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Croatian nursing students' motives for enrolling in the Master of Nursing program despite limited career opportunities: a qualitative study

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Abstract

Background In 2022, only 1.7% of nurses in Croatian healthcare were employed at a job defined as a Master of Nursing (MN) graduate. In the current labour market, most MN graduates in Croatia cannot hope for salary increases or better employment opportunities after graduation. Thus, it is unclear what motivates students to enrol in MN studies, and how they perceive their career possibilities after graduation.

Aim To explore the motives of Croatian nursing students for enrolling in the MN program despite uncertainty regarding their future salary and career status.

Methods A qualitative study was conducted. Thematic analysis was conducted on the narratives gathered from semi-structured interviews with full-time and part-time students in Croatia.

Results We included 30 students of MN programs attending seven MN institutions. The main themes identified for both full-time and part-time students' motivation to enrol in MN studies were a desire for personal and professional growth and various practical considerations. Optimism about future career prospects was a strong motivation for part-time students. Involvement in scientific work and education was the most common perceived benefit for future professional development with an MN degree for both groups of participants.

Conclusion Our findings offer valuable insights into the motivating factors behind MN studies, especially in situations where the value of the MN qualification is under scrutiny, and immediate career or financial benefits may not be apparent upon graduation. Understanding these motivations allows educational and professional organizations to enhance their support for MN graduates looking to advance their careers. By aligning career pathways with their aspirations and motives, nurses can achieve personal fulfilment, even if financial compensation is not their primary motivation.

Keywords Career development, Nurses, Nursing education, Masters education, Motivational factors

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Introduction

To support nurses' professional development effectively, it is crucial to have a comprehensive understanding of nurses' motives for enrolling in Master of Nursing (MN) programs. A literature review by Murphy et al. noted that one of the main motivating factors behind nurses' decision to pursue education is the desire to increase their likelihood of promotion [1]. For nurses, the advantages of greater knowledge and skill levels are intrinsically associated with greater expectations of promotion [1]. A desire for personal or professional satisfaction, and better employment opportunities are some of the most important motivation factors for continuing MN education [2].

Unlike nurses in other countries [1], in Croatia, most MN nurses currently face significant challenges in achieving career advancement and salary increases in healthcare after obtaining an MN degree. The current career landscape in Croatia offers very limited opportunities for MN graduates.

On July 14, 2022, the Government of the Republic of Croatia adopted a regulation that ensured salary increases for MN graduates who are employed in seven specific positions. Those positions included department head nurses, nurses at integrated emergency hospital admission units, as well as nurses managing intrahospital infections, healthcare quality, diagnostic-therapeutic procedures, operating room team leaders, and palliative care coordinators [3, 4]. However, the overall number of such positions is very small. In 2022, only 565 (1.7%) of 34,150 nurses employed in Croatian healthcare were employed in the positions of MN nurses [5].

Among 2905 MN graduates in Croatia (*data from August 2023; based on personal communication with the Croatian Nursing Council*), 19% had job positions of an MN nurse with a corresponding salary coefficient. This indicates that a significant majority, over 80%, of MN graduates currently do not experience a tangible return on their educational investments in terms of salary or career progression within the Croatian healthcare system.

In 2007, Jordanian nurses faced similar challenges regarding the recognition and rewards for obtaining an MN degree. Despite their efforts, MN graduates reported that the degree did not lead to any significant salary increase or career advancement opportunities [6]. The difficulty in recognizing their degree in MN through a salary increase was also faced by nurses employed in Malaysia, as described in a study from 2005. They encountered resistance from their colleagues, the medical profession, and government bodies, who struggled to grasp the importance of a degree and qualifications at the MN level [7]. Croatian MN graduates faced the same challenges in recognizing advanced nursing qualifications

and salary increases, despite global advancements and increasing nurse role complexity [8].

Recent studies in European countries, such as Norway and Slovenia, have noted that the value of MN qualifications is currently being increasingly questioned in the healthcare system. Discrepancies were noted between the application of competencies provided by MN studies and the needs of workplaces [9, 10]. Although their MN qualifications are being questioned and their tasks remain the same as those of Bachelor nurses, Norway's MN nurses receive financial compensation after graduation, as some degree of satisfaction [9].

The motivations behind nurses pursuing MN education in circumstances where the value of the qualification is questioned and there may not be tangible career/salary benefits upon graduation have not received adequate recognition in the nursing literature, nor have the career prospects for MN graduates globally been thoroughly explored.

A recent study in Croatia by Bokan et al. from 2022 revealed prevalent ambition for continued formal education among nurses. The study revealed that more than half of the undergraduate nursing students from Croatia expressed interest in pursuing the MN level. The study did not address at all the specific problem of uncertainty regarding their future salary and career status or student motives under those specific uncertainties [11]. Considering the current uncertain immediate career benefits of completing the MN program in Croatia, the motives of nurses enrolling in those programs are unclear.

This qualitative study aimed to investigate the motives of Croatian nursing students for enrolling in the MN program despite uncertainty regarding their future salary and career status.

