload and job demands were consistently associated with greater intent to leave nursing (Frieze et al., 2024; Martin et al., 2023; Unruh et al., 2016; Unruh & Zhang, 2013). Conversely, access to resources, including sufficient staffing, was associated with lesser intent to leave (DiMattio et al., 2010; DiMattio & Spegman, 2019; Fitzpatrick et al., 2010; Zurmehly et al., 2009). Poor work environments were associated with greater intent to leave (Cortelyou-Ward et al., 2010; Frieze et al., 2024; Mays et al., 2011; Zurmehly et al., 2009). The social aspects of the working environment were of particular importance, with factors such as RN-physician relationships, relationships with management/leadership, and experience with bullying or incivility associated with intent to leave the nursing profession (Frieze et al., 2024; Vogelpohl et al., 2013; Yu et al., 2023). Of note, while the relationship between age and intent to leave was largely not consistent across studies, some of the most recent studies have found that younger age is associated with greater intent to leave the profession, particularly when nurses of retirement age are excluded from analysis (Frieze et al., 2024; Martin et al., 2023; O'Hara & Reid, 2024)

Many of the factors associated with intent to leave nursing identified in the most rigorous qualitative literature mirrored the quantitative results. Workload and work demands were associated with greater intent to leave (Slusser et al., 2022; Wolf et al., 2017; Woodward et al., 2024), and a lack of support and resources to cope with these demands resulted in burnout (Wolf et al., 2017; Woodward et al., 2024) and moral distress (Hover & Williams, 2022; Rozo et al., 2017; Wolf et al., 2017).

Discussion

Key Findings

This integrative review identifies individual and work-level factors associated with intention to leave the nursing profession in the United States. Individual factors associated with intent to leave nursing included individual beliefs, nurse health and wellbeing, and individual nurse experiences. Nurses who had suffered more physically or mentally were also more likely to report intent to leave nursing. Similarly, those who reported negative or traumatic work experiences were more likely to report intent to leave. Conversely, those nurses who reported high levels of job satisfaction were less likely to report intent to leave.

Work-level factors associated with intent to leave nursing included job demands, resources and support, and work environment. Nurses who reported experiencing higher job demands reported greater intent to leave the profession. Additionally, experiences stemming from inability to cope with job demands were also associated with intent to leave. Included literature consistently showed that nurses who reported greater access to resources and support in the workplace reported less intention to leave nursing. Lastly, nurses who experienced healthier or more positive work environments were less likely to report intent to leave.

While some findings from this review overlap with those in Flinkman's 2010 review, many factors were identified by this review as related to intent to leave the nursing profession that were absent from the previous review. Of particular note is the increase in the number of work-related factors related to professional turnover intent, including workload, job resources, and work environment. This likely signals an increased focus from researchers on working conditions as the factors that can be modified to prevent nurses from leaving the profession prematurely.

Literature Gaps

This integrated review identified few studies with nationally representative samples. Additionally, few studies examined the role of physical health on career intentions, with only two qualitative studies noting that participants reported the physical toll of nursing as a reason for considering leaving the profession (Pellico et al., 2009; Slusser et al., 2022), and only one quantitative study addressing physical health and wellness at all (Sinclair et al., 2015). Given the physical demands of direct-care nursing practice, it seems likely that physical wellbeing would have an impact on intent to leave the profession.

While several studies examined factors associated with intention to leave the profession in newly licensed RNs, there is a paucity of longitudinal studies to show how the factors impacting nurses' career intentions might change over time and over the course of a nurse's working life. While there were studies examining the very beginning of a nurse's career and the very end (pre-retirement), there were no studies looking at early to mid-career nurses and which factors might be specific to their career intentions.

Also, while there are several qualitative studies in this review, most were not conducted with the aim of understanding intent to leave the nursing profession. Instead, these studies were focused on other experiences (such as moral distress or bullying) and incidentally discovered a relationship with intention to leave the profession. Qualitative or mixed-methods studies examining intent to leave the profession would provide a richer and more complete picture of nurse career intentions and factors that impact occupational turnover intention.

Research Implications

The findings from this integrated review, as well as the identified gaps in the literature, have implications for future research. Research should investigate the relationship of nurse physical and mental health on intent to leave, using validated measures, due to a lack of recent U.S. studies. Research on this topic could be valuable in helping to understand how health impacts nurses' career decision-making, as well as helping to understand how to better protect nurses from occupational injury and illness and retain them in the workforce.

The decision to change careers is a significant one, and it is likely complex and multifactorial. A qualitative or mixed-methods research approach would allow for a deeper understanding of how nurses' career decision making processes occur and which individual- and work-level factors are involved. Additionally, longitudinal studies that assess how nurses' career plans and goals change over time could be valuable in strengthening our understanding of how to retain nurses in the workforce. Lastly, the studies included in this review surveyed nurses who were all or mostly hospital-based nurses. There is a need for

research on factors associated with intent to leave the profession for nurses working outside the hospital setting.

Practice Implications

The findings of this review have significant implications for nursing practice and leadership. Access to resources, including personnel, equipment, information, and power was associated with the intention to leave the profession. Given the importance of work environment and experiences on intention to leave the profession, healthcare leaders need to be aware of how their nurses are perceiving their working environment and work lives. Interventions and policies geared toward improving nursing work life and job satisfaction can help reduce intention to leave the nursing workforce. Nurses themselves have particularly identified staffing as a major factor impacting their work experience and mental health. A recent study conducted by Aiken et al. (2023) found that 87% of nurses ranked “improved nurse staffing” as the most important management intervention for improving their mental health (Aiken et al., 2023). Similarly, a recent statewide survey of Michigan RNs found that the top workplace concerns, both for currently practicing nurses and nurses who had left the profession in the last two years, were adequate staffing, patient safety, and staff safety (Medvec et al., 2023). In nurses who had recently left nursing practice, the most frequently reported reasons for departure (other than retirement) were job stress and inadequate staffing. To retain nurses in the profession, healthcare organizations must strive to improve nurse staffing and provide safe working environments for nurses. Lastly, this review identified organizational and supervisor support as factors associated with intent to leave the nursing profession. Healthcare organizations and specific units need to investigate what support their nurses require and work towards better providing it.

