

## ORIGINAL ARTICLE

# Association between triage nurses' job satisfaction and professional capability: Results of a mixed-method study

Urška Fekonja MSc, RN, PhD candidate<sup>1,2</sup>  |

Matej Strnad MD, PhD, Associate Professor<sup>1,3,4</sup>  |

Zvonka Fekonja CNA, MSc, RN, PhD candidate and Teaching Assistant<sup>1,2</sup> 

<sup>1</sup>Emergency Department, University Medical Centre Maribor, Maribor, Slovenia

<sup>2</sup>Faculty of Health Sciences, University of Maribor, Maribor, Slovenia

<sup>3</sup>Faculty of Medicine, University of Maribor, Maribor, Slovenia

<sup>4</sup>Prehospital Unit, Department for Emergency Medicine, Community Healthcare Center Maribor, Maribor, Slovenia

## Correspondence

Urška Fekonja, Emergency Department, University Clinical Centre Maribor, Ljubljanska ulica 5, 2000 Maribor, Slovenia.  
Email: [ufekonja@gmail.com](mailto:ufekonja@gmail.com)

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## Abstract

**Aim:** This study aims to examine factors related to the job satisfaction of triaging nurses and their professional capability in the clinical setting.

**Background:** Triage is a complex process that relies on making decisions in favour of the patient and his treatment. The professional capability of a triaging nurse is an important psychological construct of job satisfaction.

**Methods:** The study used a mixed-method methodology, with data collection based on an explanatory research design. The research instrument in the quantitative part was a survey questionnaire, and in the qualitative part, a semi-structured interview. The results were integrated using the 'Pillar Integration Process'.

**Results:** There are significant relationships between professional capability and job satisfaction. Six main topics were exposed: characteristics and traits, work organization, safety is the key, burdening circumstances, capability and self-evaluation.

**Conclusion:** Professional capability is associated with job satisfaction. The necessary managerial changes should be made to achieve job satisfaction and develop professional competence while focusing on already trained and competent triage nurses, as satisfied triage nurses will stay longer in the institution.

**Implications for Nursing Management:** The manager's job is to be aware of the level of job satisfaction, take care to develop their employee's professional capability and take action in case of disrupted balance.

## KEYWORDS

emergency, job satisfaction, joint display, nurse, professional capability, triage

## 1 | BACKGROUND

Nurses perform various clinical tasks, such as assessing and performing nursing activities, providing daily care to patients, helping patients adjust to their illnesses and supporting the patient and family members (Akerjordet et al., 2018). Providing quality and safe nursing care

is an important part of nurses' job performance, indicating their effectiveness in performing their duties and responsibilities in patient nursing care (Chen et al., 2019). Workplace health promotion is important in ensuring a healthy and efficient workforce in nursing care (Williams et al., 2018). Furthermore, Furunes et al. (2018) state that due to performing these various clinical tasks, nursing leadership has an

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important role in developing and implementing strategies for promoting health in the workplace. The quality of nursing leadership is essential in creating a supportive and healthy work environment to ensure productivity, professional commitment, job satisfaction and professional capability (Akerjordet et al., 2018). For that reason, a nurse is expected to be satisfied with their job. Nurses today are looking for a job with high job satisfaction and a culture that supports them in professional capability development (Kowitlawkul et al., 2019). Job satisfaction among triage nurses (TNs) is closely related to working conditions, organizational environment, workplace stress, role ambiguity and conflict and organizational and professional capability (Barac et al., 2018; Lu et al., 2012). Professional capability is essential in nursing to ensure patient safety, satisfaction, and quality care (Torabizadeh et al., 2019), which can only be achieved with nurses who are sufficiently professionally trained (Torabizadeh et al., 2019), who conveys a sufficient degree of confidence and assurance in their knowledge in the delivery of specific specialized interventions (Nagarajan & Prabhu, 2015). Nurses' professional capability has emerged as an important psychological construct in job satisfaction (Barac et al., 2018). The increase in professional capability is particularly important in intensive care units and emergency departments, where nurses care for life-threatened patients (Bijani et al., 2018; Torabizadeh et al., 2019).

Triage is a professionally demanding and responsible work requiring a wide range of professional capabilities, good judgement, work experience and critical decisions (Reay et al., 2020; Sutriningsih et al., 2020). The main purpose of triaging patients is to optimize the waiting time concerning the seriousness of the patient's health condition, thus enabling timely health care and reducing the risk of worse health prognosis due to excessive waiting for medical treatment (Alumran et al., 2020; Bijani et al., 2018). The triage process is directly influenced by the level of capability of TN, namely, their ability to accurately assess the patient's health condition, which means that they can provide the patient with appropriate quality health care or, on the contrary, put the patient's safety or life at risk (Hitchcock et al., 2014).

Grossmann et al. (2012) exposes prolonged hospitalization, overcrowding in emergency departments, patient dissatisfaction, and inferior quality of care as a consequence of less professionally trained health professionals placed in the triage area. On the other hand, Bijani et al. (2018) also adds permanent harm and death of patients due to inappropriate triage categorization. Forsman et al. (2012) further emphasize the importance of appropriately trained TN, as, according to them, a TN should be skilled, intelligent and empathetic with at least 1 year of experience working in the emergency setting and have undergone professional training to perform triage (Ebrahimi et al., 2016; Forsman et al., 2012). A study conducted in Slovenia showed that nurses believe that at least 2–10 years of experience is necessary to effectively perform triage (Cotič Anderle & Bračko, 2019). A similar conclusion has also been reached in international research, where at least 3 years of work in emergency care are needed for safe and successful triage work (Duko et al., 2019; Sutriningsih et al., 2020).

Job satisfaction among TNs and their professional capability is becoming an important topic that should be investigated due to

constantly changing factors and the emerging shortage of qualified and experienced TN. Therefore, the study investigates the factors related to job satisfaction and professional capability of TN in the clinical setting.