Methods

Study design

This qualitative study was conducted via semi-structured interviews.

Settings

Seven different Croatian higher education institutions offering MN programs.

Participant selection

The study used purposive sampling to select participants who fit specific eligibility criteria. Both full-time and part-time MN students were included, with starkly different prospects for advancement in the workplace upon graduation. This approach ensured the inclusion of participants with diverse motivations and experiences while focusing on individuals relevant to the research question.

Eligibility criteria for full-time MN students included maintaining continuous education from high school through undergraduate and graduate studies.

Part-time MN students were required to be employed as nurses in healthcare to meet the eligibility criteria. In addition, they needed to be certain that an immediate salary increase in their current workplace was not to be expected immediately after graduating. For example, some part-time MN students already work in positions that grant them automatic salary increases, such as being head nurses of a hospital department. The inclusion of part-time students who do not expect an immediate salary increase after graduation at their current workplace strengthens the credibility of findings by highlighting motivations other than financial rewards. Regardless of external financial rewards, it guarantees that judgments made on students' motives accurately represent their goals for their personal and professional lives.

The anticipated sample size was in line with the guidelines in the literature on qualitative research methods [12]. The researcher who conducted the interviews had no personal connection to the participants.

Approaching the participants

The recruitment process was conducted in collaboration with the heads of MN studies at the participating institutions. They identified eligible participants based on their enrollment in the program and their willingness to contribute to the research. The heads personally send email invitations, ensuring a personalized approach while upholding confidentiality and ethical standards.

Higher education institutions with MN programs were identified via the MOZVAG information system, which supports quality assurance procedures implemented by the Agency for Science and Higher Education (ASHE) in Croatia. Participants from MN programs from 10 institutions were eligible. The text of the e-mail invitation and a detailed information sheet about the study that was sent to potential participants are presented in Supplementary file 1.

From the total population size of around 1500 MN students in Croatia, we followed guidelines for qualitative research about the anticipated sample size. The study aimed to include 10–20 participants in each group (full-time and part-time students). However, after achieving data saturation with 12 participants per group, it was decided to include an additional 3 participants in each group to ensure robust findings, resulting in a final sample size of 15 participants per group, or 30 participants in total.

The study included two distinct groups of participants: part-time MN students and full-time MN students. A total of 15 interviews were conducted with participants from each group, resulting in 30 interviews overall. By

including both groups, we aimed to capture a broader range of motivations, challenges, and perceived benefits associated with their educational paths.

Ethics

The study protocol was approved by the Ethics Committee of the Catholic University of Croatia (decision dated September 29, 2023; Classification number: 641-03/23 – 03/054; Registration number: 498-15-06-23-007). All participants were requested to declare their informed consent via an invitation e-mail. The participants did not receive any financial rewards in return for participating in this study. All methods were carried out in accordance with relevant guidelines and regulations, including the institutional ethics code. The study adhered to the Declaration of Helsinki.

Research team and reflexivity

One researcher (AV), a woman, an MN graduate, and a lecturer in undergraduate nursing studies conducted all the interviews. To enhance nursing education, the interviewer, who lectured on undergraduate nursing, sought to study MN ambitions. The individual lacked prior experience in qualitative research. She received guidance from the supervisor (LP) and consulted the literature. University Professor LP lectured on methodology and conducted qualitative social and biological investigations. The team consisted of specialists in nursing, higher education, medicine, and research methodology, each offering unique perspectives to shape the comprehensive research plan.

Methodological orientation and theory

Transcripts were analyzed via interpretive phenomenological analysis (IPA) [13]. The findings of this study represented the themes or meanings to which the participants' responses referred, and they were relevant to the research question. Software was not used for analysis.

Approach and philosophical assumptions

IPA focuses on exploring and interpreting how individuals make sense of their personal experiences, making it well-suited to understanding MN students' motivations and perceived benefits of their education. With IPA, we aimed to uncover the deeper meanings and themes within participants' lived experiences, emphasizing how they interpret and assign meaning to their motivations and aspirations. The method prioritized participants' perspectives, treating them as experts on their own experiences. The study adopted an ideographic analysis, analyzing individual experiences in depth before identifying shared themes across participants.

Rooted in phenomenology, hermeneutics, and idiography, IPA reflects philosophical assumptions of ontology

(nature of reality), epistemology (nature of knowledge), axiology (role of values), and methodology (how knowledge is gained). The assumption of ontology is that reality is subjective and constructed through individual lived experiences. The study sought to explore the unique realities of MN students, recognizing that their motivations and perceptions of benefits are shaped by their personal and educational contexts. Epistemology assumes that knowledge is co-created through the interaction between participants and researchers. Understanding motivations requires delving into participants' narratives and interpreting their meanings. Thus, the researchers actively engaged with participants' accounts, interpreting their responses to uncover deeper meanings and themes.

