

REVIEWS

Pandemic perspectives: A scoping review of undergraduate nursing students' motivations in the age of COVID-19

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ABSTRACT

Background and objective: The COVID-19 pandemic intensified global nursing shortages, underscoring the urgency to understand the evolving motivations of undergraduate nursing students (UNS). While intrinsic and extrinsic factors are known to influence career choices, the pandemic's impact necessitates a closer examination of these motivations. This scoping review maps and explores primary research on the multifaceted motivations influencing UNS career decisions during and after the COVID-19 pandemic, providing a comprehensive overview of the factors shaping the future nursing workforce.

Methods: Guided by Arksey and O'Malley's framework and PRISMA-ScR guidelines, a systematic search across five databases (CINAHL, PsycInfo, MEDLINE, Embase, Scopus) identified relevant studies published between January 2020 and January 2024. Rigorous screening and data extraction were followed by qualitative synthesis to identify key motivational themes.

Results: Thirteen studies from diverse regions (Asia, Middle East, United States, Europe) revealed a complex interplay of intrinsic (e.g., personal fulfillment, altruism) and extrinsic (e.g., financial security, job prospects) motivations. The pandemic amplified concerns about occupational risks and work-life balance while highlighting the profession's societal value. Gender disparities emerged, with distinct motivations and barriers observed among male and female students.

Conclusions: This review provides a nuanced understanding of UNS career motivations in the pandemic era, emphasizing the need for tailored recruitment and retention strategies that address both intrinsic aspirations and extrinsic concerns. By recognizing the multifaceted nature of motivations and their regional variations, stakeholders can foster a resilient and adaptable nursing workforce equipped to meet the challenges of the evolving healthcare landscape.

Key Words: Motivation, Nursing students, Career choice, COVID-19, Pandemic, Intrinsic, Extrinsic

1. INTRODUCTION

The global healthcare landscape is in a state of flux, with increasing demands for skilled healthcare professionals, particularly nurses. Nurses play a significant role in the global health workforce, providing direct patient care and promoting public health education.^[1,2] Most registered nurses now re-

quire a university education, driven by the need for advanced competencies and improved patient outcomes. Historically, nursing education was predominantly hospital-based until the mid-1970s, when it shifted to academic settings, which has been shown to enhance patient care quality.^[3] However, on a global scale, nursing education is confronted with high stu-

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dent attrition rates, significantly impacting the future of the nursing and healthcare workforce.^[4,5] In Australia, dropout rates range from 10% to 40%,^[6,7] while the U.S. sees a 20%-25%^[8,9] and the U.K., about 25%.^[10] The shift to online learning post-COVID-19 has introduced challenges like reduced engagement and exacerbating retention issues.^[11,12] Hence, it is critical to understand what motivates and sustains students in their nursing education journey.

Intrinsic and extrinsic factors influence nursing students' motivations for their career choice. 'Intrinsic motivations' include a genuine interest in nursing and a desire for personal fulfillment that aligns with their values. 'Extrinsic motivations', on the other hand, refer to influences outside personal satisfaction, such as job security, financial incentives, and societal recognition.^[13] Understanding the balance between these motivations can shed light on why nursing students persist in their studies or choose to leave, which is critical for developing strategies to improve recruitment and retention in the nursing workforce. The COVID-19 pandemic provides a unique lens to evaluate evolving motivations towards nursing among current students. While past literature has explored generic motivations for healthcare career choices,^[14] perceptions of nursing roles,^[15] and factors affecting student attrition,^[16] there remains a need to examine specifically how the pandemic context shapes the motivations of the next generation of nursing students.

Aim of the study

This scoping review aims to map and synthesize primary research evidence on the motivational factors influencing undergraduate nursing students' choice of a nursing career, encompassing both intrinsic and extrinsic dimensions.

