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Interdependence of Nursing Staff Work Engagement, Quality of Workplace Relationships and Patient Safety

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Background and Purpose: Quality within a healthcare system does not comprise only actions defined through certificates or required by law, standards and protocols; it is also defined by the well-being of healthcare workers on the one hand and patients on the other. The purpose paper is to analyse the link between the engagement of nurses and factors related to enhancing patient quality and safety.
Methods: The research involved 206 nursing employees from Slovenia's general hospitals. The questionnaire consists of four sections: employee engagement, the measure of self-efficacy, statements referring to various tools and methods that are used in nursing in daily work and that contribute to the quality of work, interpersonal relationships in the workplace between different professional groups within medical treatment, and attitude towards changes.
Results: Compared to other professions, nursing employees showed an above-average level of engagement. Younger respondents were more engaged in their work, and their self-efficacy level was higher. The frequency of using tools intended to enhance the quality of nursing correlates statistically typically and positively with self-efficacy, engagement and willingness to accept change. The analysed factors are interdependent. Engagement results from workplace interactions; employees who feel better in their workplace will be more oriented towards the future, be more open to innovation, and use various tools and approaches to enhance the work's quality.
Conclusion: Analysed concepts are closely connected and interdependent. The findings are essential for the successful and efficient management of hospitals and for ensuring patient quality and safety.

Keywords: *Nursing, Patient, Engagement, Quality, Safety, Self-efficacy*

1 Introduction

Every organisation strives to form and develop an environment where employees give their best, are engaged in their work and are committed to their organisation, contributing to its overall success in the process (Davala, 2019). Engaged employees have a sense of energetic and effective connection with their work activities and see themselves as able to deal with the demands of their jobs (Schaufeli, 2013). Healthcare is changing rapidly, which is why employee engagement is extremely important, as it will be the only way to meet the growing healthcare needs (Galuska, 2014); in addition, sustainable development of healthcare organisations depends on the performance of engaged healthcare workers in clinical improvements (Strömgren, Eriksson, Bergman & Dellve, 2016). In recent years, pub-

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lic hospitals have had to cope with numerous challenges, including increasing competition and the exponential increase of demand in quantity and quality (Zweifel, 2016; De Simone, Planta & Cicotto, 2018).

Healthcare is a field with a high risk of unwanted events that occur due to illnesses and mistakes made in the treatment process. All this can lead to death, severe defects, complications and suffering for the patient. Although modern healthcare institutions have well-thought-out processes that ensure patient safety, healthcare still lags behind other activities that have introduced systemic safety processes as part of their operations (e.g. aviation). According to some assessments in settings with good traceability of mistakes made in healthcare, as much as 13.5% of patients experience a mistake being made in their medical treatment (the percentage of mistakes in systems with no systemic traceability is even higher). Forty-four per cent (44%) of these mistakes are preventable. Of these preventable mistakes, around 40 out of 1,000 cause serious harm to the patient (Hessels, Weaver, Wurmser, 2019). In 2016, it was estimated in the United States that mistakes relating to medical treatment are the third leading cause of death among patients, as 210,000–400,000 deaths annually relate to mistakes made in healthcare (Hessels et al. 2019). Naturally, Slovenia is not immune to mistakes in healthcare either. Andrej Robida, an expert in healthcare quality and safety, estimates that in Slovenia, every 300th patient dies due to a mistake, every 24th becomes additionally ill, and around 1,000 patients die per year due to a mistake made in medical treatment (Mekina, 2015). According to these estimates, mistakes rank fourth among causes of death, which indicates a major public health concern.

Regarding ensuring safe and high-quality patient treatment, priority handling of these mistakes is necessary, mainly because they are preventable. In preventing mistakes, it is necessary to start with the nature of work in healthcare, where team treatment of a patient and cooperation comprises the basis of functioning, which is why such a team approach is necessary also when judging the causes of mistakes, at the point where both the good and the bad happen to patients (Robida, 2009). Although enhancing the quality and safety of the medical treatment is the domain of all employees, directors of healthcare institutions carry the most significant responsibility. To sum up, the findings of research conducted thus far, the prevailing manner of carrying out healthcare practices will have to be changed into practices (a) that focus on the patient, where (b) evidence-supported medical practice is used consistently, where (c) the work would be carried out in multi-professional and multi-disciplinary teams, where (d) the quality of medical treatment would improve constantly, (e) mistakes in healthcare would decrease, and (f) modern information technology would be used more efficiently (Skela-Savič & Robida, 2012).