The assumption of axiology is that researchers' values and interpretations influence the process of analysis. Reflexivity is crucial to ensure a transparent and ethical research process. To apply this, the researchers acknowledged their role in shaping the analysis and aimed to remain sensitive to participants' voices while interpreting their experiences. Finally, knowledge is best gained through detailed, context-sensitive exploration of participants' lived experiences. The use of semi-structured interviews aligns with IPA's emphasis on capturing rich, detailed accounts, uncovering unique and shared themes from participants' narratives.

It was anticipated that this approach will allow for a nuanced exploration of motivations and career aspirations, which may be influenced by cultural, social, and educational factors specific to the Croatian context.

Data collection

The data were collected through online interviews conducted in the Croatian language between October 2023 and January 2024, following an interview guide (Supplementary file 2). The interviews were conducted online via the Zoom, Google Meet, or Microsoft Teams platforms, depending on the participants' wishes. The interview guide was created based on information from our own, discussions among coauthors, and reviews of similar studies [1, 2, 7, 14]. The draft interview guide underwent multiple iterations by the author team until it was finalized.

We performed two pilot interviews among individuals who fit the eligibility criteria to test the suitability of the questions from the interview guide. After analyzing the pilot interviews, we decided to exclude an example from one of the questions. Given the absence of revisions in other sections, pilot interviews were integrated into the main study sample.

Each interview was audio-recorded and transcribed, including all spoken words, sound effects, silences, and expressions, and was kept on a secure server. All the interview transcripts were created by the author AV and

subsequently revised by another author (KL). The participants did not receive the transcripts for review or correction.

Data analysis and reporting

We implemented the systematic text condensation 4-stage process [15]. The researchers first read the interviews to gain a basic understanding. Early concepts were therefore recognized. After rereading the interviews and consulting with coauthors, the researchers selected and defined the units and codes. The researcher AV coded the text, and the researcher MP reviewed the coding. There was no dispute between the two authors.

The data was analyzed using an inductive coding approach, which enabled themes to emerge directly from the narratives of participants without being influenced by prior assumptions. This approach allowed for an unbiased review of the data, allowing us to identify novel themes and insights which were grounded in the participants' lived experiences.

All the sentences from the transcripts of the interviews were used as quotations to show the participants' original thoughts. The author (AV) anonymized the participants' identities by coding them as P1–P15 for the full-time student group and P15–P30 for the part-time student group.

Continuous data (interview duration, participants' age, and years of experience in the healthcare sector) were expressed as the means and standard deviations ($M \pm SD$).

The interviews were conducted in Croatian, and the quotes included in the manuscript were translated into English. Two researchers, well-versed in both the language and the research context, collaborated on the translation process. Their joint effort aimed to ensure accuracy and consistency in reflecting the participants' intended meanings. Translation was limited to the specific quotations used in the manuscript, rather than the entire dataset. Although professional translators were not engaged, the researchers' combined knowledge helped reduce the risk of misinterpretation.

The study was reported in line with the guidelines for qualitative research (Consolidated Criteria for Reporting Qualitative Research, COREQ) [16].

Results

Study participants

We included 30 participants, 15 full-time students, and 15 part-time students. They studied 7 different MN programs across Croatia. Online interviews were conducted with an average duration of 12.7 ± 1.5 min involving 30 students from seven studies in Croatia. Most participants were women (24/30). The participants' median age was 23 years, ranging from 21 to 41 years. On average, working experience as a nurse in the healthcare sector

for part-time students was 7.3 ± 2.9 years (Supplementary Table 1 in Supplementary file 3).

Students' motives for enrolling in MN studies despite issues about degree validation

The main themes identified for both full-time and part-time participants' decision to enrol in MN studies were a desire for personal growth and practical considerations. Optimism about future career prospects was a motivational factor for part-time students.

Despite uncertainties regarding immediate career advancement, both full-time and part-time students recognized that the desire for deeper knowledge and academic achievement can be beneficial to their personal growth. Full-time students saw enrollment in MN studies through practical considerations such as taking advantage of student rights, unreadiness for work, promises given to family, and flexibility due to their youth and limited responsibilities. The part-time students mostly mentioned obtaining MN credentials as a primary practical consideration. Responses from part-time students revealed optimism about obtaining an MN degree and the potential to enhance their future career achievement (Fig. 1; Supplementary Table 2 in Supplementary file 3).

Perceived benefits of pursuing an MN degree beyond immediate financial rewards

Considering the uncertainty of the salary coefficient and promotion at the workplace, the participants acknowledged that obtaining an MN degree could help them achieve continuous development, both personal and professional.

From the participants' perspective, personal development during MN studies can be achieved through continuous learning, increased communication skills, social networking, and recognition. Professional development was perceived as a better workplace for part-time students and as an increased number of career opportunities for full-time students, as well as working in nursing education for both groups of participants (Supplementary Table 3 in Supplementary file 3). However, two students indicated scepticism regarding the perceived value of MN education within the present healthcare sector.