2. METHODS

This scoping review followed Arksey and O'Malley's framework^[17] to map evidence, identify gaps, clarify concepts, and inform future research. Scoping reviews include diverse study designs to determine the extent and nature of existing literature.^[17,18] Quality appraisal was not performed, as it is not routinely done in scoping reviews.^[19]

This review followed the five stages outlined by Arksey and O'Malley:^[17]

- I. Identifying the research question
- II. Searching for relevant studies
- III. Selecting studies
- IV. Charting the data
- V. Collating, summarising and reporting results.

2.1 Identifying the research question

This review addressed the following question: How has the COVID-19 pandemic affected the motivation of undergraduate nursing students to pursue a career in nursing?

2.2 Identifying relevant studies

An initial search was carried out using the Cochrane Database of Systematic Reviews, Joanna Briggs Institute Database of Systematic Reviews and Implementation Reports, The Campbell Collaboration online library, and PROSPERO to locate previous or ongoing reviews on the subject. A keyword and index term-based search strategy was formulated in collaboration with the co-authors and a senior librarian. In February 2024, a thorough literature search was executed across five electronic databases: CINAHL (via EBSCO-host), PsycINFO (via OVID), Ovid MEDLINE, Embase (via OVID), and Scopus. The Boolean operators AND and OR combined the following keywords: nursing student, education, motivate, *choice*, *select**, career, COVID-19, pandemic, influence. Details of database search and the search strategy can be found in Appendix 1.

2.3 Selecting relevant papers

Inclusion criteria: (1) focused on motivations for choosing nursing among undergraduates; (2) published in English peer-reviewed journals (January 2020-January 2024); (3) primary research. Exclusion criteria: (1) graduate students, practicing nurses, or other health professionals; (2) nursing students < 80% of the sample; (3) secondary analyses, commentaries, reviews, or policy briefs. After de-duplication, the first author (AG) screened titles and abstracts, verified by the second author (BT). Full-text articles were assessed for inclusion. The selection process is shown in a PRISMA-ScR flow diagram in Figure 1.

2.4 Charting the Data

A standardized data charting form was used to extract relevant details from studies meeting inclusion criteria to address the scoping review question. Extracted information included: (1) Author(s), (2) Design, (3) Country, (4) Sample, (5) Data analysis, (6) Motivational factors and (7) Key findings. Detailed characteristics and findings of included studies can be found in Appendix 2.

2.5 Collating, summarizing, and reporting results

Bengtsson's^[21] qualitative manifest content analysis was used to synthesize data. The text was inductively coded, and similar codes were grouped into categories, which were iteratively merged into overarching conceptual themes.^[22] Both explicit and latent meanings were extracted. Motivational factors from qualitative findings and statistically significant

quantitative results were compiled. An iterative process created an emergent coding framework mapping intrinsic and extrinsic dimensions. Factors were compared and labeled

collectively when repetitive, and outliers were kept separate. Repeated analysis and synthesis consolidated codes under major intrinsic and extrinsic themes can be seen in Table 1.