Policy Implications

The findings of this review can help direct federal and state policies that help retain nurses in the workforce. Many workforce researchers propose that rather than a shortage of nurses, the United States is suffering from a shortage of hospitals that nurses are willing to work in, and thus we can address ongoing nursing shortages by improving nurse work environments to prevent workforce losses (Costa & Friese, 2022; Muir et al., 2024). The findings from this review support several federal and state policy changes that could improve nurse working conditions and therefore retention in the profession.

Given that some of the most consistent predictors of intent to leave the nursing profession are job demands, workload, and adequate staffing resources, federal policies should focus on three areas. First, regulating workload through safe staffing ratios and reduced documentation burdens (Costa & Friese, 2022); second, improving work environments via funding for safety interventions and innovative care models; and third, mitigating work-family conflict with childcare incentives (e.g., onsite childcare or subsidies) and elimination of mandatory overtime.

States can also enact similar policies to ensure the retention of nurses in the profession. State policies on mandatory nurse-to-patient ratios and the prohibition of mandatory overtime could help prevent workforce losses due to high job demands and unsafe working conditions

(Costa & Friese, 2022). To ensure safe working environments for nurses, states can also implement and enforce Occupational Safety and Health Administration programs and plans that go above and beyond federal requirements for worker protection, which would allow for the protection of nurses and healthcare workers beyond the minimum federal standards already in place (Enablon, 2021). Currently, 22 states have OSHA-approved state plans. Finally, states could also provide innovation grants to allow hospitals to implement new programs that promote healthier work environments (Costa & Friese, 2022).

Review Limitations

This integrative review had several limitations. The primary author of this review completed all article screening, based upon the agreed upon inclusion and exclusion criteria. Additionally, due to the heterogeneity of terms used to refer to intention to leave the nursing profession, it is possible that relevant studies were missed in the literature search. The scope of this review was also limited by the inclusion and exclusion criteria, which specified studies that addressed intention to leave nursing, rather than reasons for leaving the nursing profession previously. Inclusion of these studies may have identified additional factors. International studies were also excluded, meaning the generalizability of findings beyond the United States is limited.

Conclusion

This review identified several individual and work-related factors associated with intention to leave the nursing profession. Many of these factors, including work environment and experiences, and job resources/support, are factors that can be improved by healthcare organizations to improve nurse retention in the workforce. Additionally, nurse health and wellbeing are associated with intent to leave, suggesting that healthcare organizations and nursing researchers should work towards the protection of nurses' occupational health and wellness to facilitate improved retention of nurses in the workforce.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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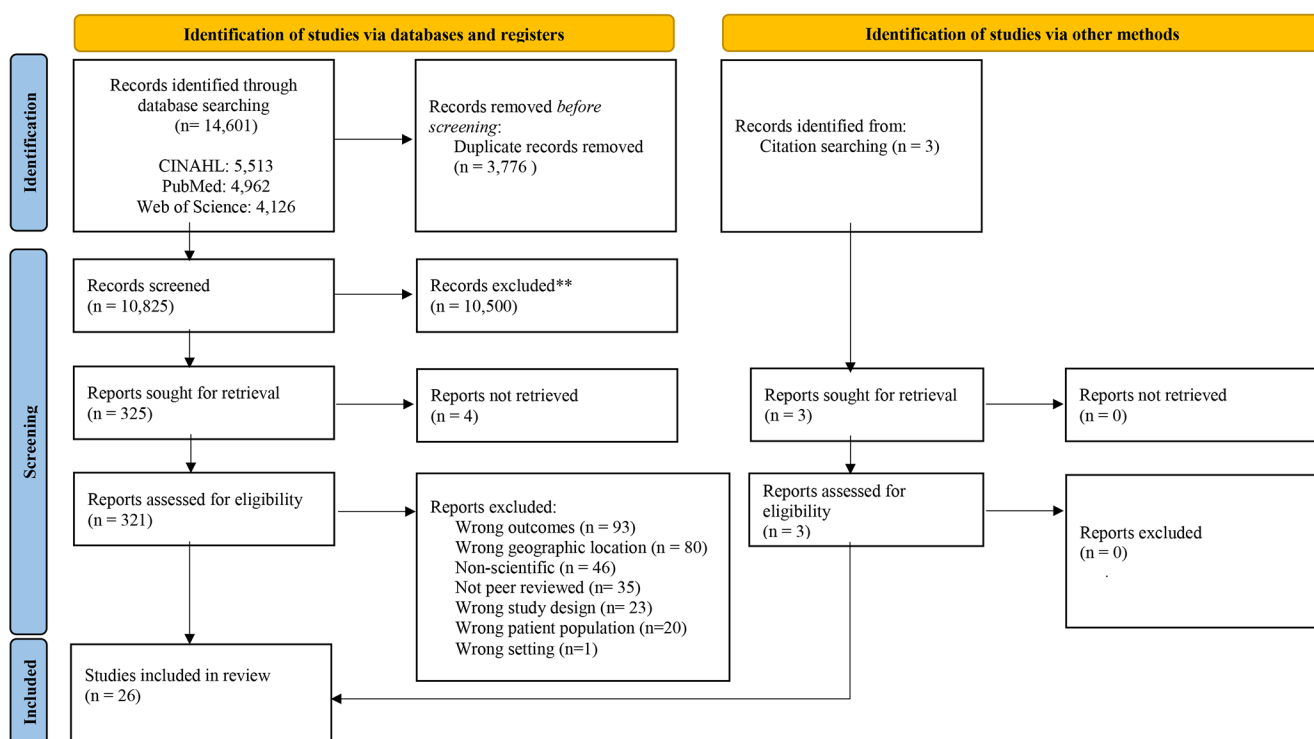