## 2 | METHODS

### 2.1 | Study design

An explanatory sequential mixed-method design was used in the study. Such methods are used for an in-depth examination of the study problem, thus gaining deeper substantiated results (Creswell & Clark, 2017).

### 2.2 | Study sample and setting

#### 2.2.1 | Quantitative phase

In the quantitative part of the study conducted among TNs, we used a cross-sectional descriptive survey. Convenience sampling was used, and the G\*Power 3.1. software was used to calculate the sample size. The required sample size for this study was  $n = 95$  (effect size = .25; power = .95; alpha = .05). To ensure a sufficient sample size for possible missing data or dropouts, 110 questionnaires were distributed to emergency departments. We received 97 completed questionnaires, representing a sample realization of 88.1%. The inclusion criteria for the selection of participants in the study were completion of an undergraduate nursing programme, employment in an emergency department, completion of training and licencing in the use of the Manchester Triage System algorithms and active involvement in triage activities in the emergency department at least for 1 year.

#### 2.2.2 | Qualitative phase

The second phase of the study was as well undertaken in one of the largest hospitals in Slovenia. Alongside this, we used a method of semi-structured in-depth interviews to describe experiences, events and occurrences. A purposive sampling (Polit & Beck, 2012, 2022) was used, which meant that we targeted TN working in the emergency department. Overall, 10 TNs were asked to participate in interviews, and the total number of interviewees was nine (response rate = 90%). The inclusion criteria for the sample were the same for the quantitative phase of the study.

### 2.3 | Data collection and measuring instruments

#### 2.3.1 | Quantitative data collection

The quantitative part of the study was conducted in six selected emergency departments across Slovenia from June to August 2021. As the principal measurement instrument for determining job

satisfaction and self-evaluation of the professional capability of TN in Slovenia, we used a questionnaire summarized from two internationally validated and well-established questionnaires on job satisfaction and professional capability.

Within the TN's job satisfaction, we used the Nurses' Job Satisfaction Scale (NJSS) questionnaire (Lin et al., 2007), designed to assess job satisfaction in the nursing workplace and is divided into five domains of satisfaction. The internal reliability Cronbach's  $\alpha$  coefficient for the NJSS was  $\alpha = .948$  for 27 variables (Table 1).

The TN's professional capability questionnaire (TNPCQ) (Bijani et al., 2020) comprises 35 statements, which in their entirety constitute the spectrum of skills and knowledge of an emergency care nurse and is designed to evaluate the psychometric characteristics of the TN and is divided into three domains of TN's professional capability. The Cronbach's  $\alpha$  reliability coefficient for the full questionnaire was  $\alpha = .961$  (Table 1).

### 2.3.2 | Qualitative data collection

Within the qualitative part of the research, a semi-structured interview was used to collect data. The questions were formulated based on a literature review and the quantitative part of the study. Interview data collection ended after the ninth interview was conducted when we started to reach data saturation as the key data became repetitive among participants, and no new topics emerged to illuminate the phenomenon (Polit & Beck, 2012, 2022). All the interviews were audio-recorded, literally transcribed and analysed without returning to participants for comment and/or corrections.

As part of the qualitative research, purposively selected TNs were invited to participate in an interview. At the beginning of qualitative

research, the interviewees were informed about the aims and objectives of the research, including their assured anonymity. At the same time, the interviewees signed a document with an agreement to participate in the research (interview), with which they gave their written consent to participate. They were given a set of questions for review. We used an interview guide with 10 main and five supporting questions. After signing the informed consent, each interviewee was assigned an 'interviewee code', which concealed their identity.

The qualitative part of the study was conducted in August 2021, after completing the first phase of quantitative data gathering in one of the largest emergency departments in Slovenia.

## 2.4 | Data management and analysis

Qualitative and quantitative data have been analysed separately and compared in the integration phase.

### 2.4.1 | Quantitative phase

Data were processed using IBM SPSS 23.0. Descriptive statistics were used to describe the job satisfaction and professional capability scores within each domain and sociodemographic characteristics by frequency, mean and standard deviation. The non-parametric Spearman's correlation coefficient was used to test the correlation between the variables of the professional capability of TN and job satisfaction. Multiple linear regression was used to upgrade the correlation of the variables. The dependent variable used was the overall satisfaction of TN, and the independent variables represented sex, age, years of experience in triage and the domains of nurses' professional

**TABLE 1** Instruments for measuring job satisfaction of TN

Questionnaire	Author, year	Study locus	Score	Domains and range of questions	Reliability of Cronbach's $\alpha$
Nurses' Job Satisfaction Scale (NJSS)	Lin et al., 2007	Assessing job satisfaction in healthcare	Five-level Likert scale	Domain 1: Working environment (1–3)	.808
				Domain 2: Interpersonal relations (4–7)	.768
				Domain 3: Feedback regarding the conduction of health care (8–10)	.617
				Domain 4: Benefits and promotions (11–15)	.916
				Domain 5: Workload (16–21)	.878
				Domain 6: Organizational factors (22–27)	.752
The triage nurses' professional capability questionnaire (ENTER)	Bijani et al., 2020	Evaluation of psychometric characteristics of a triage nurse	Five-level Likert scale	Domain 1: Competences (1–20)	.953
				Domain 2: Psychological empowerment (21–26)	.904
				Domain 3: Commitment (27–35)	.819

capability, that is, commitment, competence and psychological empowerment.

### 2.4.2 | Qualitative phase

Data were analysed using the inductive thematic analysis of the results by Braun and Clarke (2021), which was carried out in the following six steps: (1) familiarization with the data, (2) generation of initial codes, (3) search for topics, (4) review of topics, (5) identification and naming of topics and (6) production of the report. The transcribed text was coded for meaning, and semantic codes were grouped into subtopics, which were later developed into main topics. Two independent researchers carried out the coding, subcoding and development of the main topics, with further refinement of all topics by a third author at the end. The authors discussed any discrepancies until they reached a consensus.