At the moment, I absolutely can't see any advantages because it cannot get worse. Therefore, I think that, first of all, it is just the continuation of education, and for something else – it is difficult, at least in that hospital sector. (P6)

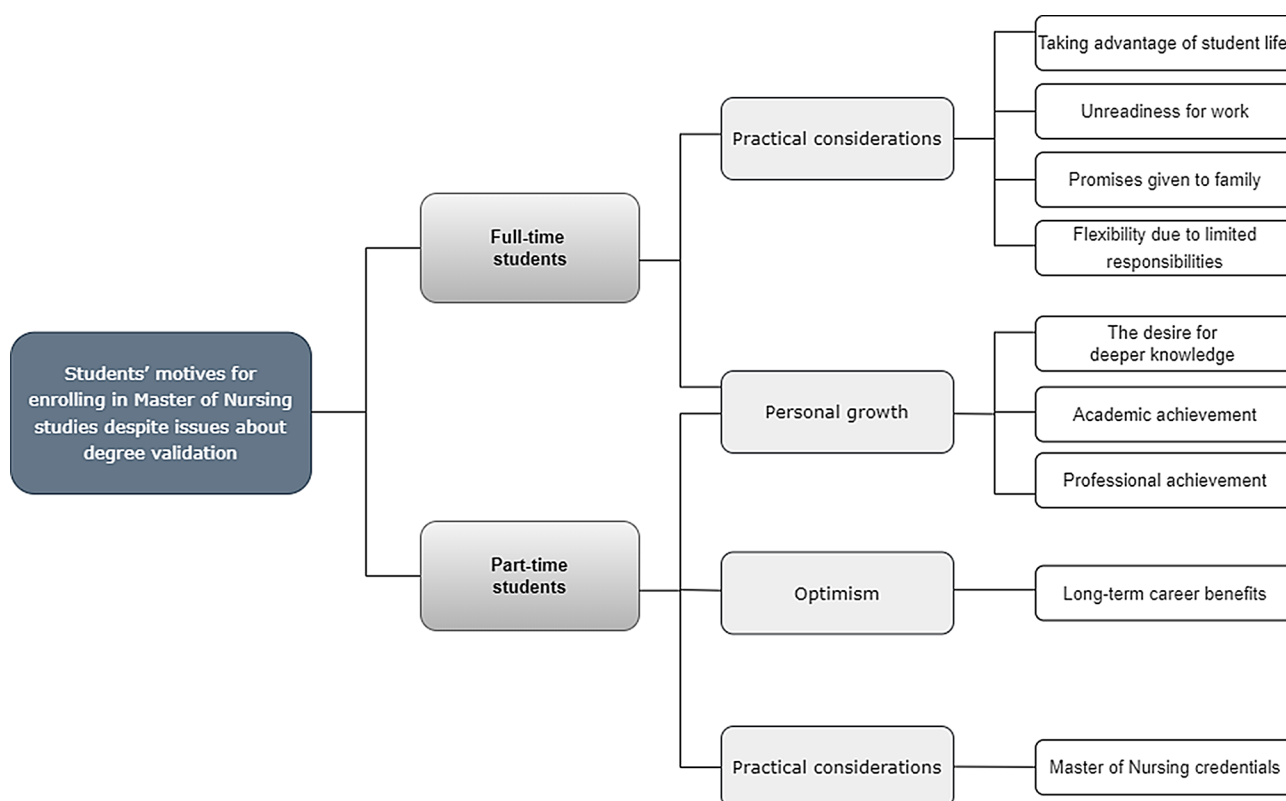


Fig. 1 Themes and subthemes of students' motives for enrolling in Master of Nursing studies despite uncertainties in the labor market

The participants gave heterogeneous responses on whether the skills obtained in graduate studies were sufficient motivation for enrollment.

At least in my opinion, the possibility of an increased salary coefficient is not sufficient motivation, but the mere fact that we will acquire more knowledge, more nursing competencies and be better at our work. (P28)

I do not think so, given that there are few programs aligned with nurses' competencies. Frankly, that was not the primary or the secondary reason why I enrolled in the Master's program. (P17)

Nevertheless, participants anticipated that MN studies would enhance their knowledge in understanding scientific research, expand their horizons and critical thinking, and provide practical skills in communication, teamwork, education, and leadership.

More, perhaps, critical thinking, independent thinking, and I do not know, maybe a new aspect will open up for me, a new perspective that I did not have before. (P5)

Some upgrade. This program is more about finding your way in management, somehow working in a team to be able to contribute a lot, working in the school system as well, if someone wants that. (P4)

Perhaps it will help me in the way in which I could convey certain knowledge and topics in the field of nursing to others ... in communication skills and so on. In that scientific, academic sphere. (P16)

Students' perceptions of current MN programs and enrollment quotas

Although there is variation among MN programs in Croatia, most participants (25/30) indicated that these differences do not impact the recognition of MN degrees in the healthcare sector.

After all, no one will ask you where you studied, but they will congratulate you on being a Master of Nursing, and I do not think there is much difference in the recognition of the diploma. (P2)

Almost all participants (28/30) supported the idea of establishing specialized MN studies from various nursing fields as an intervention that could increase the enrollment motivation of future students.