Figure 1.
PRISMA Flow Diagram

Table 1

Literature Search Strategy by Database

Database	Search Strategy
CINAHL (2009-2022)	(((MH "Personnel Turnover") OR (MH "Employment Termination") OR (MH "Job Change")) OR turnover* OR ((intent* OR intend* OR plan OR desire) N3 (leave OR quit OR resign OR (change job) OR change profession))) AND ((MH "Nurses+") OR (MH "Nursing as a Profession+")) OR nurs*))
Medline via PubMed (2009-2022)	(((((personnel turnover[MeSH Terms]) OR (career mobility[MeSH Terms])) OR ("change job*[Text Word] OR "change profession*[Text Word] OR "change occupation*[Text Word] OR "leave job*[Text Word] OR "leave profession*[Text Word])) OR (turnover[Text Word])) AND (((Nurses[MeSH Terms]) OR (Nursing[MeSH Terms])) OR (nurs*[Text Word]))
Web of Science (2009-2022)	(TS=("Job change" OR turnover OR (intent* OR intend* OR plan* or desire) NEAR/3 (leave OR quit OR right OR "change*job" OR "change profession*" OR "change occupation*"))) AND TS=(nurs*)

Summary Table of Included Studies

Table 2

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
Abalos et al. (2022) Setting: Tertiary children's hospital, Pediatric Intensive Care Unit	Aim: "To determine whether Compassion Stress Debriefings are an effective intervention to reduce compassion fatigue among pediatric intensive care (PICU) nurses" (p. 112) Design: Quality Improvement, Quasi-experimental design Framework: No theoretical framework	Intervention: - Cumulative Stress debriefing sessions ("Rest 'n' Reflect") held once a month at shift change for 6 months 60 minute session facilitated by a social worker and an experienced nurse - After 6 months, frequency of sessions was increased to twice per month Data collection: - Survey at pre-intervention and 6, 9, and 12 months post-implementation Measures: - Modified Self-Reporting Questionnaire-20 Data analysis: - Descriptive statistics summarized data pre-implementation and post-implementation (6, 9 and 12-months)	Sampling Strategy: - Convenience sampling Sample: PICU nurses from a tertiary children's hospital - N=74 participants originally enrolled, N=38 participants at 12-month follow-up Inclusion/Exclusion criteria: - Bedside nurses - Any level of experience	- At all 3 time points post-implementation, the percentage of those in the intervention group who reported considering leaving the nursing profession was lower than the control group 12-months after implementation of Cumulative Stress Debriefings, 11.1% of those who participated in the debriefings reported considering leaving nursing in the last year, compared to 35% of those who did not participate in the debriefings
Cortelyou-Ward et al. (2010) Setting: Rural hospital in Central Florida	Aim: "Explore the impact of the work environment on rural hospital bedside nurses' intent to leave the profession, and to identify some of the aspects of rural hospital work that could be improved" (p. 187) Design: - Quantitative - Cross-sectional Framework: - No theoretical framework	Data collection: - Survey, distributed and collected during weekly staff meetings Measures: - Nursing Work Index-Revised (NWI-R) - NWI-R subscales (autonomy, control over practice setting, nurse-physician relationship, organizational support) - Blau's Intent to Leave scale Data analysis: - Multiple regression analysis to determine relationship between nursing work environment and intent to leave the profession, adjusting for potential confounders - Regression analyses to determine relationship between NWI-R subscales and intent to leave the profession, adjusting for potential confounders	Sampling Strategy: - Convenience sampling - Nurses recruited at staff meetings and through Nursing Education office between February and June 2007 Sample: - N=85 - Bedside Registered Nurses (RNs) working at a rural hospital in Central Florida - Sample was demographically representative of bedside RNs at study hospital	- Positive perceptions of work environment associated with lower intent to leave the nursing profession ($\beta = -0.376, p < 0.001$) - All Nurse Work Environment subscales negatively associated with intent to leave the profession - Several control variables associated with intent to leave the nursing profession, including having a Masters/Doctoral degree ($\beta = -0.251, p < 0.10$), being married ($\beta = 0.352, p < 0.05$) or divorced/widowed ($\beta = -0.452, p < 0.05$) compared with being single, and number of children ($\beta = 0.254, p < 0.05$)
DiMattio et al. (2010) Setting: United States	Aim: "to determine (a) the number of baccalaureate nurses currently practicing hospital nursing; (b) the numbers who left and who intend to leave hospital nursing; (c) the average time graduates practice hospital nursing before leaving; and (d) factors that contribute to leaving or planning to leave hospital nursing" (p. 279) Design: - Quantitative - Cross-sectional, comparative descriptive pilot study	Data collection: - Survey sent and returned via mail Measures: - Nurse Practice Environment Scale of the Nursing Work Index (PES-NWI), subscales include Collegial RN-physician relations, nurse participation, nurse foundations for quality of care, RN manager support, and staffing/resources Data analysis: - Chi-square and independent sample t-tests used to compare those who intended to stay and those who intended to leave hospital nursing	Sampling Strategy: - Convenience sample - Recruited with assistance from a university alumni office - Survey packet and follow up postcards sent to all eligible participants who had graduated Sample: - N=390 - Hospital-based RNs who had a baccalaureate degree from a specific university in northeastern Pennsylvania	26.9% of nurses providing direct care intended to leave hospital nursing within the next 3-5 years - Those who intended to leave were less likely to agree that RN-physician relations were collegial ($r = -2.00, p = 0.048$) - Those who intended to leave were less likely to agree that RNs played a participatory role in hospital affairs ($r = -1.94, p = 0.048$) - Those who intended to leave were less likely to agree that there were adequate staffing and resources than those who did not ($r = -2.06, p = 0.041$) - Most commonly reported reasons for