### 2.4.3 | Integration

To integrate qualitative and quantitative data in our study, we used the 'Pillar Integration Process' (PIP) (Johnson et al., 2019), which corresponds to a transparent four-step data integration process: (1) phase of listing the most relevant qualitative and quantitative data in the form of tables/graphs/matrices, (2) phase of corresponding the data on the opposite side of the tables/graphs/matrices, (3) a phase of checking matching data to ensure appropriate categorization and refinement of data lists and codes and (4) a pillar-building phase to record the conclusions drawn from the mixed study data analysis. We used an integration table (Table 6) to illustrate the four-step data integration process.

### 2.4.4 | Rigour and trustworthiness

In the qualitative part of the study, we considered the criteria for assessing quality, namely credibility, consistency, transferability and confirmability (Korstjens & Moser, 2018; Lincoln & Guba, 1985; Tracy, 2010). Credibility was achieved by transcribing the interviews verbatim without changing the interviewees' terminology. Consistency is an additional criterion for achieving reliability; it requires systematic procedures in performing data analysis. Establishing the consistency of qualitative data must use a systematic process for organizing and analysing data (e.g., coding and identifying common themes). The data analysis process can also be consistent by establishing inter-coder or inter-rater reliability of the analysis. The last criterion, that is, transferability, is related to the external validity and the possibility of transferring the results beyond the confines of our research setting and sample (Korstjens & Moser, 2017; Lincoln & Guba, 1985; Tracy, 2010). In other words, this means that the study results can benefit those who were not actively included.

## 2.5 | Ethical considerations

Approval to undertake the study was obtained through the Ethical Committee University of Maribor, Faculty of Health Sciences (No. 04/8R-2021). Simultaneously, informed consent was obtained from selected emergency departments across Slovenia and participated interviewees where the survey took place.

## 3 | RESULTS

### 3.1 | Quantitative results

The study participants were 70 women (72.2%) and 27 men (27.8%) working as TN. Most respondents had, on average, 0–5 years of work experience in emergency care (38.1%), with an average of 1–3 years in triage (51.5%). TNs estimate that they spend an average of 27.66 h per week in triage (Table 2).

**TABLE 2** Demographic data of respondents

	Frequency (N = 97)	Percentage (%)		
Sex				
Male	27	27.8		
Female	70	72.2		
Final education				
Associate Degree in Nursing (ADN)	4	4.1		
Bachelor's Degree in Nursing (BSN)	72	74.2		
Master's Degree in Nursing (MSN)	19	19.6		
Doctor of Nursing Practice (DNP)	2	2.1		
Work experience in emergency care				
0–5 years	37	38.1		
5–10 years	15	15.5		
10–15 years	9	9.3		
15–20 years	10	10.3		
Over 20 years	26	26.8		
Work experience in triage care				
1–3 years	50	51.5		
4–6 years	25	25.8		
7–9 years	8	8.2		
10–12 years	14	14.4		
	$\bar{x}$ (SD)	Min	Max	
Age	40 (10.06)	26	58	
Total years of work experience	17.21 (11.297)	2	39	
Mean number of hours at triage per week	27.66 (11.006)	1	50	

Abbreviation: SD, standard deviation.

We found that TNs assess their work interesting ( $n = 93$ ; 95.9%) and varied ( $n = 97$ ; 100%). Most respondents ( $n = 71$ ; 73.2%) consider the working environment pleasant, while a slightly smaller proportion ( $n = 26$ ; 26.8%) is dissatisfied with the working environment.

TN achieved the highest job satisfaction score with organizational factors ( $\bar{x} = 20.74$ ;  $SD = 3.50$ ), especially in professional relationships with their supervisor and patient handover by paramedics. They are least satisfied with their work environment ( $\bar{x} = 9.98$ ;  $SD = 2.12$ ), that is, workload, safety environment and full-time working conditions.

In self-evaluation of TN's professional capability, the highest mean scores within the competence domain were achieved, specifically in having knowledge ( $\bar{x} = 4.36$ ;  $SD = 4.36$ ) and being skilled in cardiopulmonary resuscitation ( $\bar{x} = 4.46$ ;  $SD = 0.646$ ) and being knowledgeable of pathophysiology ( $\bar{x} = 4.48$ ;  $SD = 0.600$ ). On the other hand, TN considers themselves less professionally capable in terms of making a clinical judgement based on clinical guidelines, research and literature ( $\bar{x} = 4.08$ ;  $SD = 0.739$ ) and knowledge of the use and being knowledgeable about the usage and side effects of medicines in the emergency case ( $\bar{x} = 4.10$ ;  $SD = 0.952$ ).

We found a moderate positive correlation between the domains of TN's professional capability (TNPCQ) and the domains of job satisfaction scores (NJSS), namely, interpersonal relations—commitment ( $r = .373^{**}$ ;  $p < .01$ ) and workload—psychological empowerment ( $r = .369^{**}$ ;  $p < .01$ ). The highest correlation is between the two domains within professional capability, namely, competencies and commitment ( $r = .813^{**}$ ;  $p < .01$ ) (Table 3).

There is a medium linear correlation between the selected TN satisfaction variables and the professional capability domains (competencies, psychological empowerment and commitment) ( $R = .660$ ). The coefficient of determination shows that 43.6% of the total variance in the professional capability domains of TN can be explained by the variability of the independent variable satisfaction of TN (Table 4). The quality of the regression model was tested with the  $F$  test with  $p < .001$ , and this indicated that the quality of our model is good.

Table 5 shows that the satisfaction of TN is inversely proportional to the professional capability domain competences (TNPCQ\_dom1), with sex and age. On the other hand, we established direct proportionality between the satisfaction of TN with the professional capability domains of psychological empowerment (TNPCQ\_dom2) and commitment (TNPCQ\_dom3) and triage years. The explanatory variable commitment, triage years and psychological empowerment statistically significantly affect the satisfaction of TN ( $p < .001$ ;  $\beta \neq 0$ ).