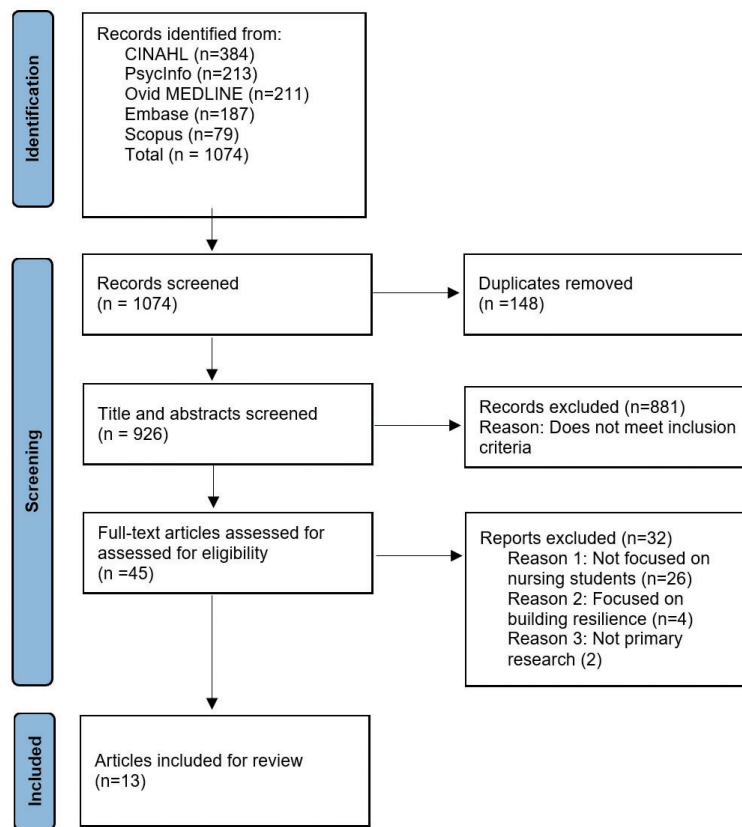


Figure 1. PRISMA flow diagram for study selection.^[20]

Table 1. Themes

Factors	Intrinsic Motivation	Extrinsic Motivation
Personal	- Personal satisfaction and calling to care - Reinforced desire despite risks - Internalized respect for the nursing role	- Media influence - Perceived social status - Familial/societal expectations
Organizational	- Passion for healthcare - Commitment to learning and education - Interest in holistic and compassionate care	- Organizational culture and career development - Quality of education and training - Employment opportunities
Financial	- Personal financial goals - Valuation of stability and independence	- Salary and economic benefits - Economic motivations (purchasing power, social standing) - Job market demand and security
Political	- Altruistic drive to improve health - Ethical responsibility for equitable care	- National healthcare policies - Political support for healthcare workers - Advocacy for working conditions and status
Environmental	- Adaptation to demanding environments - Willingness to work in high-pressure situations	- Geographical healthcare needs - Physical working conditions and safety - Societal appreciation and support
Gender	- Challenging gender norms and stereotypes - Female UNS's responsiveness to caring roles	- Societal and cultural perceptions - Gender-specific barriers and stereotypes - Male UNS's perception of leadership roles

3. RESULTS

The database search yielded 1,074 records, with 148 duplicates removed. Two reviewers screened the remaining 926 records, identifying 45 articles for full-text review. After assessment, 32 studies were excluded, leaving 13 studies meeting the inclusion criteria, as shown in Figure 1.

3.1 Characteristics of included studies

The 13 papers published between 2020 and 2024 used cross-sectional ($n = 9$) and qualitative ($n = 4$) designs, with 9,102 participants from diverse regions, including Turkey, United Arab Emirates, China, Taiwan, Japan, Saudi Arabia, Philippines, Thailand, United States, Poland, and South Korea. Sample sizes ranged from 24 to 2,999 nursing students. Studies used validated scales (e.g., Academic Motivation Scale, Self-Directed Learning Readiness Scale, Social Cognitive Career Theory Scale, COVID-19 Attitude Scale) and qualitative methods (e.g., interviews, surveys, questionnaires) to assess motivations. Additional tools, such as the Nursing Image Scale, Job Satisfaction Scale, and Nursing Attitude Questionnaire, enriched data collection.

3.2 Motivation among undergraduate student nurses

Synthesis revealed intrinsic and extrinsic motivational factors, including personal fulfillment, community service, societal appreciation, media portrayals, employment prospects, financial gain, and career advancement. Gender disparities emerged, uncovering distinct motivations and barriers.

3.3 Factors related to choosing a nursing career among undergraduate student nurses

An inductive content analysis extracted motivational factors into six categories: personal, organizational, financial, political, environmental, and gender-related motivations.^[23] The matrix map presented in Appendix 3 distributes each theme's intrinsic and extrinsic factors, differentiating intrinsic motivations (inherent fulfillment and commitment) from extrinsic motivations (external values, rewards, and pressures)^[13] (see Appendix 3).