Therefore, if they see themselves in that area, I think it would be an additional motivation for them to enrol. (P6)

I think it would be good if there were, like abroad in the world and the European Union, nursing specializations and that you can specialize in what you are interested in and what you want to do in the future. That is a better way of education than this general one. (P18)

The enrollment quotas in MN studies in Croatia were relatively high according to the participants (14/30). This response was mostly recorded among part-time students. Several participants (7/30) indicated that high enrollment quotas could negatively influence the issue of validating MN degrees.

A major byproduct of this is actually just the hyper-production of individuals with a Master of Nursing degree, whose knowledge and competencies do not differ much from those of the other nurses, so this degree is neither recognized nor valued, because everyone can be a Master of Nursing today. (P16)

In contrast, 16 participants, mostly full-time students, indicated that they did not consider enrollment quotas into MN studies to be excessive. Five participants saw it as something positive, which should help in future MN degree validation.

Well, I wouldn't say, I do not know why there would be too many places in Master's programs; in fact, the more, the better. (P9)

If there is a larger group of nurses with Master's degrees, I think that maybe they will begin to recognize it sooner. (P19)

Twelve participants agreed that a stricter selection approach when enrolling in an MN study would help speed up salary coefficient recognition. Thirteen individuals disagreed, and five were unsure.

I do not think so, because the selection during enrollment does not mean that everyone who enrolled will finish or that the one who had fewer points, let us say during the selection process, and enrolled, will be less valuable after graduation than all those who did finish. (P8)

Well, I think that because the program itself would result in higher-quality students, in my opinion,

their scientific and professional work would then be better recognized and appreciated. (P16)

Students' perception of the salary coefficient

Deciding to pursue an MN program exclusively for increased salary coefficients was a sufficient motive for half of the participants, whereas other participants suggested that the salary coefficient was not the sole motivational factor.

Well, yes. In a world where everything revolves around money, simply, honestly yes. (P7)

For someone, maybe the salary coefficient is the only thing that matters. (P20)

The salary coefficient would be only one additional benefit, but not necessarily the main reason. (P16)

If the only reason people enrol in graduate studies is to obtain a higher salary, then they are definitely in the wrong profession. (P17)

The participants (27/30) mostly acknowledged that every MN graduate should receive a higher salary coefficient after completing their studies. They indicated that their funds and effort invested in education should be recognized and rewarded accordingly. They expected that this could also prove advantageous for future nurses' motivation. Some noted that other professions in the healthcare sector were validated, namely, physicians.

Because our profession is such that nurses are quite undervalued. Thus, the stimulation and rewards at work would motivate them to do something about their career. (P1)

Well, somehow I believe that this should be mostly due to work and effort. People invest money, time and knowledge in education, and somehow, it is not rewarded. (P4)

It should certainly be recognized, because if physicians are recognized for every doctorate and every ... every level of education that they pay for themselves, I think that nurses' formal education should also be recognized. (P18)

The participants (28/30) indicated that they expect that at one point, MN graduates will automatically have the right to the increased salary coefficient in healthcare institutions. They mostly indicated that this could happen within the next 5–10 years.

It will happen for sure; it is just a matter of time. Many young and older colleagues are living, and there will be a very high demand for nurses. I hope that in the next 10 years or so, it could happen. (P17)

I believe that it will take another 10, 15 years to reach that level with a Master's degree. We should follow the rules of the European Union slightly more. (P18)

To secure a higher salary coefficient for all MN graduates, participants identified various strategies that could impact policy change, such as standardizing job descriptions, advocating for healthcare reform, organizing protests and strikes, addressing workforce shortages, and fostering unity and collective action within the nursing community. Collaboration from a range of stakeholders, including decision-making authorities, the Ministry of Health, the Croatian Nursing Council, labour unions, and educational institutions, was crucial from the participants' perspective. Furthermore, they suggested that the proactive involvement of nurses could lead to significant changes (Supplementary Table 4 in Supplementary file 3).

Perceived future professional development through obtaining an MN degree

The main themes identified regarding future professional development after an MN degree was obtained were specific professional goals, leveraging skills and knowledge for job advancement, and long-term advantages (Fig. 2). Representative participant quotes are presented in Supplementary Table 5 in Supplementary file 3.

Students' plans after obtaining an MN degree

Most of the participants (20/30) indicated interest in scientific research after completing the MN program. The majority (19/30) expressed no interest in pursuing further education at the postgraduate doctoral level. The participants who were full-time students were focused primarily on securing employment in the healthcare sector.

No. Because I want to go to work for a while ... I attended a general high school, and this is, on the one hand, too much education for me, too little work experience. (P15)

Eleven participants left the possibility of further formal education in a doctoral programme open as an option for the future. A lack of financial resources was mentioned as a potential barrier to enrollment in a doctoral programme, along with a lack of knowledge and feelings of inadequacy. Some were not aware of the possibilities for formal education after the MN program.