### 3.2 | Qualitative results

The participants consisted of nine TNs (three males and six females) with mean interviewees age of 31 years ( $SD = 11.09$ ). All the participating interviewees were registered nurses, except one interviewee who held a Master of Nursing. The mean total length of work experience was 8 years, of which 6 years were in emergency nursing and 4 years in triage nursing. Three main topics were highlighted in the analysis of the interviews in the qualitative part of the research. The

TABLE 3 Spearman's test for bivariate correlation between NJSS domains and professional capability

	NJSS_total	NJSS_dom1	NJSS_dom2	NJSS_dom3	NJSS_dom4	NJSS_dom5	NJSS_dom6	TNPCQ_dom1	TNPCQ_dom2	TNPCQ_dom3	TNPCQ_total
NJSS_total	1										
NJSS_dom1	.792 <sup>**</sup>	1									
NJSS_dom2	.753 <sup>**</sup>	.586 <sup>**</sup>	1								
NJSS_dom3	.764 <sup>**</sup>	.543 <sup>**</sup>	.669 <sup>**</sup>	1							
NJSS_dom4	.906 <sup>**</sup>	.703 <sup>**</sup>	.641 <sup>**</sup>	.677 <sup>**</sup>	1						
NJSS_dom5	.877 <sup>**</sup>	.657 <sup>**</sup>	.660 <sup>**</sup>	.528 <sup>**</sup>	.766 <sup>**</sup>	1					
NJSS_dom6	.792 <sup>**</sup>	.718 <sup>**</sup>	.453 <sup>**</sup>	.596 <sup>**</sup>	.652 <sup>**</sup>	.645 <sup>**</sup>	1				
TNPCQ_dom1	.088	.019	.190	.120	.240	.124	.234 <sup>*</sup>	1			
TNPCQ_dom2	.306 <sup>**</sup>	.213 <sup>**</sup>	.325 <sup>**</sup>	.229 <sup>*</sup>	.204 <sup>*</sup>	.369 <sup>**</sup>	.290 <sup>**</sup>	.636 <sup>**</sup>	1		
TNPCQ_dom3	.284 <sup>**</sup>	.216 <sup>**</sup>	.373 <sup>**</sup>	.247 <sup>**</sup>	.206 <sup>*</sup>	.307 <sup>**</sup>	.354 <sup>**</sup>	.813 <sup>**</sup>	.700 <sup>**</sup>	1	
TNPCQ_total	.211	.097	.267 <sup>*</sup>	.209 <sup>*</sup>	.136	.259 <sup>*</sup>	.315 <sup>*</sup>	.940 <sup>**</sup>	.781 <sup>**</sup>	.913 <sup>**</sup>	1

Abbreviations: NJSS, Nurses' Job Satisfaction Scale; NJSS\_dom1, work environment; NJSS\_dom2, interpersonal relations; NJSS\_dom3, feedback regarding the conduct of nursing; NJSS\_dom4, benefits and promotions; NJSS\_dom5, workload; NJSS\_dom6, organizational factors;  $p$  value, two-tailed statistical significance; TNPCQ, professional capability of TNs; TNPCQ\_dom1, competences; TNPCQ\_dom2, psychological empowerment; TNPCQ\_dom3, commitment.

\* $p < .05$ .

\*\* $p < .01$ .

**TABLE 4** Correlation and determination coefficients and *F*-test result

Model	<i>R</i>	<i>R</i> <sup>2</sup>	Corrected <i>R</i> <sup>2*</sup>	$\sigma$	<i>F</i>	<i>p</i> value
1	.660	.436	.398	12.501	11.340	<.001

Abbreviations: independent variables (years of triage, gender, age, competences, psychological empowerment and commitment); *F*, quality of the regression model; *p* value, two-tailed statistical significance; *R*, correlation coefficient; *R*<sup>2</sup>, determination coefficient; *R*<sup>2\*</sup>, corrected determination coefficient;  $\sigma$ , standard error of estimate of the independent variable.

**TABLE 5** Regression coefficient and *t* test

Model		Nonstandardized coefficient		Regression coefficient		<i>t</i>	<i>p</i> value
		<i>B</i>	$\sigma$	$\beta$			
1	Constant NJSS_total	48.158	14.192	/		3.393	.001
	TNPCQ_dom1	−0.808	0.242	−.489		−3.340	.001
	TNPCQ_dom2	0.720	0.596	.152		1.208	.230
	TNPCQ_dom3	2.209	0.586	.558		3.771	<.001
	Sex	−5.018	3.069	−.138		−1.635	.106
	Age	−0.975	0.159	−.047		−0.471	.639
	Years of triage	18.322	3.880	.482		4.722	<.001

Abbreviations: *B*, estimate of parameters; NJSS\_total, independent variable satisfaction of TNs; *p* value, two-tailed statistical characteristic; *t*, test of individual characteristic; TNPCQ\_dom1, competences; TNPCQ\_dom2, psychological empowerment; TNPCQ\_dom3, commitment;  $\sigma$ , standard error or estimate of the independent variable.

exposed main topics were (1) ‘clinical activity’, (2) ‘workplace’ and (3) ‘professional capability of TN’.

### 3.3 | Clinical activity

TNs exposed problems they have to face daily during their work in triage, such as a high level of responsibility, doctors’ disagreement with triage categories, physical and psychological overload due to the high frequency of patients coming to the emergency department. In addition, TNs are often the target of rudeness and physical-psychological violence from patients. These factors can make TN tired and overwhelmed, leading to a lack of concentration at work:

TN5: ‘The most common problems in triage are the waiting time of an already triaged patient, stress due to the huge income of patients, [...], work overload’.

TN4: ‘If, for any reason, the waiting time for treatment is prolonged, [...] patients become reluctant, nervous, rude, violent. Since they can’t go directly to the clinics, they come back to us—TN and release their anger here’.

### 3.4 | Workplace

The interviewed TN described the work in triage as varied, dynamic and interesting but at the same time quite stressful. According to most, work in triage demands a lot of theoretical knowledge in various fields of emergency medicine:

TN1: ‘I like doing my work in triage, it brought me a lot of theoretical knowledge. [...] in triage I don’t feel any fear, but only greater confidence and determination regarding my knowledge’.