1.1 Quality and safety in health care

Access to high-quality medical care is a fundamental human right laid down in Slovenia in the Patients' Rights Act[1] (ZPacP, 2008). The right to quality and safe healthcare is recognised and valued in the entire territory of the European Union and must be provided to all inhabitants of Europe. Accordingly, patients have a right to expect that every effort is made to ensure their safety (Luxembourg Declaration on Patient Safety, 2005). While this applies to all patients, special care must be given to the most vulnerable groups of patients, such as children (Pajnkihar and Vrbnjak, 2016). Ensuring quality is one of the critical points of modern healthcare systems, including hospitals (Lobnikar and Maze, 2012), and can be measured in many ways, from clinical results to patient satisfaction with the healthcare service.

It should be noted that nursing employees, who have the most contact with patients, are the key link in the chain of quality healthcare services, as they make routine medical and healthcare services are rendered in a high-quality manner, that patients are appropriately monitored, that patient data are entered on time and correctly, that patients get the right medicine and that these are administered at the correct times, and that anxious patients are calmed down (Lobnikar and Maze, 2012). From the patient's perspective, the quality of medical care is based on good communication, coordination of the medical care, uninterrupted treatment, respect for patients' rights and ensuring safety, all of which significantly impact treatment outcomes. Quality medical care ensures treatment outcomes that align with current expertise (Robida et al., 2006). It means consistent achievement of treatment outcomes that are comparable with the standards or best practices while taking into account the following principles of healthcare quality: (a) effectiveness, (b) safety, (c) timeliness, (d) efficiency, (e) equity, (f) patient-centredness. The primary purpose of these principles is to decrease the unacceptable level of variances in treatment outcomes, ineffective or inefficient use of medical technologies, the high price of poor quality, user dissatisfaction, unequal access to health care services, and waiting periods (Robida et al., 2006). Quality in healthcare is not an end in itself; it is not something recognised with certificates or governed by law, standards or protocols; it is also what is felt as good by a healthcare worker (doctor, nurse) on the one hand and service user (patient, payer) on the other (Lobnikar and Zorić, 2020).

Freeney and Tiernan (2009) suggested that facilitators

[1] Zakon o pacientovih pravicah (ZPacP) [Patients' Rights Act] (2008). Uradni list RS, št. 15/2008. http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO4281#

of and barriers to engagement centre around six areas of organisational life: workload, control, reward, fairness, community and values. De Simone, Planta and Cicotto (2018) analysed nurses' voluntary turnover as a phenomenon which affects their service quality. Self-efficacy, some agentic capacities (e.g. anticipation and self-regulation), job satisfaction, and work engagement affect nurses' turnover intention; job satisfaction exerted a more substantial effect on turnover intention. Authors (De Simone et al., 2918) found that patient satisfaction was positively correlated with nurses' job satisfaction, work engagement, self-efficacy, self-regulation and anticipation and negatively correlated with nurses' turnover intention. Eman and colleagues (2021), in their study on nurses' work engagement and its impact on job outcomes, report that more than half of nurses are dedicated to their work. They must have the needed resources, supportive environments, and adequate performance feedback to balance work demands and the personal feeling of 'fulfillment', resulting in reduced turnover rates. Contreras, Abid, Govers, and Saman Elahi (2021) explained the mediating role of possibilities for professional development on work engagement in nursing staff. According to their study results, support from colleagues and supervisors influences the work engagement of healthcare personnel.

1.2 Employee work engagement

Engagement is a relatively new concept of human resource management, signifying an employee's emotional, intellectual and cognitive commitment to the organisation that employs them. Smolej and Lobnikar (2017) find that studying work engagement is a concept of human resource management, which constitutes a combination of many organisational aspects, such as the employee's organisational obligation, satisfaction, organisational behaviour, motivation and the emotional involvement of employees in the company. Not only is work engagement important in and of itself, but it also affects the health of employees, their work results and their commitment to the organisation (for more on this, please see Smolej & Lobnikar, 2017). There is a strong relationship between employee engagement and organisational performance (Warshawsky et al., 2012). Employees who are engaged are more productive than their disengaged colleagues. The level of employee work engagement also affects the good financial standing of an organisation. In organisations where a higher level of employee work engagement was ascertained, the added value is higher than those with lower work engagement levels (Gallup, 2013).