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
D'Mattio & Spigman (2019)	Framework: • No theoretical framework Aim: “to examine the relationship between educational preparation and turnover intent, defined as intention to leave the hospital bedside as a practice setting, while accounting for other variables necessary for surveillance capacity, including years of experience, self-reported expertise, and practice environment” Design: • Cross-sectional comparative design Framework: • Framed within the context of “nurse surveillance capacity” • Emphasizes the importance of individual RN characteristic and work environment Setting: integrated health system in Pennsylvania	Data collection: • Secondary data analysis Measures: • Conditions for Work Effectiveness Questionnaire (CWEQ II), with 4 subscales including resources, support, opportunity, and information • To measure clinical expertise, nurses were asked to rate their nursing expertise according to definitions of Benner’s categories of advanced beginner, competent, proficient, and expert Data analysis: • Descriptive and non-parametric statistics used to describe study variables • Logistic regression analysis used to test association between intention to leave bedside nursing and independent variables, including education, tenure, clinical expertise, and practice environment • Interactions also tested in regression analyses	Sampling Strategy: • The parent study utilized non-probability sampling • Nurses were recruited from an integrated health system in central PA Sample: • N=395 • Registered Nurses working at the bedside • Primary work setting is an acute care hospital	intending to leave hospital nursing were education/job opportunities, burnout/stress, long hours, lack of administrative support/respect, and poor pay/benefits • Analysis of bivariate relationships showed that conditions for work effectiveness including support, opportunity, and overall structural empowerment were negatively associated with intent to leave • Conditions for work effectiveness (and corresponding subscales) were not associated with intent to leave in the final logistic regression model • Those nurses with a baccalaureate degree or higher had higher odds of intent to leave compared to those with less than a baccalaureate degree (OR 2.87, 95% CI 1.75, 4.71) • Those nurses currently enrolled in school had higher odds of intent to leave compared to those with less than a baccalaureate degree (OR 4.77, 95% CI 2.72, 8.36) • Those nurses with ≤ 10 years of experience had greater odds of intent to leave compared with nurses with 11+ years of experience (OR 2.26, 95% CI 1.37, 3.72) • Nurses reporting high job satisfaction reported lower odds of intent to leave compared with nurses reporting low job satisfaction (OR 0.74, 95% CI 0.66, 0.84)
Douson et al. (2014)	Aim: “to discover and quantify factors that influence RN job satisfaction, behavioral intentions to leave a current job, and behavioral intentions to leave the nursing profession” (p. 112) Design: • Quantitative • Cross-sectional Framework: • Theory of Reasoned Action • Anticipated Turnover model • Unfolding turnover model • Price and Mueller Causal Model of Turnover Setting: Southeastern United States	Data collection: • Online survey • Distributed to a list of nurses provided by a regional health agency Measures: • Survey developed and pilot tested by the authors, measuring altruism, job satisfaction, value congruence, economic factors, stress, intention to leave current job, and intention to leave the nursing profession Data analysis: • Structural equation modeling used to test a proposed model of relationship between the above factors	Sampling Strategy: • Convenience sampling Sample: • N=861 • Registered nurses working in the southeastern U.S • Over half of the sample are currently working in hospitals	• The proposed model fit the data reasonably well ($\chi^2(178, n=861)=1107.89, p<0.01$, RMSEA=0.08, CFI=0.91) • Job satisfaction was negatively associated with intention to leave the profession ($\beta=-1.32, p<0.01$) • Altruism was positively associated with intention to leave the profession ($\beta=0.32, p<0.01$) • Value congruence was not associated with intention to leave the profession
Fitzpatrick et al. (2010)	Aims: “to examine specialty certification among certified critical care nurses, particularly in relation to the dependent variables of empowerment and intent to leave” (p. 220) Setting: United States	Data collection: • Web-based survey Measures: • Conditions of Work Effectiveness Questionnaire, Revised (CWEQ-II) • Intent to leave profession measured with single	Sampling Strategy: • Convenience sampling • Recruited from email addresses on file at the American Academy of Critical Care Nurses (AACN)	• Those who reported intention to leave the profession had lower total empowerment scores than those who did not report intent to leave ($t=10.79, p<0.001$) • Those who reported intent to leave had significantly lower scores on all

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
	Design: - Quantitative - Cross-sectional Framework: - Kanter's theory of structural power	item, yes/no response option Data analysis: - Chi-square analysis used to compare those who hold AACN certification to those who are not certified on intent to leave the profession - Independent sample t-tests and chi-square analyses used to compare those who intended to leave the profession and those who did not by demographic characteristics - Independent sample t-tests used to compare the empowerment scores of those who intend to leave the profession and those who do not	Sample: - N=6589 - Registered Nurses who were members of the AACN and are currently employed as a critical care nurse	6 empowerment subscales: opportunity, information, support, resource power, formal power, and informal power No significant relationship between AACN certification and intent to leave nursing
Fitzpatrick et al. (2011) Setting: United States	Aim: "to determine if perceptions of empowerment and intent to leave the position and the profession differed among staff nurses who were certified by the American Association of Critical-Care Nurses (AACN), nurses certified by other certifying organizations, and nurses who were not certified" (p. 12) Design: - Quantitative - Cross-sectional Framework: - Kanter's theory of structural power	Data collection: - Web-based survey Measures: - Conditions of Work Effectiveness Revised (CWEQ-II) - Intent to leave profession measured with single item, yes/no response option Data analysis: - Chi-square analysis used to compare intention to leave the profession for those who are AACN-certified to those who are not - Chi-square analysis used to compare intention to leave the profession for those who have a national certification and those who do not	Sampling: - Convenience sampling - Recruitment via email using the AACN email database Sample: - N=4268 - Registered Nurses currently working as staff nurses in critical care	Intention to leave the profession did not differ significantly between those nurses that were AACN certified and those that were not, or those who had a national certification and those who did not
Fitzpatrick et al. (2014) Setting: United States	Aims: "to determine differences between certified and noncertified emergency nurses in perceptions of structural empowerment, anticipated turnover, intent to leave the current position, and intent to leave the nursing profession. In addition, we explored differences in key variables based on position and background variables" (p. 38) Design: - Cross-sectional, descriptive Framework: - Kanter's theory of structural empowerment	Data collection: - Web-based survey Measures: - Conditions of Work Effectiveness II questionnaire (CWEQ-II) - Anticipated turnover scale (ATS) Data analysis: - Independent sample t-tests, analysis of variance (ANOVA), and chi-square tests were used to determine differences between groups	Sampling: - Convenience sampling - Email invitation to participate sent to members of the Emergency Nurses Association (ENA) who had email addresses on file Sample: - N=2633 - Included Registered Nurses (RNs) working in emergency settings	- Top reasons for leaving the profession were job dissatisfaction and retirement - No significant difference between certified and non-certified staff nurses in intention to leave the nursing profession
Kelly et al. (2017) Setting: United States	Aims: "to examine the effect of meaningful recognition on compassion fatigue and compassion satisfaction in a large, national sample of critical care nurses" (p. 439) Design:	Data Collection: - Web-based survey Measures: - Professional Quality of Life measure, version 5 (ProQOL) - Intent to leave profession measured with	Sampling: - Convenience sampling - Nurses in participating hospitals were recruited via email Sample:	31% of participants reported considering leaving the nursing profession in the last year - No significant difference in considering leaving the nursing profession within the last year between nurses from hospitals participating or not participating in meaningful recognition programs