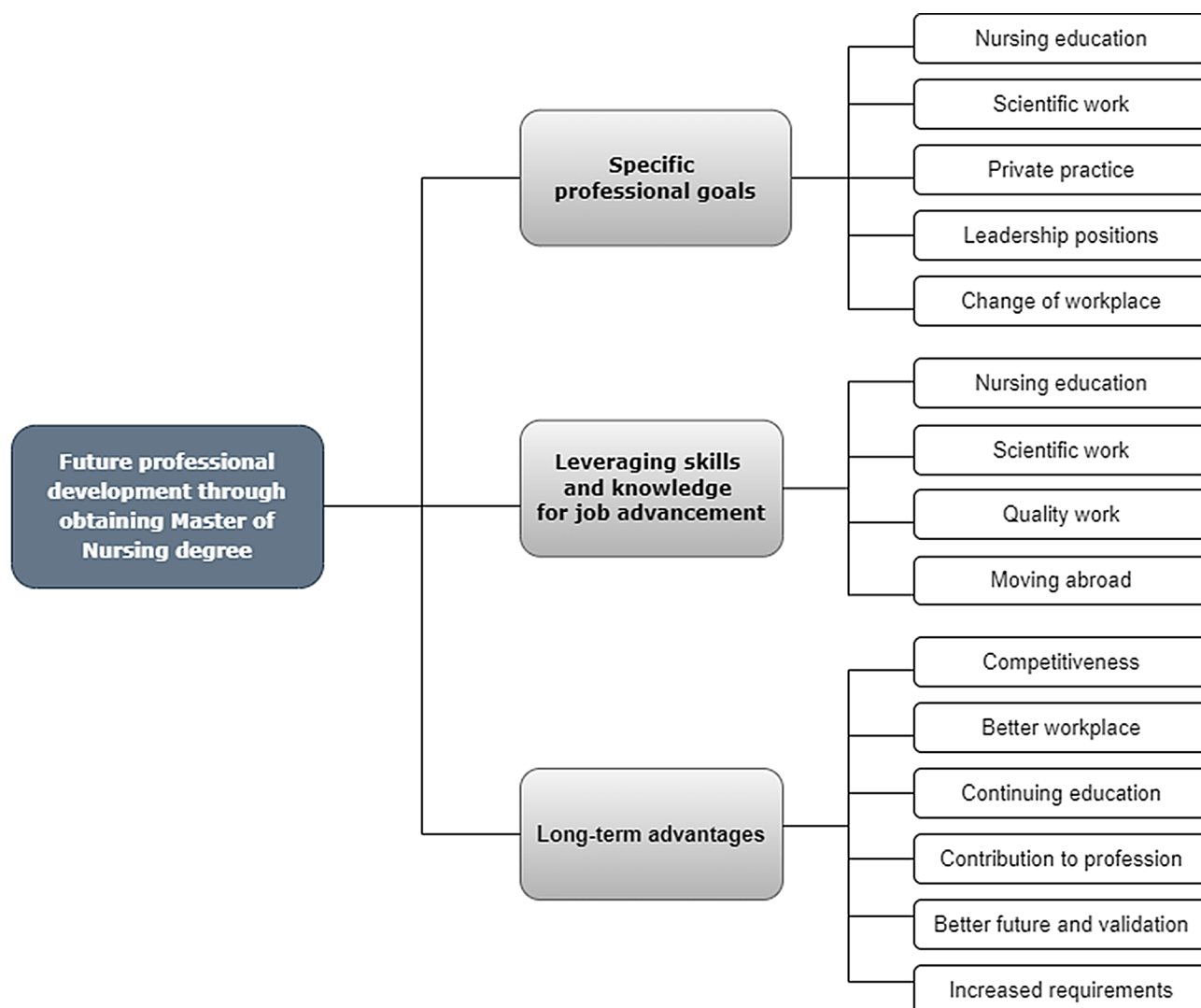


Fig. 2 Perceived future professional development through obtaining a master of nursing degree

Honestly, right now I don't have time or money, financial possibilities, or family possibilities to pursue postgraduate studies. I do not say never, but ... (P18)

I do not know, I think I would not be very good there. (P25)

Honestly, I'm not sure, in general, what, how I could continue, what could I even enrol after ... (P11)

Eleven participants indicated that they perceived the postgraduate doctoral program as an opportunity for personal accomplishment, as well as to pursue additional nursing education and scientific research, as well as teaching at a university in the future.

Of course, I want to improve myself as much as I can. I want to participate in the writing of scientific papers as well, I would like to maybe one day teach at a university. So that leads me toward a PhD program. (P1)

Among the 15 part-time students, seven were thinking about switching their current nursing jobs if they failed to receive a salary increase after graduation, whereas eight were content with their current job and would continue to work at the same job even without an increased salary after MN graduation.

I do not intend to work for more than a year, two, three, without having my level of education recognized. (P18)

No. I would never change my job; my job is my vocation. (P27)

Discussion

The students' motives to enrol in MN studies were a desire for personal growth and practical reasons, combined with optimism. Despite acknowledging the current challenges associated with the recognition of the MN degree in the labor market, both full-time and part-time student participants noted that MN studies may benefit them as valuable investments through self-development and the ability to contribute to their career development with various opportunities in the future. Nearly all the participants indicated optimism, expecting that MN degrees would be adequately recognized and remunerated in years to come.