The interviewees highlighted the need to modify the existing work process, which could be improved by introducing certain innovations: the introduction of a permanent presence of a doctor in triage, better organized and adapted triage rooms, the renovation of the computer programme, regular training and clear instructions in the organizational unit:

TN5: ‘... more time for triage, better-organised premises—faster accessibility with the consultation of triage nurses and doctors’.

### 3.5 | The professional capability of TN

A nurse’s interpersonal skills, whether innate or acquired, contribute to the skilful performance of triage. Interpersonal skills cover various aspects in which communication and cooperation are crucial. The interviewees also highlighted the importance of sufficient professional capability, experiences, teamwork, communication, ability to negotiate and organizational skills for the successful work of TN:

TN7: ‘Good professional development and training mean greater professionalism, quality, and safety in one’s work’.

TN2: ‘The quality of triage is influenced by the professional qualification and experience of the nurse, and the time it takes to really focus on the patient and understand him’.

In the conversation, the interviewees emphasized the importance of TN’s qualities such as determination, responsibility, criticality, dedication and interest in work:

TABLE 6 Results of pillar integration process

Results of QUAN study		Data integration pillar		Findings of the QUAL study
1	2	3	2	1
The results refer to the properties of triage nurse and their performance in the profession.	TNs have with a high mean of responses confirmed the extreme importance of the nurse's practice ( $\bar{x} = 4.60/5$ ; $SD = 0.571$ ). They perform their work conscientiously and precisely ( $\bar{x} = 4.45/5$ ; $SD = 0.613$ ), respect the dignity of the patient and his/her relatives ( $\bar{x} = 4.49/5$ ; $SD = 0.580$ ), cooperate with the rest of the team in providing appropriate health care ( $\bar{x} = 4.49/5$ ; $SD = 0.580$ ) and respect and accept the opinions of the other members of the team ( $\bar{x} = 4.48/5$ ; $SD = 0.614$ ).	Characteristics and traits	Individual characteristics	'The triage nurse must have the skills of observation and recognition, patience, [...], adaptability [...]' (A1 <sub>3</sub> ) 'She must be a good listener and observer, have a sense of intuition and rely on it. She must be able to think critically'. (A1 <sub>6</sub> ) '[...] a well-developed ability to communicate and be oriented in the moment'. (A1 <sub>5</sub> ) 'She must have very good communication skills, communication with the patient, communication with the relatives, communication with the doctor. She must be a good organiser, get all the patients in the right place'. (A1 <sub>6</sub> ) '[...] and be able to react quickly in emergency situations'. (A1 <sub>3</sub> ) '[...] ability to make quick judgements, asking focused questions'. (A1 <sub>5</sub> )
The results refer to the satisfaction and organization of triage work.	Referring to the study data, TNs with longer seniority in triage are more satisfied with the redesign of the work process and organization ( $U = 268,000$ ; $p \leq .001^*$ ), with the teamwork ( $U = 265,000$ ; $p \leq .001^*$ ), with the organization of the rotation of work sites ( $U = 172,000$ ; $p \leq .001^*$ ) and with the work schedule in triage ( $U = 134,000$ ; $p \leq .001^*$ ). The mean score for satisfaction with the working climate in the ward was $\bar{x} = 3.76/5$ ; $SD = 0.839$ . The TNs have assessed the domain 'working environment' with a mean of $\bar{x} = 9.98/13$ ; $SD = 2.12$ . According to the TNs, 73.2% of them work in a pleasant working environment, while the remaining 26.8% deny a pleasant working environment.	Work organization	Organizational factors	'There, one of the triage staff should be a doctor. [...] to reorganise the computer programme itself [...]' (A1 <sub>4</sub> ) '[...] clear instructions in the organisational unit itself'. (A1 <sub>6</sub> ) '[...] Strict routing of non-urgent patients to the personal doctor of choice'. (A1 <sub>7</sub> ) 'I think we are quite a good team in the collective, [...]. As a whole, I think we work very well together. I think it's essential that we work together'. (A1 <sub>6</sub> ) '[...] triage becomes a very unpleasant and uncomfortable working environment'. (A1 <sub>4</sub> ) '[...] better arranged premises—quicker accessibility of consultation with doctors'. (A1 <sub>5</sub> )

(Continues)

TABLE 6 (Continued)

Results of QUAN study	Data integration pillar	Findings of the QUAL study
1 The results refer to the respondents' satisfaction with the provision of safety in the triage process.	3 Safety is key	1 'With disagreements between certain doctors on the level of urgency (triage colour) and too many patients': (A1 <sub>2</sub> ) 'If, for whatever reason, the waiting time for treatment is prolonged, [...] the patients become irritable, nervous, rude, violent': (A1 <sub>4</sub> ) 'Poor safety organisation for both triage nurses and patients': (A1 <sub>5</sub> ) '[...] regarding threats, we call the security service and write adverse events. All this affects the quality of the triage process': (A1 <sub>8</sub> )
2 The lowest level of satisfaction is highlighted within 'safety assured' ( $\bar{x} = 2.88/5$ ; $SD = 0.992$ ). Differences in satisfaction with the method of patient handover from the field by ambulance teams were found, specifically TNs with less than 3 years of experience have higher satisfaction rating with the field handover of the patient compared with the more senior colleagues ( $U = 763.000$ ; $p > .005$ ).	2 Violence against employees	
3 TNs most frequently cited high patient flow or relation to triage job responsibilities ( $N = 20$ ), stress ( $N = 18$ ) and leaving triage and handing patients over to emergency centre work sites ( $N = 15$ ) as the most common disadvantages of working in triage. Statistically significant differences were found for TNs with more than 3 years of experience, who felt more stressed in triage compared with younger TNs ( $U = 379.00$ , $p \leq .001^*$ ).	3 Burdening circumstances	2 Organization  Safety of patient handover
4 Higher self-reported professional capability was achieved by TNs with more than 3 years of experience, and the Mann-Whitney test showed statistically significant differences in satisfaction within the domain 'psychological empowerment' ( $U = 570.00$ ; $p < .05$ ). According to the respondents, the TNs should have adequate professional capability ( $\bar{x} = 4.68/5$ ; $SD = 0.550$ ), have completed a triage course ( $\bar{x} = 5.42/6$ ; $SD = 0.840$ ) and have a sufficient range of experience ( $\bar{x} = 5.71$ ; $SD = 0.539$ ).	3 Capability	2 Stress  Overwork  Organizational deficiencies
5 The data refer to the capability of TNs.	3 Definition of professional capability of TNs:	2 'I dislike triage work since it is stressful for me': (A1 <sub>2</sub> ) 'Overload with work itself or demanding patients [...]': (A1 <sub>4</sub> ) '[...] stress due to huge influx of patients, work overload': (A1 <sub>5</sub> ) 'To do administration work for which I am not sufficiently qualified. This is a major problem in triage': (A1 <sub>7</sub> ) 'Not to mention the fact that we record ECG of everyone who has chest pain, which is not the job of the TN at all': (A1 <sub>4</sub> ) 'Good professional development and capability means greater professionalism, quality, and safety in their work': (A1 <sub>4</sub> ) '[...] to be proficient in all working areas of the emergency centre [...]': (A1 <sub>5</sub> ) 'Professional capability, in my opinion, means work experience and having completed a triage course': (A1 <sub>9</sub> )