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
Maiden et al. (2011) Setting: United States	Aims: - Quantitative - Cross-sectional, descriptive design Framework: - No theoretical framework Aims: “to (1) describe the levels of moral distress (MD), compassion fatigue (CF), perceptions about medication errors (PMEs), and nurse characteristics (NCs) in a national sample; (2) examine the relationship between MD, CF, PMEs, and NCs in this group; and (3) obtain a deepened understanding of the CCRN experience of MD, CF, and PME.” (p. 340) Design: - Mixed methods (only qualitative data addresses intent to leave the profession) Framework: - No theoretical framework	single item asking if they had considered leaving nursing in the past year (5-point Likert agreement scale response) Data Analysis: - Independent sample t-tests were performed to compare groups of nurses with and without meaningful recognition programs Data Collection: - Quantitative survey followed by a small qualitative focus group with a subset of participants Data Analysis: - Focus group data was “transcribed and studied for central, recurring themes” (p.343)	- N=1136 - Nurses working in adult ICUs Sampling: - Purposive sampling - Sample of Critical Care RNs (CCRN) recruited from the American Association of Critical Care Nurses - Subset of nurses were recruited to participate in the focus group Sample: - Qualitative sample: N=5 - CCRN who were members of the American Association of Critical Care - Qualitative sample made up of CCRNs with current bedside clinical practice	Nurses described feeling so badly about a medication error that they were considering leaving nursing
Mays et al. (2010) Setting: United States	Aims: “to examine the psychometric properties of an instrument used to evaluate the work environment of direct care nurses employed in hospital settings” (p. 18) Design: - Quantitative - Cross-sectional design Framework: - No theoretical framework	Data Collection: - Survey administered to nurses in 6 hospitals over a period of 4 months Measures: - N2N Work Environment (WE) instrument - Intent to leave was measured with a single item, “I would like to find other employment by leaving nursing”, rated on a scale from 1 (definitely false) to 8 (definitely true) Data Analysis: - Chi-square analyses used to compare intention to leave of nursing those who rated their work environment as healthy and those who rated it as unhealthy	- Convenience sampling - Nurses recruited for a larger parent study from 6 hospitals Sample: - N=210 - Direct care nurses, including Licensed Practical Nurses (LPNs), staff nurses, and charge nurses	21% of direct care nurses reported intention to leave nursing, compared with 6% of nurse manager and 21% of nurse administrators - Those who rated their work environment as healthy were less likely to report intention to leave compared with those who rated their work environment as unhealthy ($\chi^2 = 2.03, p = 0.04$)
Moore et al. (2013) Setting: Southwestern Ohio	Aims: “to explore how direct-care nurses relate to each other in every day interactions on patient care units” (p. 173) Design: - Qualitative Framework: - No theoretical framework	Data Collection: Online survey- open-ended questions Measures: - Nurse to Nurse Relationship Questionnaire Data Analysis: - Qualitative content analysis	- Convenience sampling - Participants recruited via email from five Sigma Theta Tau chapters Sample: - N=82 - Nurse members of Sigma Theta Tau (five chapters in southwestern Ohio)	79% of participants reported that they had considered leaving the profession due to disruptive nurse relationships - Nurse-to-nurse conflict, difficult coworkers, and lack of coworker support impact intent to leave

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
Moore et al. (2021) Setting: Missouri and Georgia	Aims: To identify NPs and nurses' experiences with stress during the COVID-19 pandemic and what impact their stress may have on their risk of attrition" (p. 702) Design: - Quantitative - Cross-sectional Framework: - No theoretical framework	Data Collection: - E-Survey Measures: - Perceived Stress Scale (PSS-10), including Perceived Helplessness subscale (PHS) and the Perceived Self-Efficacy Subscale (PSES) - PTSD Checklist- Civilian form, hyperarousal subscale Intent to leave nursing measured with single item Data Analysis: - Spearmen rho correlations used to assess the relationship between perceived stress and intention to leave the profession - Spearmen rho correlations used to assess the relationship between hyperarousal and intention to leave the profession	- Registered nurses who are currently employed and working in direct care Sampling: - Convenience sampling - Recruitment from state nursing organizations in Missouri and Georgia Sample: - N=433 - Nursing professionals from Georgia and Missouri - Includes RNs, Nurse Practitioners (NPs), and nurses working in administrative roles	16% of participants indicated a moderate risk of leaving the nursing profession - Small positive association between perceived helplessness and intention of leaving the profession ($r = .353$, $t(398) = 7.527$, $p < 0.01$) - Small, positive association between hyperarousal and intention of leaving the profession ($r = .250$, $t(398) = 5.151$, $p < 0.01$) - Small, negative association between perceived self-efficacy and intention to leave the profession ($r = -.132$, $t(398) = -2.657$, $p = 0.008$)
Pellico et al. (2010) Setting: United States	Aims: "to identify work experiences in a cohort of nurses within two and a half years of their initial RN licensure. These findings were compared with findings from the same cohort when they were surveyed about their work experiences one year earlier" Design: - Qualitative Framework: - No theoretical framework	Data Collection: - Secondary data analysis - Data from multi-year study about work experiences of Newly Licensed RNs (NLRNs) Data Analysis: - Analysis of comments on work experience that accompanied a quantitative survey in the parent study - Content analysis used to identify themes	Sampling: - Convenience sampling: those who left comments on their survey in the parent study - Participants from primary study were randomly sampled from 34 states and District of Columbia Sample: - N=229 - NLRNs who were 1.5-2.5 years into their nursing practice	Factors impacting nurse intention to leave hospital nursing included: - Sense of pressured time - Physical and mental strain - Strain on family/personal life - Feeling underpaid - Pursuing higher education that would allow them to work away from the demands of the bedside
Perkins et al. (2020) Setting: United States	Aims: "explore the relationship between the roles of nursing leadership and their influence on the millennial psychiatric nurse's level of job satisfaction and intention to leave" (p. 2) Design: - Quantitative - Cross-sectional Framework: - Quinn's Model of Managerial Leadership Roles - Mobley's Model of Employee Turnover	Data Collection: - Web-based survey Measures: - Competing values managerial skills instrument - Intent to leave profession measured with a single survey item Data analysis: - Canonical analysis used to examine the relationship between leadership style and intent to leave the profession	Sampling: - Convenience sampling and snowball sampling - Participants recruited from an online psychiatric nursing association - Members were permitted to forward the study information to their colleagues Sample: - N= 83 - Psychiatric nurses born between 1981 and 1996 (millennials) who had been employed as a psychiatric nurse for at least 6 months	No significant relationship between leadership style and intention to leave the profession