3.4 Intrinsic personal motivation

Intrinsic factors significantly influence the choice of nursing as a career, with students naturally inclined towards compassionate, patient-centered care, a cornerstone of nursing.^[24] Positive nursing role models enhance this attraction, fostering respect for the profession.^[25] This genuine interest in nursing's interpersonal aspects correlates with a stronger professional identity and academic achievement, suggesting passion is a key driver of motivation.^[26] Students are also motivated by the societal respect and recognition nursing garners, finding personal satisfaction in aiding others.^[27]

Despite challenges such as remote learning and pandemic restrictions, students' intrinsic commitment to nursing remains robust, with the pandemic even reinforcing their dedication by highlighting nursing's critical role.^[28,29]

3.5 Extrinsic personal motivation

Extrinsic influences, including financial stability and work-life balance, have become critical in nursing students' career choices, especially under COVID-19's impact, affecting program retention and attrition.^[30,31] The transition to online learning and the resulting financial and household strains prompted students to reassess their educational pursuits.^[32] Job satisfaction, salary expectations, and societal respect for nursing are significant extrinsic motivators.^[27,32] The impact of pandemic-related concerns on occupational risks and safety is a complex issue that affects a significant portion of students, with over three-quarters being influenced by these factors.^[27] This situation highlights the intricate interplay between motivations and fears in the current academic and professional landscape. Relationship strains from isolation protocols and the challenge of balancing various demands also influence career perspectives.^[24,28] Conversely, the pandemic has elevated public regard for nursing, positively impacting professional identity for some.^[33]

3.6 Intrinsic organizational factors

Students exhibit intrinsic motivations tied to healthcare organizations, including a commitment to support peers, maintain ethical standards, and contribute significantly to patient care amidst COVID-19 challenges.^[27] This organizational dedication mirrors essential nursing virtues of compassion and a duty of care. Awareness of occupational risks also spurred some students to a deeper professional commitment beyond compliance with safety measures.^[29] Choosing nursing as a preferred career and participating in early vocational training reflect students' deep interest and dedication, underlining the positive influence of healthcare organizations.^[31] These vocational experiences, by reinforcing the profession's caring principles, play a crucial role in shaping students' professional attitudes and reinforcing their commitment to nursing.^[33,34]

3.7 Extrinsic organizational factors

Extrinsic motivations associated with healthcare organizations influence nursing students, with perceived organizational commitment to staff wellbeing affecting student motivations positively.^[28] Conversely, negative experiences within organizations, such as enforced volunteering in China and subpar educational environments in Turkey, adversely impact student motivation.^[24,35] Shortages of PPE and uncertainties about virus transmission during the pandemic are sig-

nificant extrinsic factors, potentially deterring students from pursuing nursing due to increased perceptions of workplace risks.^[29,35] The mandatory shift to online learning posed additional external challenges, affecting students' readiness for tech-enabled instruction and overall motivation despite its necessity.^[36] Such changes, out of students' control, reflect the broader impacts of the pandemic on educational practices. A diminished professional calling among students, ascribed to extrinsic pressures such as suspended clinical practices and concerns about contracting the virus, was also noted in the study.^[33]

3.8 Intrinsic economic factors

Intrinsically integrated economic and community service motivations emerged, with students aspiring to establish rural clinics going beyond financial gain alone,^[32] their vision intertwined economic success with enabling healthcare access, with the end goal being meaningful community contribution rather than profit alone.^[32] For instance, South Korean students aimed to reinvest clinic revenues into philanthropic causes, blending economic and altruistic objectives.^[32]

3.9 Extrinsic economic factors

Economic factors significantly influence nursing career choices, emphasizing financial stability and job security as critical motivators. Nursing is seen as fulfilling and a pragmatic means for mobility and supporting families, with a preference for income security over vocational passion.^[32] Despite potential gaps in professional fulfillment, the financial and employment benefits associated with nursing attract students to the field.^[25] The perception of a nursing degree as a gateway to diverse and lucrative opportunities underscores its appeal, offering financial security, competitive salaries, specialty areas, and career flexibility. The demand for nursing education is fueled by the intersection of family financial requirements and the expectation of a steady income.^[25]