(Continues)



TABLE 6 (Continued)

Results of QUAN study	Data integration pillar			Findings of the QUAL study
1	2	3	2	1
The data represent the strengths and satisfaction of triage nurses in performing triage work.	<p>TNs consider their work interesting (N = 93, 95.5%) and varied (N = 97, 100%). TNs reported as the advantages of working in triage that the work was varied, flexible and interesting (N = 28), that they gained additional theoretical knowledge (N = 26), that they gained experience (N = 21) and that they had less physical work (N = 20). The majority of TNs feel confident in making triage decisions (<math>\bar{x} = 4.99/6</math>; <math>SD = 0.757</math>) and also estimate to have a sufficient level of autonomy (<math>\bar{x} = 4.73/6</math>; <math>SD = 1.005</math>). TNs with more than 3 years of triage experience enjoy triaging patients more compared with younger colleagues (U = 485.00; <math>p = .002</math>) and would also like to be called to triage more often (U = 785.00; <math>p = .003</math>).</p>	Self-evaluation	Triage work	<p>'I do not like working in triage. I much prefer working in the observation room'. (A1<sub>6</sub>)                      'I like working in triage [...]. Working in triage has given me a lot of theoretical knowledge [...]'. (A1<sub>1</sub>)                      'Yes, this work is interesting and varied, you learn a lot, you get to know a lot and it's always dynamic'. (A1<sub>8</sub>)                      '[...] I do not feel any fear in triage, just more confidence and determination regarding my knowledge'. (A1<sub>1</sub>)                      '[...] a confident triage nurse, trusting in her knowledge, independent in triage, flexible, ethical, communicative and organised'. (A1<sub>5</sub>)                      'I notice in myself that toward the end of the working day I am already finding it difficult to listen and formulate meaningful sentences in triage'. (A1<sub>7</sub>)</p>

\* $p \leq .05$ .

TN8: 'The triage nurse must have the skills of observation and recognition, patience, the ability to adapt, [...] be critical of any problem that affects patients'.

TN9: 'Professional training should begin with at least five years of work in an emergency department, anaesthesia, and intensive care units. TN should have completed some professional courses (such as Advanced Life Support, Advanced Trauma Life Support, etc.) and communication skills. TN should be able to handle all the work areas of the emergency department'.

Clinical capability to work safely in triage requires the nurse to know emergency conditions and interventions, professional theoretical knowledge, years of experience working with life-threatening patients and completed training in triage. The TN should be familiar with the organization of all the workplaces in the emergency department.

### 3.6 | Integration

Using the pillar integration process, we identified six main pillars of integration of TN satisfaction in relation to professional capability. These are (1) characteristics and traits, (2) work organization, (3) safety is key, (4) burdening circumstances, (5) capability and (6) self-evaluation. The process of integrating the qualitative and quantitative parts of the study is shown in Table 6.

#### 3.6.1 | Pillar 1 of integration: Characteristics and traits

TN needs to possess expected characteristics and traits that focus on individual and interpersonal characteristics such as conscientious and precise performance, respect for the dignity of the patient and his/her relatives and cooperation with the rest of the team in providing appropriate health care. In addition, the TN repeatedly highlighted the attribute of inner feeling and unconscious perception, that is, intuition, which can often help them identify a potential problem or predict a potential deterioration in a patient's condition.

#### 3.6.2 | Pillar 2 of integration: Work organization

TN states that one of the main factors affecting job satisfaction is a pleasant working environment, satisfying relationships and successful teamwork. TNs are satisfied with the collaboration and the relationship with their superiors and therefore rate the working environment as friendly. Furthermore, TN expressed a need for some improvements in the organization system, such as more TNs, clearer work instructions and competence to refer non-urgent patients to the personal physician, more time for triage, reorganization of the computer programme and a permanent physical presence of the physician for consultations.

#### 3.6.3 | Pillar 3 of integration: Safety is key

TN highlighted the problem of ensuring safety for themselves and caring for patients. TNs stated that they are often victims of verbal, psychological and physical violence inflicted by patients or their companions. Due to the poor responsiveness and effectiveness of security service, TN feels endangered and concerned.

In addition, TN mentioned the problem of superficial handed information about the patient's condition over the phone and later at the triage desk by paramedics. Satisfaction with how paramedics announce patients varies among TNs depending on years of working experience in triage. The results show that TNs with more than 3 years of triage experience are less satisfied with how paramedics handover patients compared with their younger colleagues.