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
Rozo et al. (2017) Setting: United States	Aims: “To better understand external factors associated with burnout in Emergency Department (ED) nurses” (p. 262) Design: - Qualitative - Phenomenological approach Framework: - No theoretical framework	Data Collection: - One-on-one interviews, 1 hour long - Interview questions addressing nurses’ experiences with traumatic events at work in the ED - Interviews were audio-recorded and transcribed verbatim Data Analysis: - Hermeneutic approach - Interviews coded by the researcher - Codes and themes compared across interviews to determine overall themes	- Excluded from the study were nurses in management positions, nurse practitioners, and nurses who were unemployed or in the process of retiring Sampling: - Purposive and snowball sampling - Sampling continued until thematic saturation was reached Sample: - N=5 - Nurses with ED nursing experience that reported workplace stress	- Nurses reported considering leaving the nursing profession due to moral distress - Nurses described experiences of moral distress that included dealing with patient deaths, dealing with patient suicide attempts, and not having ways to decompress in the workplace with stressful situations occur
Simons & Mawn (2010) Setting:	Aims: “examine the stories of bullying among nurses based on actual or witnessed experiences” (p. 305) Design: - Qualitative Framework: - No theoretical framework	Data Collection: - Mail survey - At the end of survey, respondents were offered the chance to add comments related to the topic of bullying Data Analysis: - Comments the end of the survey were analyzed using content analysis	Sampling: - Convenience sampling Sample: - N=184 - NLRNs licensed in Massachusetts - Nurse managers and supervisors were excluded from study	- Nurses wrote about leaving their jobs or the profession as a result of bullying behaviors - Nurses in their orientation period are particularly vulnerable to bullying
Sinclair et al. (2015) Setting: Pacific Northwest, United States	Aims: “assess the relationship between organizational and community commitments, and document the retention, motivation, and health benefits of strong community ties” (p. 779) Design: - Quantitative - Prospective design: data gathered in 2 waves Framework: - Meyer and Allen’s Model of Commitment	Data Collection: - Survey (online or hardcopy) - Community and organizational commitment data collected during Wave 1 - Retention, health, and engagement outcome data collected nine months later, during Wave 2 Measures: - Meyer, Allen, and Smith’s measure of Organizational Commitment - Researcher-developed measure of Community Commitment - Center for Epidemiologic Studies Depression Scale - Physical Symptoms Inventory - Dienar, Emmons, Larsen, and Griffin’s Life Satisfaction measure - Schaufeli, Bakker, and Salanova’s Engagement measure - Intent to leave the profession measured as mean score of three items Data Analysis: - Multiple regression analyses conducted to examine the relationship between community/	Sampling: - Convenience sampling - Participants recruited through professional nursing conferences, newsletter advertisements, and word of mouth Sample: - N=330 - Currently employed nurses	- No relationship between organizational or community commitment and intent to leave the profession - Significant positive association between intent to leave the organization and profession ($r=0.68, p<0.01$) - No relationship between depression, physical symptoms, life satisfaction, or engagement and intent to leave the profession