A strong desire for personal development through MN studies was found among both full-time and part-time students. An association between higher educational levels in nurses and motivation to enhance their knowledge and skills was also found in other studies [6, 17].

According to the full-time students in our study, the benefits of free tuition, student life, and the ability to manage limited responsibilities due to their youth and not having children also motivated them to enrol in MN studies. In Croatia, tuition fees for all full-time undergraduate and graduate students who consistently meet their study requirements were completely funded by the state budget, along with health insurance, university dormitory, state scholarships, and other financial assistance [18]. Our study indicates that full-time students took full use of the subsidized education available to them, knowing that it would be difficult to do so later.

The high expense of education and lack of funding were already recognized as preventing postgraduate enrollment in nursing studies in Saudi Arabia, a study from 2023 [19]. Perceived participant barriers were also presented in a systematic review from 2016, highlighting that familial and parental obligations could be overwhelming when high education enrollment in the healthcare sector is considered, especially for female part-time students [20].

In addition to student benefits, several full-time students expressed a reluctance to enter the healthcare sector at the moment, claiming that this reluctance was one of the reasons for MN enrollment. One potential reason for this behaviour might stem from the implementation of the Bologna Declaration. This initiative eliminated one-year internships after bachelor's degree nursing programs were finished and integrated practical experience through a three-year program for undergraduate nurses [21]. It is exceedingly challenging to complete

the required 4600 h of curriculum in three years, placing nursing students in the most demanding position of the student population [22]. Thus, such an intense approach might be overwhelming for students and could influence their choice of future careers.

The consensus on the appropriateness of enrollment quotas for MN programmes varies. When full-time students claim that quotas are reasonable and that there are more MN graduates, financial rewards are achievable sooner. Part-time students noted that enrollment quotas were high, raising concerns about the potential negative impact on the credibility of MN degrees. They suggest that it may create the perception that becoming a Master of Nursing is now easily attainable for anyone. Both groups of participants were aware that an increasing number of individuals with MN degrees with no job opportunities aligned with MN academic credentials. However, this awareness did not influence students' strong motivation for enrollment in the MN study.

Nearly all the participants emphasized the importance of rewarding MN graduates for their dedication, effort, and financial commitment to their studies, comparing nurses with other professionals in the healthcare sector, namely, physicians. According to their perspective, the lack of wider recognition of MN degrees in the labor market negatively impacts the profession's reputation. Other studies noted that it is necessary to acknowledge nurses as equal healthcare professionals who should be supported in advancing their careers and accessing professional growth opportunities to create a satisfactory work environment [22].

By tracking students' future career aspirations after graduation from the MN program, alongside their educational aspiration to pursue a doctoral degree, the success of the MN program can be assessed. These data can help identify areas of improvement within the program and tailor resources to better support students in achieving their educational and professional aspirations. Some participants were considering changing jobs after finishing their MN studies if their current employer did not offer sufficient rewards. Nurses are more likely to stay when their work environment is positive [23], with career development opportunities being a key factor affecting their decision [22]. Considering that most Croatian MN nurses often lack opportunities for career advancement, their dissatisfaction with the work environment may result in job changes, exacerbating the existing nursing shortage in Europe [24]. Therefore, educational and healthcare institutions must contribute to wider MN degree recognition and provide ongoing support for professional growth to retain nursing staff.

In this study, participants often cited scientific work and involvement in nursing education as common reasons for enrolling in MN programs. In contrast, a study

from Spain showed that nursing students tend to associate the profession mainly with hospital care, placing much less emphasis on the importance of teaching and research in nursing [25]. One possible explanation for the recognition of involvement in nursing education could be the fact that MN has a favourable reputation in the educational sector in Croatia, with a recognized MN degree. A study from Jordan conducted in 2007 reported that nurses had difficulty recognizing their MN degrees and looking for job options in the education sector [6].

Although a study in Croatia revealed that more than 50% of nursing students thought that a doctoral degree was essential for the nursing profession [11], our study revealed that most MN students were not interested in pursuing further formal education at the doctoral level. The explanation could be that currently, there is no doctoral program available exclusively for nurses in Croatia. However, they have the option to enrol in doctoral programs organized by medical schools [26] or other university programs or study abroad. Research conducted in the USA revealed that the decision to pursue nursing doctoral degrees is equivalent to a level of interest in teaching and the perceived impact of nursing research on patient care [27]. Our participants indeed demonstrated an interest in those fields, which may explain why most of those presently not interested in a doctoral degree are keeping it as a potential option for the future.

To the best of our knowledge, this is the first study that explores students' reasons for enrolling in MN studies despite labor market shortages for MN nurses, with both groups of students from the majority of Croatia's MN programs (7/10) included in the research.