Kahn (1990) presented the concept of personal engagement and disengagement three decades ago. He defined it as behaviour with which employees integrate into a work setting. Engaged employees are physically engaged, cognitively alert and emotionally connected with the work. Maslach, Jackson, Leiter and Leiter (2010) describe engagement as the opposite of burnout. When burnout emerges, the feeling of connection with the organisation begins to fade. Energy turns to exhaustion, commitment to cynicism and efficiency to inefficiency. Schaufeli et al. (2002) perceive engagement as a positive and work-related condition characterised by vitality, commitment, and involvement. Employee engagement is therefore an asset, the importance of which should be clear to every good manager. Employees' mental well-being and engagement are central to achieving work results.

Antoinette Bargagliotti (2012) performed a concept analysis on work engagement in nursing since work engagement is the central issue for 21st-century professionals and specifically for registered nurses. Work engagement was defined as a positive, fulfilling state of mind about work characterised by vigour, dedication, and absorption. Trust (organizationally, managerially, and collegially) and autonomy are the antecedents of work engagement. The outcomes of nurses' work engagement are higher levels of contagious personal initiative, decreased hospital mortality rates and significantly higher financial profitability of organisations. Richardson and Storr (2010) and García-Sierra, Fernández-Castro, and Martínez-Zaragoza (2016) performed a literature review on the impact of nursing empowerment, leadership, and workplace collaboration. They all concluded that there is a gap concerning knowledge of the extent and nature of the role of nurses in patient safety improvement and that there is potential for improvement through nursing empowerment and the development of tools to strengthen and support nurses' influential role in ensuring patient safety and quality of work in hospitals. Keyko, Cummings, Yonge, and Wong (2016) systematically reviewed work engagement in professional nursing practice. Their findings indicate that a wide range of antecedents, at multiple levels, is related to registered nurses' work engagement. Positive outcomes of work engagement are valuable to both performance and the individual nurse. The Nursing Job Demands-Resources model offers nursing science a valuable beginning framework to understand the current evidence, further direct nursing research, and begin to guide practice and policy. The results offer opportunities for nurse leaders to promote work engagement in professional nurses through action on organisational-level resources. Also, Scott, Hogden, Taylor, and Mauldon (2022) and Ghazawy, Mahfouz, Mohammed, and Refaei (2021) performed a literature review on the impact of employee engagement and patient safety and job outcomes. The result of their study is that research into the impact of employee engagement on patient safety is in its early stages. As health service managers consider the best use of funding to support safe and high-quality care, evidence to support employee engagement's positive impact on patient safety may help to manage the fallout from the

COVID-19 pandemic. The importance and role of leaders in ensuring desired treatment results and suitable working conditions were also identified in work by Graban (2018), analysing the relationship between improving quality, patient safety, and employee engagement in lean hospitals. Parr, Teo, and Koziol-McLain (2021) described a model of leadership relationships, work engagement, and patient outcomes in their empirical study. The study's main outcome was that resonant leadership, a relational style, is a core antecedent of quality care and is positively associated with staff experience and patient outcomes. Resonant leadership improves staff work experience, patient safety, and patient satisfaction and therefore, nurse leaders should measure, foster, and develop resonant leadership in practice. Work-family conflict is an issue in nursing administration and management associated with reduced work effectiveness and patient safety. The results of this study by Labrague and Obeidat (2022) underscore the vital role of nurse managers' transformational leadership in sustaining work-family balance and, in turn, improving patient safety outcomes and enhancing job engagement among nurses. Ree and Wiig (2020) analysed the relationship between transformational leadership, patient safety culture, and work engagement in home care services. The transformational leadership model explained more than one-third of the variance in patient safety culture. They concluded that transformational leadership significantly impacts patient safety culture and work engagement in home care services, and employees' perceptions of job demands, available resources and engagement also affect patient safety culture.