3.10 Intrinsic political factors

Students exhibited intrinsic motivations linking nursing with civic duty and health advocacy. Japanese students aligned nursing with national obligation and aspirations to tackle health inequality,^[31] intertwining personal growth with community well-being. Many students desired nurses to educate the public, shape reforms, and influence policies,^[28] demonstrating policy advocacy as a motivational draw. However, understanding the systemic complexity and limitations of nurses' roles in policy advocacy tempered these ambitions, recognizing the challenges in navigating clear career paths for effecting broad change.^[25,28,31,32] Nevertheless, this reflected appreciating political involvement as motivationally relevant for facilitating transformations.

3.11 Extrinsic political factors

Governmental policies during the pandemic significantly influenced nursing career motivations, varying by country. In Taiwan, effective virus control measures and support for healthcare workers enhanced nursing's appeal, with timely protective equipment and safety protocols increasing student career confidence.^[37] Conversely, mandatory volunteering for nursing students under government directives in China led to decreased motivation, highlighting a mismatch between political actions and the supportive environment needed to attract future nurses.^[35] The broader context of healthcare systems also played a role in shaping career decisions. In Turkey, the prospect of numerous nursing positions in a highly competitive job market attracted individuals to the profession despite a lack of inherent interest. However, sub-optimal educational experiences diminished motivation.^[24] These examples illustrate how national policy and healthcare employment landscapes can foster or deter nursing career motivations.

3.12 Intrinsic environmental factors

Students' intrinsic environmental motivations were rooted in their competencies, growth prospects, and the influence of nursing role models.^[26] Pursuing nursing, driven by personal interest alignment, fostered a stronger professional identity.^[33] The COVID-19 pandemic intensified this intrinsic motivation, highlighting the profession's historical importance and instilling a profound sense of responsibility.^[28] This challenging period underscored students' commitment to healthcare, with their dedication and resilience reinforced by family support and admiration despite the associated risks.

3.13 Extrinsic environmental factors

Sociocultural factors significantly influenced extrinsic motivations for nursing careers. The pandemic spotlighted the profession, with widespread public appreciation and heroism attributed to frontline nurses, enhancing respect and gratitude for healthcare roles.^[33] This recognition fostered motivation and pride in pursuing nursing. Inspirational figures such as nurse leaders and educators provided aspirational models of resilience and success, offering students concrete examples of what can be achieved with dedication.^[24] Such external influencers and supportive environments facilitated students' aspirations towards self-actualization in nursing. Additionally, positive media representations and increased societal esteem during the pandemic were powerful motivators.^[27] Students felt heightened respect for nursing, motivating their career choice, though individual factors like age and living conditions also shaped motivations.^[33]

3.14 Intrinsic gender factors

The intrinsic gender motivations for choosing nursing are complex, reflecting a mix of traditional roles and progressive views. Female students are primarily attracted to nursing's relational and nurturing aspects, aligning with the profession's caregiving nature.^[33] However, a shift in younger female cohorts indicates an expanding interest towards roles in empowerment, leadership, and broader societal impact within nursing, suggesting a redefinition of the profession beyond traditional caregiving to include policy influence, administration, research, and community advocacy.^[33]

3.15 Extrinsic gender factors

Gender plays a crucial role in shaping career motivations within nursing. Male students are particularly drawn to leadership roles and exhibit a focus on professional expertise and autonomy, indicating a clear ambition for career progression.^[24,25] On the other hand, female students often seek a balance between their professional and personal lives, showing a preference for the intrinsic values of the nursing profession over leadership and professional advancement.^[24]