This study had several potential limitations. The study was conducted in Croatia, and thus its results may not be generalizable to MN students in other countries with different healthcare systems, educational structures, or cultural contexts. There is a possibility of participant selection bias; the students were self-selected, and our students are likely not representative of the entire targeted student population. Although 30 participants provide in-depth insights, the sample size may be too small to capture the full diversity of motivations and experiences of MN students in Croatia. The study does not follow students over time to see how motivations and perceived benefits evolve throughout the program or after graduation. Since interviews were conducted in Croatian and later translated, nuances in meaning may have been lost during translation. It is possible that participants may have provided socially desired responses to specific questions, although they were assured complete anonymity.

The topics identified in this study should be further explored in a representative national sample of MN students in Croatia. Future research could also look into

whether full-time students are indeed less likely to enter the healthcare sector after finishing their undergraduate degree. The career trajectories of MN graduates in Croatia remains an underexplored topic.

Study implications

The implications of the study can be grouped into several key areas, including educational, professional, policy, research, healthcare system and implications for students. Educational implications include ideas for curriculum development. Insights into students' motivations, such as personal and professional growth, can help institutions design curricula that align with these aspirations. This might include emphasizing leadership, research skills, and advanced clinical training. Based on the study findings, institutions can offer tailor support to students, such as mentorship programs or career counseling, to address the specific needs of full-time and part-time students, particularly around their career aspirations. The findings can also foster the promotion of research engagement. Given the interest in scientific work, nursing programs could integrate more opportunities for research involvement to meet students' expectations for professional development.

Professional implications of the study include career pathway design. By understanding students' optimism about career prospects, nursing organizations and policymakers can create clearer career advancement pathways for MN graduates, such as leadership roles or advanced clinical positions. Encouraging MN programs to focus on the non-financial rewards of nursing, such as personal fulfillment and contribution to society, can enhance the professional identity of nurses. Furthermore, the study findings are important for workforce retention. Addressing the motivations and needs of MN graduates can improve job satisfaction and reduce turnover in the nursing workforce.

Policy implications include advocacy for advanced nursing roles. The study highlights the value students place on MN degrees, which could support advocacy for increased recognition and utilization of advanced nursing roles in healthcare systems.

The study provides a foundation for further research on the long-term career outcomes of MN graduates, the impact of MN education on patient care quality, and comparisons between different nursing programs. Future research can investigate other motivational factors, such as financial incentives, or explore motivations across different countries to provide a broader perspective.

Healthcare system implications include improved patient care. As MN graduates are often better equipped to take on leadership and advanced clinical roles, supporting their motivations can ultimately lead to improved patient outcomes and more efficient healthcare systems.

Healthcare systems could better utilize MN graduates by aligning roles and responsibilities with their advanced education and skills.

Finally, the findings can help prospective MN students understand the potential benefits of advanced nursing education, including research opportunities and career progression, but also challenges related to the acknowledgement of the advanced degree. Highlighting both the opportunities and challenges of pursuing an MN degree can prepare students for the realities of the program and the healthcare environment. This clarity supports establishing reasonable expectations, thus reducing the probability of disappointment in the case that they are unable to promptly secure career advancements or a significant salary increase following their graduation.

Conclusion

Our findings offer insights into various factors that motivate nursing students to pursue MN education in Croatia, where the healthcare system has very few positions for nurses with MN degrees. The primary motivations identified are a strong aspiration for personal and professional development, practical considerations, and an optimistic view of future career opportunities. The findings highlight that involvement in scientific work and education is seen as a valuable benefit of obtaining an MN degree, offering significant potential for career and professional advancement. By understanding these motivations, educational and professional organizations can better support MN graduates who want to pursue their careers. Through facilitating career pathways that align with their aspirations and motives, along with acquired competencies, nurses can find much aspired to personal fulfilment, even if they are not financially compensated.

Supplementary Information

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Supplementary Material 1

Supplementary Material 2

Supplementary Material 3

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Author contributions

Study design: AV and LP designed the initial study protocol. MČi, IM, VM, and MČa contributed to the development. Data collection, analysis, and interpretation: AV did data collection, transcribing, and initial coding. KL checked all transcripts; MP checked the initial data. Writing of the manuscript and revising the manuscript for intellectual content: AV wrote the first draft of the manuscript, and LP revised it before sending it to the rest of the co-authors. All authors critically revised the draft of the manuscript, and all authors contributed to the final draft of the manuscript. Final approval of the manuscript: Approved by all authors before publishing.

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Data availability

Interview transcripts in the Croatian language are available from the corresponding author on request.

Declarations

Ethics approval and consent to participate

The study protocol was approved by the Ethics Committee of the Catholic University of Croatia (decision dated September 29, 2023; Classification number: 641-03/23 – 03/054; Registration number: 498-15-06-23-007). All participants were requested to declare their informed consent in an invitation e-mail. The participants did not receive any financial rewards in return for participating in this study. All methods were carried out in accordance with relevant guidelines and regulations, including the institutional ethics code. The study adhered to the Declaration of Helsinki.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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