The job demands theory is one of the most commonly used theories to explain work engagement, which assumes that a combination of work characteristics and personal resources anticipates work implementation through a commitment to work among employees (Bakker & Albrecht, 2018). According to the theory, different organisations can have different work settings, but the characteristics of these settings are always classified into job demands and job resources (Sun & Bunchapattanasakda, 2019). It combines two research approaches and explains that job demands and job resources have unique and, at the same time, multiple effects on job stress and motivation (Bakker & Demerouti, 2014). Job demands refer to those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or mental effort and are therefore associated with certain physiological and/or psychological costs (e.g. burnout) (Demerouti et al., 2001). Examples of this are high job pressure and emotionally challenging interactions with clients (Bakker & Demerouti, 2014). Job resources refer to those physical, psychological, social or organisational aspects of the job that: are functional in achieving work goals, reduce job demands and the associated physiological and psychological costs, and stimulating personal growth, learning, and development (Bakker, 2011).

The job demands theory assumes that job demands and job resources trigger two quite independent processes: the health impairment process and the motivational process (Bakker & Demerouti, 2014). Employee health and well-being result from a balance between positive (resources) and negative (demands) job characteristics (Schaufeli & Taris, 2014). Job resources influence future work engagement, which, in turn, predicts organisational commitment; job demands predict burnout over time, which in turn predicts future depression (Schaufeli & Taris, 2014). Schaufeli (2013) states that resources promote engagement through vigour (energy), dedication (perseverance) and absorption (focus). Work engagement mediates the relationship between a job and personal resources on the one hand and positive outcomes on the other. This is called a motivational process. Schaufeli (2013) continues to explain that a negative process is also at play – the health impairment process, which is triggered by job demands that are determined through aspects of the job and require sustainable physical and psychological effort (work overload, time pressure, conflicting roles, excessive bureaucracy and formalities). High job demands require additional effort to achieve goals.

Personal resources were included in the job demands theory subsequently and can have the same impact as job resources, as they decrease the negative impacts of job demands. They signify a positive self-assessment related to resilience and refer to an individual's sense of their own ability to control and influence their environment. Personal resources partially mediate the relationship between job resources and work engagement (Bakker & Demerouti, 2014). They include self-efficacy, which represents an individual's assessment of their control over various demands or events in a particular setting by incorporating different activities that help them in the process (Xanthopoulou, Bakker, Demerouti, Schaufeli, 2007). A strong sense of self-efficacy encourages psychological adjustment to highly stressful events (Kilic & Simsek, 2019) by reducing exposure to stress and depression (Kowalczuk, Krajewska-Kułak & Sobolewski, 2020). When nursing staff feel higher self-efficacy, this positively affects their experiences at work (Gagné et al., 2019) because they feel fewer mental health problems (Hu et al., 2020). The greater the self-efficacy, the higher the work engagement, which contributes to greater openness to change (Lobnikar & Zorić, 2020).

According to the job demands theory, job resources affect motivation when job demands are high. In addition, motivation positively affects job implementation because it helps to direct goals and focus on work tasks, as engaged employees have the energy and enthusiasm necessary for good implementation (Bakker & Demerouti, 2017). Job resources, which fulfil the basic psychological needs for autonomy (to experience the option of choice and a sense of freedom), competence (successful tackling of challeng-

ing tasks and achievement of goals) and connectedness (the feeling of belonging with others), motivate and enable an individual to achieve work goals, which promotes work engagement (Deci & Ryan, 2008; Knight, Patterson, Dawson & Brown, 2017). The needs that arise from work mediate the relationship between resources and work engagement, thus supporting the job demands theory and the self-determination theory as the fundamental explanatory theories (Knight, Patterson, Dawson & Brown, 2017).

Nursing is a stressful and emotionally demanding profession (Othman, Ghazali & Ahmad, 2017). The engagement of nurses is necessary to ensure patient safety, positive medical outcomes and progress in nursing practice (Crenshaw & Yoder-Wise, 2013). It has long been known that employees who are satisfied in their roles achieve better results than those who are not. Some nurses are satisfied merely with working in a given situation and getting through a working day. They rarely participate in teams working on improving the practice or organisation, so it cannot be said that they are engaged in improving future results. Engaged employees are deeply committed and involved and invest in their work. Success requires work achievements, employee engagement and a culture that makes sense of that engagement (Vestal, 2012).

The paper aims to research the link between the level of nurses' engagement in their work setting and factors related to enhancing quality and safety for patients. The analysis aims to ascertain the level of engagement of nurses employed at one of the hospitals in Slovenia and determine which factors impact their engagement and to what extent. Above all, we wish to analyse whether the level of employee engagement in nursing affects the factors relating to improving quality and safety.