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
Stovall et al. (2021) Setting: United States	Aims: “to examine the relationship between nurse sociodemographic data and unique study variables with potentially morally injurious outcomes (i.e., dropping out variables: changing jobs, intention to leave the profession, or suicidal thinking” (p. 264) Design: • Quantitative • Cross-sectional, descriptive Framework: • No theoretical framework	Data Collection: • Web-based survey Measures: • Single-item measure of intent to leave profession (yes/no response options) • Suicidal Behaviors Questionnaire-Revised (SBQ-R) Data Analysis: • Person chi-square analyses used to assess relationship between frequency of suicidal thoughts and intention to leave the profession after a patient safety incident (PSI) • Logistic regression modeling used to assess relationship between demographic variables and intention to leave the profession • Logistic regression modeling used to assess relationship between degree of harm sustained from a PSI and intent to leave the profession	Sampling: • Random sampling • Recruitment via emails sent in randomly selected cohorts Sample: • $N=237$ • RNs licensed in Oregon or New York • Inclusion criteria included working in a clinical setting in the past 5 years and being involved in a PSI during their nursing career	• Involvement in a PSI which resulted in permanent harm (OR 4.76, 95% CI 1.55, 14.55) or death (OR 3.35, 95% CI 1.24, 9.05) was associated with increased odds of intention to leave the profession compared with those that resulted in no harm • Reporting suicidal thoughts in past year was associated with intention to leave the profession after a PSI ($\chi^2=0.195$, $p=0.56$, Cramer's $V=0.206$) • Reporting suicidal intentions was associated with intention to leave the profession after a PSI ($\chi^2=12.642$, $p<0.027$, Cramer's $V=0.242$)
Unruh et al. (2013) Setting: Florida, United States	Aims: “to assess the influence of hospital work environment on newly licensed Registered Nurses’ (NLRNs) commitment to nursing and intent to leave nursing” (p. 1678) Design: • Quantitative • Cross-sectional, descriptive Framework: • Provides conceptual model based on prior literature on individual and work-level factors related to professional commitment • Posits that intent to leave nursing is a function of individual, organizational, and work environment characteristics	Data Collection: • Survey via mail Measures: • Intent to leave nursing: 4-item scale, 5-point Likert responses • Professional Commitment (7-item measure, 5-point Likert response option) • Job difficulty (9-item measure, 6-point Likert response option) • Job Demands (4-item measure, 6-point Likert response option) • Job control (3-item measure, 5-point Likert response option) Data Analysis: • Regression analyses using ordinary least square, with intent to leave nursing regressed on the three composite perception of work environment variables	Sampling: • Sent to random sample of 40% of NLRNs in Florida • Recruited from Florida Board of Nursing database Sample: • $N=414$ • RNs who obtained their first nursing license in Florida in 2006 • Currently employed in hospitals • Job demands were positively associated with intent to leave the profession ($\beta=0.195$, $p<0.001$) • Job control was negatively associated with intent to leave the profession ($\beta=-0.136$, $p<0.05$) • Out of all the job demand factors, having to do more than can be done well had the strongest effect on intent to leave nursing ($\beta=0.227$, $p<0.0001$, partial $R^2=0.040$) • Out of all the job control factors, ability to act independently of others had the strongest effect on intent to leave nursing ($\beta=-0.155$, $p<0.01$, partial $R^2=0.020$)	• Participants who were white and in better health had less intent to leave nursing • Other demographic data was not related to intent to leave nursing • Participants who worked day shift and worked more hours reported less intent to leave • Participants who perceived their orientation to be good reported less intent to leave • Job difficulty was positively associated with intent to leave the profession ($\beta=0.359$, $p<0.0001$) • Job demands were positively associated with intent to leave the profession ($\beta=0.195$, $p<0.001$) • Job control was negatively associated with intent to leave the profession ($\beta=-0.136$, $p<0.05$) • Out of all the job demand factors, having to do more than can be done well had the strongest effect on intent to leave nursing ($\beta=0.227$, $p<0.0001$, partial $R^2=0.040$) • Out of all the job control factors, ability to act independently of others had the strongest effect on intent to leave nursing ($\beta=-0.155$, $p<0.01$, partial $R^2=0.020$)
Unruh & Fottler (2016)	Aims: “examine antecedents of work and family conflict among newly licensed Registered Nurses (NLRNs), and the effect of this conflict on job	Data Collection: • Survey via mail Measures:	Sampling: • Random sampling • Recruited from Florida Board of Nursing database	• Work-family conflict positively associated with intent to leave the profession ($\beta=0.17$, $p<0.0001$) • Job satisfaction negatively associated with

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
Setting: Florida, United States	satisfaction and intent to leave the job and profession" Design: - Quantitative - Cross-sectional Framework: - Conceptual model constructed by the researchers based on a thorough literature review	- Intent to leave the profession measured with a 4-item measure with 5-point Likert-style response scales - Job Difficulties (9-item measure, 6-point Likert response option) - Job Demands (4-item measure, 6-point Likert response option) - Job control (3-item measure, 5-point Likert response option) - Family-Work Conflict (3-item measure, 6-point Likert response option) - Work-Family Conflict (3-item measure, 6-point Likert response option) Data Analysis: - Structural equation modeling used to test the relationship between nurse characteristics, work-family conflict, job satisfaction, and intent to leave the job and profession	Sample: - N=503 - NLRNs who had received their license to practice within the previous 1-2 years - Currently employed in nursing	intent to leave the profession ($\beta = -0.30$, $p < 0.0001$) Job demands and job difficulty indirectly effected intent to leave the profession through job satisfaction
Unruh et al. (2016) Setting: Florida, United States	Aims: "to empirically test a multivariate model of RN intent to leave the job and profession using data from a survey of NLRNs" Design: - Quantitative - Cross-sectional Framework: - Conceptual model constructed by the researchers based on a thorough literature review	Data Collection: Survey via mail Measures: - Intent to leave profession- 4-item measure of intent to leave the profession, 5-point Likert-type response scales - Intent to leave job- 4-item measure of intent to leave the profession, 5-point Likert-type response scales - Job satisfaction: single item, 7-point Likert-style response scale Data Analysis: - Structural equation modeling to test the relationship between nurse characteristics, job difficulty, demands, control, and satisfaction, and intent to leave the job and profession of nursing	Sampling: - Random sampling - Recruited from Florida Board of Nursing database Sample: - N=503 - NLRNs who had received their license to practice within the previous 1-2 years - Currently employed in nursing	- Intent to leave job was positively associated with intent to leave the profession ($\beta = 0.41$, $p < 0.0001$) - Job satisfaction was indirectly associated with intent to leave the profession through intent to leave job
Vogelphol et al. (2013) Setting: United States	Aims: "to determine if the new graduate nurses recognized bullying tactics, were bullied as a newly licensed RN, intended to leave nursing, identified bullies in the workplace, and received education/support from employers" (p. 416) Design: - Quantitative - Cross-sectional Framework: - No theoretical framework	Data Collection: - Email survey Measures: - New Graduate Nurse Relational Questionnaire Data Analysis: - Descriptive statistics	Sampling: - Convenience sampling - Recruited from nursing school alumni associations Sample: - N=135 - New graduate RNs who were graduates of five colleges of nursing in northwest Ohio	29.5% of participants reported that they had or were currently considering leaving the nursing profession because of experiencing or witnesses bullying or other negative behaviors in the workplace