4. DISCUSSION

The divergent motivations and experiences of nursing students across different countries reflect the complex interplay of socioeconomic, cultural, and systemic factors influencing the nursing profession. In South Korea, concerns about financial stability and the personal sacrifices associated with nursing have led to a trend of leaving the profession.^[32] In Canada, a heightened commitment to nursing was observed during the pandemic.^[38] The pandemic also highlighted concerns among nursing students globally about fear of COVID-19, wage expectations, workload, and occupational health and safety, affecting their future in the profession.^[37] Notably, recent studies have shown a generally positive outlook toward nursing careers in some countries, with 85% of nursing students in Norway and 73% in China expressing optimism about their career choices.^[39,40] These findings underscore the variability in motivations and perceptions among nursing students internationally.

The demographic trends observed within the nursing profession persist in reflecting a considerable gender imbalance, predominantly with a majority of individuals being female. This aligns with global statistics, which indicate that up to 90% of individuals in nursing roles are women.^[41,42] This feminization of nursing is influenced by varying motivations across genders, with men often drawn by economic and status considerations and women by altruistic reasons.^[43,44] However, framing these motivations within essentialist gender stereotypes risks reinforcing outdated notions of gender roles.

It overlooks the systemic inequalities that limit female nurses' participation in policy-making and career progression.^[45] Addressing these challenges necessitates an intersectional feminist approach recognizing the layered factors impacting the nursing profession. Such an approach would illuminate the nuanced realities of nursing professionals, moving beyond simplistic gender narratives to better understand and address the disparities and barriers within the field.^[46]

Financial considerations emerged as a crucial extrinsic motivator for UNS during the pandemic, challenging the traditional view of altruism as the primary driver in nursing.^[14,37,47] However, the study highlights the importance of intrinsic motivation as the sole attractor for nursing students needs re-evaluation.^[48] Students opting for a profession primarily for financial benefits may still perform effectively, even without conventional qualities often associated with nursing.^[44] This perspective calls for a re-examination of mainstream research emphasizing altruism as a key quality for prospective nurses. Moreover, sociocultural dimensions permeate motivational decision paths. Asian student motivations are sometimes presumed to stem from collective expectations rather than individual interests.^[49] However, the study found intrinsically driven self-growth motivations among South Korean students on par with Western peers, contradicting stereotypic dichotomies.^[50,51] Numerous studies validate personalized fits and aspirations as central across geographies and ethnicities in nursing career choice.^[26,31,33,36] Shifting priorities influenced by the pandemic could indicate globally connected generational patterns beyond isolated regions.

Financial considerations have become a pivotal extrinsic motivator for nursing students, particularly during the pandemic's economic uncertainties. This challenges the traditional notion of altruism, suggesting that financial incentives play a significant role in career selection.^[14,37,47] The singular focus on intrinsic motivation in attracting and retaining nursing students needs to be reassessed, highlighting that those motivated by financial gains can still excel in their roles without the conventional empathy or care traits typically associated with nursing.^[48,52]

Research parallels intricate links between nursing students' demographics and motivations. Younger students, typically free from family duties, exhibit lower motivation, often exploring diverse career paths before committing to nursing.^[53,54] In contrast, older students show decreased motivation even with familial responsibilities. This is partly due to the transferability of their skills to other sectors with more favorable working conditions and the influence of increased educational attainment.^[53,55] Younger nursing students of-

ten face significant career uncertainties, which manifest as anxiety about their future roles, competitive pressures for employment, and challenges related to clinical competence and licensure examinations.^[56] This anxiety is compounded by academic stressors and personal issues, which are prevalent among younger students.^[57] Additionally, the COVID-19 pandemic has exacerbated these uncertainties, leading to increased levels of depression, anxiety, and stress among nursing students, particularly those with a high intolerance of uncertainty.^[58] On the other hand, mature age nursing students, typically those aged 25 and above, encounter different challenges, such as career barriers and the need for social support to manage their career trajectory.^[59] These students often experience declining enthusiasm due to the persistence of external pressures, such as balancing academic responsibilities with personal and professional obligations.^[60] Understanding and addressing the unique stressors and support needs of both younger and older nursing students is crucial for developing supportive strategies that meet the diverse needs of nursing students.