2 Description of the method used, sample and procedure

The research was conducted in 2019 on a sample of nursing employees at one of Slovenia's general hospitals. We obtained written consent from the healthcare institution to approve and implement the research. The survey was carried out anonymously, confidentially and voluntarily. We distributed 250 surveys among the nursing staff, 125 in internal and 125 in surgical departments. Two-hundred and six (206) surveys were returned, which constitutes a responsiveness rate of 82.4%. The sample was composed of 86% of women and 14% of men. Of these, 114 respondents were employed in the surgical department and 92 in the internal department. The average age of respondents was 39.9 years. The most significant number of respondents (34%) have less than ten years of service, most of whom have been employed at the current organisation since they started working. Fifty-one per cent (51%) of respondents have a secondary school education, 37% of them have higher education qualifications, followed by academic higher education (5%) and short-cycle vocational education (4%), while 2% of the respondents have a master's or a doctoral degree.

The questionnaire consists of four sections. The first section comprises 12 statements relating to employee engagement, representing the study's dependent variable. To measure engagement, we used an adapted questionnaire, which we put together based on questionnaire Q12 (Gallup, 2013; Smolej and Lobnikar, 2017). We used a five-point scale for measuring the level of engagement (1 – I strongly disagree, 5 – I strongly agree), while internal consistency of the questionnaire, measured with Cronbach α amounted to 0.846. In addition to engagement, we included other independent variables in the study. To measure self-efficacy, we used a questionnaire developed by Frlec (2008) based on a study by Bandura (1977). The scale contains 12 statements in three subsections, which the respondents assessed using the five-point scale (1 – I strongly disagree, 5 – I strongly agree). Internal consistency of this part of the questionnaire, measured with Cronbach α amounted to 0.758. In the third section, statements referred to various tools and methods that are used in nursing in daily work and that contribute to the quality of work. The frequency of using these tools was measured on a five-point scale (1 – never, 5 – frequently). We also assessed interpersonal relationships in the workplace between different professional groups or stakeholders within medical treatment (nurses, doctors, patients, and managers). The quality of contacts was measured using school grades from 1 (inadequate) to 5 (excellent). The Cronbach α score amounted to 0.751. The final substantive part of the questionnaire (six statements) referred to the attitude towards the introduction of changes. Respondents marked their opinions using a five-point scale (1 – I strongly disagree, 5 – I strongly agree), while internal consistency of this part of the questionnaire, measured with Cronbach α, amounted to 0.754. It can be concluded that all parts of the questionnaire were internally adequately reliable and consistent for use in further analysis.

Table 1: Nurses' work engagement

	minimum	maximum	Average	S.D.
Nurses' work engagement	1.00	4.92	3.20	.62

3 Results

Firstly, we present the results on nursing employee engagement (Table 1). We obtained the result by adding up the values of all 12 statements and dividing this number by the number of statements.

It is evident from the table that the nurses' work engagement is slightly above average (the average on the five-point scale is 3.5) and that the standard deviation is relatively small; in terms of work engagement, two-thirds of nurses fall within the 2.9 to 4.1 value range. Employees can be classified into three groups[2] in terms of engagement. Engaged employees are energetic employees who work passionately and feel a deep connection with the company in which they are employed. They are the source of innovation and help develop the company. They trust their colleagues and managers. Disengaged employees are "in part absent". They only do what is required of them. They are "half asleep" during their working time, and although they invest their time in the work, they bring no energy or passion to it. Actively disengaged employees are dissatisfied in their workplace and actively display their dissatisfaction. They underestimate the work carried out by their engaged colleagues, and have a detrimental effect on the engagement and satisfaction of customers (Reilly, 2014). Our research revealed that 40% of respondents are engaged, while 55% of them are disengaged. The share of actively disengaged employees in nursing is 5%. Gallup (2013) reports that, globally speaking, only 13% of employees are engaged in their work. Among the surveyed countries, New Zealand has one of the highest employee engagement rates, with the situation being similar in Australia, at 24%. Both countries, however, lag behind the United States, where the level of employee work engagement amounts to 30%. In the Slovenian Police, nearly a third of employees are actively disengaged, while the share of engaged employees is only slightly over 10% (Smolej & Lobnikar, 2017). Compared to these average values, the nursing respondents exhibit above-average work engagement.