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
Wallen et al. (2010) Setting: Research hospital in Maryland, United States	Aims: “to evaluate the effectiveness off a structured multifaceted mentorship program designed to implement evidence-based practice in a clinical research-intensive environment” (p. 3) Design: • Quantitative • Quasi-experimental design Framework: • The Advancing Research and Clinical Practice through Close Collaboration (ARCC) model	Intervention: • Evidence-based practice (EBP) mentorship program Data Collection: • Web-based survey Measures: • Nurse Retention Index (NRI): measures nurses’ intention to stay in nursing or leave the profession, 6-items, Likert-scale. Higher scores indicate stronger retention within the profession. • Organizational Culture and Readiness for System-Wide Implementation of EBP (ORCSIEP)	Sampling: • Purposive sampling- those who would participate in leading/ mentoring nurses at all levels • Random sampling for comparison group Sample: • N=159 • Nurses working at a research hospital, including staff nurses, nurse managers, nurse researchers	• Those reporting better organizational culture and readiness for EBP scored higher on the Nurse Retention Index measure ($R=0.27, p<0.01$) • No relationship between participation in an EBP-mentorship program and intention to leave nursing
Wolf et al. (2017) Setting: United States	Aims: “to explore emergency nurses’ perceptions of factors involved in safe staffing levels and to identify factors that negatively and positively influence staffing levels and might lend themselves to more effective interventions and evaluations” (p. 150) Design: • Qualitative, exploratory design Framework: • Human factors framework of nursing workload	Data Collection: • Online survey • Focus groups held during a conference- semi-structured interview format Data Analysis: • Content analysis • Constructivist perspective, inductive approach	Sampling: • Convenience sampling • Recruited from Emergency Nurses Association conference attendees Sample: • N=26 • Registered Nurses, with experience in emergency nursing • English-speaking, 18 and older	• Participants spoke of leaving their jobs or the profession of nursing because of high levels of burnout, moral distress, and inappropriate role expectations • Participants linked the above factors to inadequate staffing and increased situational workload
Zurmehly et al. (2009) Setting: Ohio, United States	Aims: “to determine the relationship between Registered Nurses’ empowerment and intent to leave current position and the nursing profession” (p. 384) Design: • Quantitative • Cross-sectional • Descriptive, correlational Framework:	Data Collection: • Web-based survey Measures: • Intent to leave the profession: single item, rated on 4-point Likert Scale (higher scores indicate lower intention to leave) • Conditions of Work Effectiveness Questionnaire • Job satisfaction- single item, 4-point Likert scale Data Analysis:	Sampling: • Convenience sampling • Recruitment by mail from Ohio state nurse registry database Sample: • N=1231 • Registered nurses, currently licensed in Ohio and residing in West Central Ohio	• Overall work empowerment was negatively associated intent to leave the profession ($r=0.73, p<0.05$) • Job satisfaction and career advancement were also significant predictors of intent to leave the profession ($p<0.001$) • All structural empowerment subscales (opportunity, support, resources, formal/informal power, and information) were negatively associated with intent to leave • More nurses selected reasons for leaving the profession as related to job satisfaction than career advancement

Author et al. (year) Setting	Aim, Design, Framework	Intervention, Data collection, Measures, Data analysis	Sampling strategy: sample	Major findings/Key Statistics and Themes
	• Kanter's theory of structural power in organization	• Correlation analysis used to test association between structural empowerment (and subscales) and intent to leave the profession		
<i>Notes:</i> RN, Registered Nurse; NLRN, Newly Licensed Registered Nurse; CCRN, Critical Care Registered Nurse; CCNA, Critical Care Nurses Association; ENA, Emergency Nurses Association; EBP, Evidenced-Based Practice; PSI, Patient Safety Incident; ED, Emergency Department; MD, Moral Distress				

Table 3.

Methodological Descriptions of Studies Reviewed

Methodological Details	Arbbs et al. (2022)	Cortelyou et al. (2010)	DiMattio et al. (2010)	DiMattio & Spegman (2019)	Dotson et al. (2014)	Fitzpatrick et al. (2010)	Fitzpatrick et al. (2011)
Research aims presented	+	+	+	+	+	+	+
Utilizes theoretical framework	-	-	-	+	+	+	+
Power analysis included	-	+	-	-	+	+	-
Participant eligibility criteria reported	+	+	+	+	-	+	+
Sample size n=	74	85	390	395	861	6589	4268
Demographic of sample presented	-	+	+	+	+	+	+
Development of the instrument(s) described	-	+	+	+	+	+	+
Reliability data of the instruments reported	-	+	+	+	+	+	+
Validity of the instrument established	+	+	+	+	+	+	+

Methodological Details	Fitzpatrick et al. (2014)	Kelly et al. (2017)	Maiden et al. (2011)	Mays et al. (2010)	Moore et al. (2013)	Moore et al. (2021)	Pellico et al. (2010)
Research aims presented	+	+	+	+	+	+	+
Utilizes theoretical framework	+	-	-	-	-	-	-
Power analysis included	+	-	NR	-	NR	-	NR
Participant eligibility criteria reported	+	+	+	+	+	+	+
Sample size n=	2633	1136	5	210	82	433	229
Demographic of sample presented	+	+	+	+	+	-	+
Development of the instrument(s) described	+	+	NR	+	NR	+	NR
Reliability data of the instruments reported	+	+	NR	+	NR	+	NR
Validity of the instruments established	+	-	NR	+	NR	+	NR

Methodological Details	Perkins et al. (2020)	Rozo et al. (2017)	Simons & Mawn (2010)	Sindair et al. (2015)	Stovall et al. (2021)	Unruh & Zhang (2013)	Unruh & Fottler (2016)
Research aims presented	+	+	+	+	+	+	+
Theoretical framework	+	-	-	+	-	+	+
Power analysis included	+	NR	NR	-	-	-	+
Participant eligibility criteria reported	+	+	+	-	+	+	+
Sample size n=	83	5	184	330	237	414	503
Demographic of sample presented	+	-	+	+	+	+	+

Methodological Details	Perkins et al. (2020)	Rozo et al. (2017)	Simons & Mawn (2010)	Sindair et al. (2015)	Stovall et al. (2021)	Unruh & Zhang (2013)	Unruh & Fottler (2016)
Development of the instrument(s) described	+	NR	NR	+	+	+	+
Reliability data of the instruments reported	+	NR	NR	+	+	+	+
Validity of the instrument established	+	NR	NR	-	+	+	-

Methodological Details	Unruh et al. (2016)	Vogelphol et al. (2013)	Wallen et al. (2010)	Wolf et al. (2017)	Zurmehly et al. (2009)
Research aims presented	+	+	+	+	+
Theoretical framework	+	-	+	+	+
Power analysis included	+	+	-	NR	+
Participant eligibility criteria reported	+	+	+	+	+
Sample size n=	503	135	159	26	1231
Demographic of sample presented	+	+	+	-	+
Development of the instrument(s) described	+	+	+	NR	+
Reliability data of the instruments reported	+	+	+	NR	+
Validity of the instrument established	+	+	+	NR	+

+, yes; -, no; NR, not relevant because study is qualitative