The global pandemic has recalibrated the motivations of nursing students, especially from lower-income regions in Asia, such as Indonesia^[61] and Nepal.^[62] Driven by the quest for financial autonomy and job security, many are now eyeing prospects in OECD countries, indicative of a shift from the previously assumed altruistic motivations that dominated the nursing vocation.^[61,62] This pragmatic stance is echoed among Generation Z students who perceive healthcare roles flexibly, prioritizing skill demand over a deeply rooted vocational calling.^[63–65] In English-speaking countries such as Ireland, Australia, the U.S., and the U.K., nursing programs significantly facilitate international mobility and serve as precursors to alternative professional trajectories, leveraging linguistic advantages. These countries attract a substantial number of internationally educated nurses (IENs) due to their high demand for nursing professionals and the global mobility of nurses seeking better opportunities.^[66,67] However, the situation contrasts significantly in lower- and middle-income regions. In such countries, nursing students often perceive their education as a stepping stone for migration to more prosperous nations within the OECD, driven by the pursuit of better employment conditions.^[24]

However, this trend raises the question: Is it feasible to sustain a career in nursing without a fundamental intrinsic motivation? The juxtaposition of practical and altruistic motives in nursing suggests a nuanced landscape where financial and career aspirations may coexist with, rather than replace, the inherent desire to care for others.^[52] This phenomenon underscores the need to reexamine the motivational paradigms within the nursing profession. The interplay between intrinsic

and extrinsic motivations in nursing is complex and may vary based on class, gender, social status, geographical location, and age. Therefore, understanding motivation requires an intersectional approach.

4.1 Limitations

This scoping review primarily relied on cross-sectional studies, which do not provide causal explanations for turnover or retention outcomes. Future research should include longitudinal studies to better understand the dynamics between motivational factors and long-term job commitment. The focus on the English language and peer-reviewed publications may overlook cultural nuances and insights from non-English sources or grey literature. The scoping review methodology did not allow for quality appraisals of included studies, necessitating caution in interpreting findings due to potential variability in methodological rigor. Lastly, this review focused on motivational factors, potentially missing the broader context of other career choice influences, such as training capacities, migration trends, and labor market conditions, which were not examined.

4.2 Recommendation for nursing policy, social policy, health policy and research

Nursing Policy: Policies should focus on enhancing the appeal of nursing through scholarships, grants, and commitments like the model in Victoria, Australia, where nursing and midwifery students receive free education in exchange for service in public hospitals.^[68] Such initiatives can boost enrolment and address nurse shortages.

Social Policy: Use social media and online platforms to positively depict nursing, inspire potential students, and elevate societal perceptions of the profession.

Health Policy: Foster collaboration among educational institutions, healthcare organizations, and government bodies to improve students' perceptions of nursing by emphasizing job security, career advancement, competitive pay, and work-life balance.

Research: Conduct longitudinal studies to evaluate policy effectiveness in converting motivations into enduring career commitments. Understanding complex motivations can inform future policy-making and educational strategies, ensuring nursing's resilience and adaptability to changing healthcare needs.

5. CONCLUSION

This scoping review uncovers the complex intrinsic and extrinsic motivations influencing nursing students' career decisions during COVID-19 and after, shaped by financial, political, and gender factors. Addressing global nursing

shortages requires multifaceted, evidence-based approaches in education and workforce planning, acknowledging students' diverse priorities. Collaborative efforts from governments, healthcare organizations, and educational bodies are needed to create supportive, equitable environments reinforcing commitment and purpose. Strategies that recognize nurses' critical societal role and address complex dedication drivers are key. This review promotes a humanistic, equity-driven approach, advocating for understanding varied motivations to cultivate a resilient workforce equipped for contemporary challenges.

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AUTHORS CONTRIBUTIONS

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DATA SHARING STATEMENT

No additional data are available.

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