Bandura (1997) defines self-efficacy as "an individual's belief in his or her capacity to organise and execute certain behaviours necessary to successfully cope with a particular situation". This means that an individual will avoid situations that exceed their abilities and will, at the same time, be more motivated to work in the field and situations where they will feel competent. That is why employees' attitudes to work and work challenges can be predicted based on their experience and beliefs regarding personal abilities. The actual efficiency of an individual is shown in using these abilities, as self-confidence plays a decisive role in utilising one's abilities. Below (Table 2), we present the analysis results of assessing the self-efficacy of nurses or nursing employees included in the survey.

The table shows that the reported self-efficacy of nurses is high, as the average is 3.6, with a slight standard deviation: as much as two-thirds of nurses rated their self-efficacy within a range of values between 3.1 and 4.1. Nurses report that they are highly trained and love doing their job. Regarding self-efficacy, 53% of respondents experience success in their work. The most important factor is individuals' beliefs about their own ability to control personal actions and events in their environment, i.e. about their self-efficacy. Seventy-four per cent (74%) of respondents are certain they are doing their job adequately.

In terms of introducing changes, we ascertained that the respondents' suggestions on workplace improvements are often taken into consideration (49%); in addition, as a team, they are aware of the necessity of introducing changes (55%), and they are willing to adopt quality standards (57%) that are important for their day-to-day work. The respondents know that changes are necessary in their line of work (68%), and they support changes that raise the quality of work. Forty-five per cent (45%) of respondents think the dynamic of introducing changes aimed at improving quality at the hospital is appropriate. They also report that they use various quality-related tools and methods in their day-to-day work. The hospital where the research was conducted uses clinical guidelines (58%), clinical pathways (63%), protocols, algorithms and other written instructions (74%), general standards of medical treatment (77%), special standards of medical treatment (65%), outcome indicators (48%) and other quality indicators (50%). The respondents reported that they are provided with education in the area of quality (55%); they conduct safety conversations (55%) and make safety rounds (44%), but not always and not everywhere. Deviations from the usual medical treatment are measured by 66% of the respondents, and the same percentage of respondents confirmed that they have a procedure in place for internal reporting on safety complications. According to 48% of respondents, if a safety complication occurs, confidential treatment of said security complication is ensured. Thirty-five per cent (35%) of respondents are aware that a register of reporting on safety complications exists and is kept at the institution of their employment. Safety complications are most often reported by nurses (72%) and occasionally by doctors (17%) and patients (12%).

[2] There are no reasons why assessments in Slovenia should be significantly different from those in the rest of the world. For the purposes of our research, he sent us the scale and allowed us to use it, while emphasising that it needs to be used and interpreted carefully: actively disengaged (fewer than 30 points or an average score below 2.5), disengaged (31 to 44 points or an average score between 2.5 and 3.7) and engaged (45 points or more or an average score above 3.7). (Gruban, 2005; 2010)

Table 2: Descriptive statistics for nurses' self-efficacy

	Minimum	Maximum	Average	S.D.
Self-efficacy	1	4.92	3.6	0.49

Table 3: Correlation analysis between the factors analysed

		1	2	3	4
1. Engagement	r	1	.388**	.679**	.428**
	p		.000	.000	.000
2. Attitude towards change	r	.388**	1	.425**	.417**
	p	.000		.000	.000
3. Self-efficacy	r	.679**	.425**	1	.480**
	p	.000	.000		.000
4. Use of tools to enhance quality and ensure safety	r	.428**	.417**	.480**	1
	p	.000	.000	.000	
**. correlation typical at the 0.01 level					

Good work relationships are essential for the success of an organisation. According to the data obtained in our research, relationships between nurses are very good; this was the response of 97[3]% of respondents; the attitude of managers to nurses is likewise good (95%), as is the attitude of nurses to doctors (100%). The attitude of doctors to nurses (78%) and employees to patients (99%) was also assessed as good, the latter being essential and always regarded as a priority.