#### 3.6.4 | Pillar 4 of integration: Burdening circumstances

It was found that TNs are reluctant to do triage work because they feel overloaded, under great mental and physical pressure and forced to carry out administrative work and register patients. Moreover, TN listed debilitating physical factors affecting their concentration in the triage workplace, such as high patient flow, leaving triage and handover of patients to physicians in different workplaces in the emergency department. The physical and psychological overload of TN further exposes them to stress and reduces their interest in working in triage. TNs stated that they are reluctant to do triage and do not want to do it more often, as they feel overwhelmed when doing the triage work. Younger TNs with less than 3 years of experience feel more stressed while working in triage.

#### 3.6.5 | Pillar 5 of integration: Capability

The results show that the professional capability of a TN requires a completed triage course, work experience, a wide range of knowledge, communication skills, intuition and mastery of work in all workplaces of the emergency department. Nevertheless, TN agrees that triage requires a wide range of expertise, knowledge, skills and expertise that can only be achieved through work experience. Our study confirmed that work experience is an inevitable part of quality, safe and trustworthy triage.

#### 3.6.6 | Pillar 6 of integration: Self-evaluation

The final theme or pillar was 'self-evaluation'. TNs find their work interesting, varied and flexible. Most TN feels independent, confident in their knowledge and confident in their decision-making with a sufficient level of autonomy. Despite the strenuous, demanding and responsible nature of the work, as pointed out by the TN, the majority

of them still affirm they are proud to be a nurse and want to stay in their profession.

## 4 | DISCUSSION

We aimed to investigate the factors related to job satisfaction and professional capability of TN in the clinical setting. Based on the process of integration in our study, we identified the main factors that are related to job satisfaction and professional capability: (1) characteristics and traits, (2) work organization, (3) safety is key, (4) burdening circumstances, (5) capability and (6) self-evaluation.

TNs in our study emphasized their job satisfaction and professional capability contributed to higher patient safety and quality triage care. Triage is a complex process requiring TNs to make daily decisions regarding assigning clinical priority to patients with life-threatening conditions. Simultaneously, they have to judge and consider available resources to optimize the provision of safe and quality patient care in the emergency department. Similarly, other researchers pointed out that the TN is expected to prioritize patients appropriately, in a suitable timeline, to provide health care education when needed and to ensure a safe environment for the patients and employees in the waiting room and throughout the emergency department (Aloyce et al., 2014; Bijani et al., 2020; Cotič Anderle & Bračko, 2019; Ebrahimi et al., 2016; Olofinbiyi et al., 2020). A survey conducted in Slovenia showed that nurses believe that at least 2–10 years of work experience is needed to perform triage activities effectively (Cotič-Anderle, 2011). Similar conclusions were also reached in foreign studies, which cite at least 3 years of work in emergency nursing as a prerequisite for safe and successful triage (Duko et al., 2019; Sutriningsih et al., 2020).

Triage represents the area in the emergency department where the patient's medical treatment begins; therefore, the TN plays an important role in categorizing patients according to the established level of urgency (Sánchez-Salmerón et al., 2022). Consequently, TNs are under great psychological and physical pressure due to the large daily flow of patients in the emergency department and the responsibility they assume with their work, which is also highlighted by our study. Similarly, Källberg et al. (2017) point out that TNs often feel stressed and pressured, unsure or worried about their decision on a particular priority. Within the aggravating circumstances, we identified three key stressors in the triage process: stress, overload and organizational deficiencies. Nevertheless, the TNs see their work as interesting, varied and flexible. Most TNs feel independent, confident in their knowledge, self-assured in their decision-making and feel they have sufficient autonomy to do so. Sutriningsih et al. (2020) also point out that TNs should have a wide range of expertise, judgement, adaptability, objectivity, work experience and critical decision-making. Job satisfaction is one indicator that determines individuals' attitudes toward their professional life (Suárez et al., 2017). Our study found that TN's job satisfaction is influenced by years of experience in triage, the working environment, interpersonal relations, teamwork, workload, commitment and having a varied, flexible and interesting job with the

possibility of autonomous decision-making. Concerning the impact of job satisfaction on nurses' work, Hayes et al. (2010) point out that older nurses with an average working life of 20 years are generally more satisfied with their pay and work schedule compared with younger colleagues. Similarly, we found higher levels of satisfaction in TN with more seniority in triage and professionally more capable nurses. This suggests that older TNs with longer triage experience are more satisfied than their young colleagues in their workplace. Bijani et al. (2018) established that more skilled and experienced nurses are more confident in their decisions, are more familiar with their colleagues and the workplace organization process and ultimately feel less stress and pressure in their work.

Likewise, we found that the professional capability of TN is related to their satisfaction in triage encounters, as we found moderate positive correlations between the domains of nurse satisfaction and the domains of professional capability. In our case, professional capability explained 43.6% of the total variance in TN job satisfaction. It was found that there is a medium linear correlation between TN satisfaction and all domains of professional capability (i.e. capability, psychological empowerment, and commitment). Therefore, the professional capability of TN is also highly correlated with the level of TN satisfaction scores. Consequently, we can conclude that TN with a broader range of competences, stronger psychological empowerment and a higher level of commitment are also more likely to have higher job satisfaction. In this context, the association with a higher level of satisfaction is also more pronounced in nurses with a broader range of experience and professional capabilities. On this basis, it can be confirmed that higher scores on the evaluated satisfaction factors are proportionally related to the professional capability of TN, which is in line with the findings of Wurgler et al. (2014) and Lee et al. (2014). Namely, Wurgler et al. (2014) found that higher job satisfaction scores were also dependent on the competencies and capability of the employees, while the study by Lee et al. (2014) found strong positive correlations between job satisfaction and the professional capability of nurses. The study results by Francis (2015) confirm that the higher professional capability of employees has a proportionate impact on the level of job satisfaction. In line with the findings of various studies (Lopez et al., 2014; Wurgler et al., 2014), our study confirmed that positive job satisfaction scores are a frequent consequence of higher levels of professional capability. Our study conducted among TNs confirms that TN with a broader range of competences, stronger psychological empowerment and higher levels of work commitment will also have higher job satisfaction.