Below, we present findings from the correlation analysis of the above-described substantive sections. For correlation analysis (using the Pearson Correlation Coefficient), we included summary variables in the analysis, namely (a) the level of engagement, (b) attitude to changes, (c) self-efficacy, and (d) frequency of using tools to enhance quality and ensure safety. We calculated the last variable by adding the values of the frequency of using various tools and methods to ensure quality and safety. The results of the correlation analysis are shown in Table 3 below. The table shows that the frequency of using tools to enhance the quality of nursing and ensure patient safety correlates statistically and positively with self-efficacy, engagement and willingness to accept change. In addition, correlations are high with all three factors, which leads us to conclude that these concepts are closely interconnected. The greater the self-efficacy, the higher the work engagement, which contributes to greater openness to change. All this is typical of environments where various tools to ensure work quality and safety are used more frequently.

We conducted a correlation analysis for these variables and included certain demographic variables. We found that engagement statistically typically and negatively correlated with the respondents' age and years of service ($r = -0.211$, $p = 0.002$; $r = -0.221$, $p = 0.002$), which means that older respondents, i.e. respondents with more years of service, were less engaged in their work; the same direction of correlation emerged in the connection between age and years of service and self-efficacy ($r = -0.150$, $p = 0.031$; $r = -0.173$, $p = 0.14$). We can conclude that younger respondents were more engaged in their work, and their self-efficacy level was higher. Age and years of service did not statistically typically correlate with the frequency of using tools to enhance quality and safety, nor was a correlation with these two demographic characteristics statistically typically connected with attitude towards change. For the variables presented in the table above, we also conducted an analysis of variance (ANOVA) pertaining to the level of the respondents' education, but we discovered no statistically typical differences between individual education groups; the respondents' education thus had no effect on the variables analysed.

We were also interested in how workplace relationships affect the variables included in the analysis. The results of the correlation analysis are shown in Table 4.

[3] The values of answers 4 and 5 on the five-point scale have been added together.

Table 4: Correlation analysis between the factors analysed

		Relationships between nurses and colleagues	Attitude of managers to nurses	Attitude of doctors to nurses	Attitude of nurses to doctors	Attitude of employees to patients
Engagement	r	.349**	.526**	.423**	.336**	.310**
	p	.000	.000	.000	.000	.000
Attitude towards change	r	.262**	.372**	.120	.261**	.240**
	p	.000	.000	.087	.000	.001
Self-efficacy	r	.323**	.391**	.322**	.275**	.350**
	p	.000	.000	.000	.000	.000
Use of tools to enhance quality and ensure safety	r	.189**	.301**	.167*	.207**	.252**
	p	.006	.000	.017	.003	.000

The table shows that workplace relationships are a very important factor. The respondents who assessed workplace relationships as better, regardless of the relation (colleagues, managers, nurses – doctors), were more engaged in their work. Good relationships between nurses (both among colleagues and in the employee–manager relation) significantly impact willingness to adopt innovation in the workplace. Employees with a higher level of self-efficacy also assess workplace relationships as better; for our analysis, a significant result is that workplace relationships (regardless of the type) positively and statistically significantly correlate with the use of tools intended to enhance quality and ensure patient safety.

4 Discussion

Employees who are engaged display a high potential and play a vital role in planning the future of their organisation. Engaged employees exhibit high efficiency with their innovation, clear understanding of their role, emotional commitment and commitment to the organisation. Our research revealed that 40% of respondents are engaged, while 55% are disengaged. Those who are disengaged regard their work as an exchange of their time for payment, never work overtime, invest little effort, and display little passion or creativity. Those actively disengaged are the most harmful type of employees, and according to the results of our research, 5% of respondents fall into this group. They are dissatisfied and show their unhappiness through words, opinions and actions, undermining the work of others by constantly expressing their dissatisfaction.

In our research, 53% of respondents experience success in their work, while 74% are confident they are doing their job adequately. The higher the individual's self-efficacy, the greater the organisation's success.

Research results have shown that 86% of respondents believe that the results of their work indicate they are well-qualified for their job, 81% observe their colleagues with similar tasks, and 62% have a role model in their job. They pay attention to the mistakes made by their colleagues (62%) and receive a lot of high-quality information in their work (57%).