## 5 | STUDY LIMITATIONS

The strength of this study was the high response rate (88.1%) for completion of the survey and the use of a mixed method, which allowed us to collect quantitative and qualitative data for a more comprehensive understanding of the research topic. The sequential mixed-method approach is time-consuming due to the separate phases of data collection, but the richness of obtained data makes this

approach appropriate. Implementation and integration of the quantitative and qualitative studies have been challenging due to the lack of examples in the existing literature or style guides to help in this process. The main limitation in the quantitative part was the selective research environment because, due to the current problem of COVID-19, not all operating emergency rooms in Slovenia were included in the research. Therefore, the study does not represent the results of the entire population of Slovenian TNs, which limits the generalizability of our results. Participants are more likely to give socially desirable answers when self-reporting. To minimize this limitation, we assured participants of their confidentiality and ensured that only anonymized data would be reported in all publications. The lack of theoretical evidence and sources was also a complicating factor for the study, as the topic of nurse satisfaction in relation to triage capability is still limited in the literature. Because various instruments to measure job satisfaction and professional capability have been used and no such study was done in nursing, at some points, it was not easy to compare our findings with those from foreign and similar studies. To minimize the appearance of this limitation, we compared the results from our study, when possible, with those from studies that used the same questionnaires for data collection. A further limitation of this study is that the sample was at only one location and at a single point in time. The study also did not examine potential changes in TN job satisfaction and professional capability over time and compare results to previous. At the same time, we are aware that the data obtained give only a rough idea of the current problem situation, so it would be helpful to repeat and expand to the whole population of TN worldwide.

Despite these limitations, the study is worthy of attention, as it is the first to compare TN job satisfaction with professional capability and to highlight the importance of professional capability for higher satisfaction among the triage nursing workforce in Slovenia.

## 6 | CONCLUSIONS

The results provide insight into the current state of job satisfaction and its related impact factors in one of the most physically and mentally demanding jobs in the emergency departments—triage. This type of research has not yet been conducted at a global level, although triage work is well known to be very stressful and, last but not least, is already well established worldwide. We have found that the job satisfaction of the TN is related to professional capability. TN gave higher job satisfaction ratings in line with higher ratings of professional capability. Therefore, we can conclude that sufficiently trained TNs will be more satisfied with their job and provide safe patient health care. Patient safety depends on the TN's ability to make safe and accurate decisions in a timely manner. Despite the diversity of the emergency field, TN often feels physically threatened, overwhelmed, stressed and under great psychological pressure from supervising doctors, rudeness and disrespect from patients and their relatives. If nurses are not sufficiently satisfied, they will be more

likely to leave their workplace or even profession, or contrary, they will be less efficient, indisposed and bad-tempered. The need for adequately educated and professionally trained TN will increase in the coming years due to the ageing population and chronic diseases. Therefore, satisfied TNs need a pleasant working environment, good interpersonal relationships and cooperative teamwork. The level of job satisfaction among TNs is affected by a list of different satisfaction factors, including organizational factors, interpersonal characteristics of an individual, self-evaluation score and burdening circumstances. There are good basics for further research of factors affecting job satisfaction in emergency nurses, especially TN, and enabling better working conditions for TN.

## 7 | IMPLICATIONS FOR NURSING MANAGEMENT

The findings of our mixed-method study confirm that job satisfaction is a multidimensional concept and needs to be handled using adaptable, diverse and professional methods to maintain job satisfaction among TNs. Our findings have a significant role in practical implications for management in emergency departments in favour of triage nursing employees. The critical issue for nursing managers is to be aware of the job satisfaction level of TN in the emergency department. In the case of low satisfaction levels, managers must determine how job satisfaction can be improved. Therefore, an unsatisfied TN represents a danger to herself, especially to the patient, as it is not entirely focused on triage patients and decision-making and may neglect, underestimate or dismiss the patient's symptoms and problems. A significant problem for patient safety is the lack of motivation of TN to work, overload or uncontrollably stressful situations. All these factors cause low job satisfaction scores and can also lead to errors in the triage process and put the patient's life at risk. Nursing managers have a key role in creating a positive working environment and achieving higher job satisfaction. Like other countries, the Slovenian health care system faces a critical shortage of health care personnel, especially sufficiently professionally qualified and competent personnel with sufficient work experience. The problem of dissatisfaction TN tends to lead to staff movement to other jobs, mostly other service activities outside the nursing profession. Results of our mixed-method study expose TN dissatisfaction with satisfaction factors, such as lack of nurses, stress, overload, organizational deficiencies and provided security. To achieve satisfactory and sustainable effects on job satisfaction, the operational management and hospital organization need to improve working conditions by providing a safe environment for their employees, changing TN with another TN when they feel overwhelmed, providing psychological support and ensuring an adequate number of trained TN.

Although organizational factors related to job satisfaction workplace represent the responsibility of nurse managers primarily; on the other hand, employees should be aware that it is also their responsibility to maintain a positive working atmosphere, good interpersonal relationships and successful teamwork, which is a vital factor

influencing job satisfaction. The results of our study can serve as a foundation for further studies in the area of job satisfaction and professional capability.

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## CONFLICT OF INTEREST

The authors have declared no conflict of interest.

## ETHICAL CONSIDERATION

Ethical approval has been obtained from the Ethics Committee University of Maribor Faculty of Health Sciences (No. 04/8R-2021).

## SUBMISSION DECLARATION

This study has not been published before.

## PROVENANCE AND PEER REVIEW

Not commissioned; externally peer reviewed.

## DATA AVAILABILITY STATEMENT

Additional data from this study are not publicly available in order to maintain the anonymity of participants but can be provided on request.

## ORCID

Urška Fekonja  <https://orcid.org/0000-0002-1576-3022>

Matej Strnad  <https://orcid.org/0000-0002-4505-557X>

Zvonka Fekonja  <https://orcid.org/0000-0002-4224-8843>

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