The respondents know what is expected of them in the workplace and that they have at their disposal everything they need to do their job well (53%), and they have the chance to do what they are good at on a daily basis (60%). Their direct superior care about them as a person (76%), and there are a lot of great colleagues at work (79%) who are genuinely committed to producing good and high-quality work (59%). Slightly poorer results are connected with the statement that the employees have at their disposal everything they need to do their job well (38% of respondents disagreed). Only 30% of respondents believe that someone in their organisation plans and encourages their development. Forty-seven per cent (47%) of respondents think that their opinion counts and is taken into consideration; 39% of respondents believe the importance of their work is mirrored in the organisation where they are employed, while 25% disagree with the statement. Fifty-seven per cent (57%) of respondents had an opportunity to learn and develop in the past six months.

We found that work engagement and willingness to provide quality work statistically typically and positively correlate with one another. We ascertained that engagement is the result of quality interactions (relationships) in the workplace and that employees who feel better in their workplace will be more oriented towards the future, will be more open to innovation and, above all, they will use various tools and approaches intended to enhance the quality of the work done by nursing staff more frequently in addition to being more committed to patient safety.

We encountered similar findings during a literature review; Bakker (2008) finds that performance depends on engagement, as engaged employees perform better than disengaged employees. Lobnikar (2015) finds that the share of engaged employees in Slovenia is average, but there are also a lot of those who are actively disengaged. We found that the nurses' work engagement statistically typically and positively correlates with the use of tools designed to enhance quality and safety ($r = 0.428$; $p < 0.001$). We also ascertained that workplace relationships statistically significantly and positively correlated with the nurses' engagement. It can therefore be established, through indirect correlations, that, in addition to work engagement (alongside self-efficacy), the quality of relationships significantly affects the willingness to use tools to ensure quality and safety in patient treatment.

Workplace relationships are a very important factor, which is confirmed by other research conducted in Slovenia thus far (Lobnikar & Cedilnik, 2017). The respondents who assessed workplace relationships as better, regardless of the relation (colleagues, managers, nurses – doctors), were more engaged in their work. Good relationships between nurses (both among colleagues and in the employee–manager relation) significantly impact the willingness to adopt innovation in the workplace. We also ascertained that workplace relationships statistically and positively correlate with engagement and willingness to introduce changes and use tools intended to ensure quality and patient safety. Warshawsky et al. (2012) also specify a strong correlation between employee work engagement and organisational performance. Essential is the information that job satisfaction relates to operating results that are relevant for the organisation (Seijts & Crim, 2006).

Another important research finding is that all types of relationships, both between colleagues and in the hierarchical chain, statistically correlate with engagement, willingness to introduce changes and use tools to ensure quality and patient safety. Relationships also have a positive effect on perceived self-efficacy. We can establish that relationships probably represent a central factor in strengthening employee engagement (Lobnikar & Cedilnik, 2017).

Research shows that job satisfaction strongly impacts performance (Kvas, 2008) and involves people who work at an organisation and people who study it (Lu et al., 2005). People are both the end goal and the means of an organisation. An organisation's task is to achieve goals through organised work and work processes. Another essential element of a work organisation is organisational climate, which is directly connected with employee satisfaction and impacts how a climate within an organisation is experienced (Lobnikar & Cedilnik, 2017).

When interpreting the research results, it is also necessary to understand the limitations arising from the size of the sample and the fact that the research was conducted in only one of the larger Slovenian general hospitals. Nevertheless, the research results are similar, as could be detected when reviewing the literature in the analysed field. To sum up, the analysed factors described in our study are interdependent. Engagement is the result of workplace interactions; the employees who feel better in their workplace will be more oriented towards the future, they will be more open to innovation, and, above all, they will use various tools and approaches intended to enhance the quality of the work done by the nursing staff more frequently in addition to being more committed to patient safety. We established that the greater the self-efficacy, the higher the work engagement, which contributes to greater openness to change. All this is typical of environments where various tools to ensure work quality and safety are used more frequently. The study revealed that relationships between the employees of the healthcare institution analysed are extremely important. The respondents who assessed workplace relationships as good were more engaged in their work. Good relationships between nurses (both among colleagues and in the employee–manager relation) have a significant impact on the willingness to adopt innovation in the workplace. Employees with high self-efficacy assess workplace relationships as better; for our analysis, a result that is especially important is that workplace relationships (regardless of the type) positively and statistically significantly correlate with the use of tools intended to enhance quality and ensure patient safety. It is, therefore, important to attend to quality and patient safety in the framework of managing processes within the team, as it was shown that adequate safety and quality could only be ensured by taking account of and managing the many interdependent factors we described in our analysis.

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