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SAFETY CULTURE APPROACH FOR HEALTHCARE AND NURSING INSTITUTIONS

Jaana SEPP*

Tallinn Health Care College, Tallinn, Estonia
**Corresponding author's e-mail: jaana.sepp@ttk.ee*

Abstract. There are a few ways how to increase the rate of employees' safety culture at an institution, one of these is a positive safety culture, which includes their proper attitudes, safety-related values, staff members' professional competences, and their willingness to work. The key element in the offering of quality and safe services in healthcare is a positive safety quality according to definitions. The aim of the current paper is to identify potential predictors of employees' safety behaviour and determine safety culture subcultures that support operational manager to develop proactive safety management systems (SMSs) and offer safety of patients and employees. Two independent surveys were the basis of the new proposed approach. Quantitative method approach was selected to investigate safety culture subcultures in Estonian healthcare and nursing institutions. According to the proposed approach, there are crucial subcultures (e.g., just, reporting, learning, professional competences, and psychosocial well-being), which should be developed and periodically evaluated within an organisation. This measurement should have a clear and shared understanding of patient safety goals and occupational health and safety (OHS). The general management of organisations should consider implementation of assessment as a proactive approach to use the SMSs. The sustainability and proactivity of the proposed approach lies in defining action plans for continuous improvement and employees' involvement in patient safety and OHS management.

Keywords: *Just culture, learning culture, reporting culture, professional competence culture, safety culture, safety culture differentiation, subcultures, well-being culture.*

JEL Classification: J13

INTRODUCTION

According to scientific literature, it has been mentioned that the level of safety culture in nursing homes is lower than in hospitals (Bondevik et al., 2017). This has been associated with a lack of management safety capacity and commitment to safety (Almost et al., 2018; Dollard & McTernan, 2011; Vierendeels et al., 2018). The quality of services in healthcare and in nursing homes depend on a management ability to understand a safety approach as well as a possibility to provide continuous improvement and employees' involvement in patient safety and occupational health and safety (OHS) management. From the aspect of management, it is important to be aware of the challenges arising from the human component (Sepp, 2021). In the

light of the complex nature of safety culture, this paper focuses on the analysis of safety-culture subcultures that have been described using a differential perspective proposed by Reason & Hobbs (2003). The main crucial subcultures for healthcare institutions that support providing quality services in healthcare are just culture, reporting culture, and learning culture (Reason & Hobbs, 2003). Employees' commitment and positive work performance depend on work experiences and feedback of their performance, as well as supportive relationships with colleagues and supervisors (Mulder, 2016; Wald, 2015). Positive self-image develops through the employee's experiences at work, and it is related to the theory of situated cognition (Mulder, 2016). Following the theory of situated cognition, the author has proposed that such subcultures as *professional competence culture* and *psychosocial well-being culture* influence care workers' professional identity (PI). This is central to ensure care workers' positive attitudes toward safety and encouraging safety behaviour.

The aim of this paper is to identify potential predictors of employees' safety behaviour related to their professional competences and psychosocial well-being and define safety culture subcultures that support operational manager to develop proactive safety management systems (SMSs) and provide safety of employees and patient.

The research question of this study is as follows:

How do care workers' professional competences and psychosocial well-being influence their commitment to safety and safety performance?

Further, in this paper, the section "Literature Review" focuses on the safety culture theory related to healthcare specialists' safety behaviour; the section "Methodology" unveils the methodology used in this study. In the final section, the main conclusions are drawn and proposals for future research of safety culture in care institutions are presented. Finally, further research opportunities are suggested, and the research limitations are discussed.

1. LITERATURE REVIEW

1.1. Just, Reporting, and Learning Subcultures

Dekker (2007) has noted the need of the organisation to develop a working environment and establish a just culture resulting in that employees experience safe environment, and their management is committed to safety, is aware of employees' risk behaviour, and encourages employees to identify and inform about near-misses and errors (Dekker, 2007). Just culture is specified as a culture of trust, in which there is a clear distinction of what is allowed and not allowed. Justness and safekeeping are critical components of just culture. A reporting culture promotes, and simplifies the identification process of risk behaviour, and supports fixing errors. There are opportunities to learn from mistakes, errors, near-misses, and other safety-related problems, and learning culture focuses on these. Cultures are in connection; e.g., without a just culture, it is impossible to use open reporting and improvement based on learning from mistakes (Reason & Hobbs, 2003). Non-punitive environment is a condition where learning from mistakes is possible

because a proactive approach allows supporting employees' perception that they can feel safe; and that the error reporting goal is to protect the patient (Sepp & Tint, 2017; Battard, 2017).

It has been found in previous studies that patient safety culture can exist if there are fundamental changes in management, heading from punishment to reward, creativity, and innovative understanding (Reason & Hobbs, 2003). Involvement in the decision-making process, less subordination, open communication, and teamwork are the basis to develop just culture and a non-punitive environment (Sepp & Tint, 2017). Specialists that evaluate employees' performance according to non-punitive and impartial standards have reported that transparency in relation to mistakes improves competencies and perceptions of safety culture (National Association for Healthcare Quality, 2020). Designing a non-punitive environment alleviates obstacles to create a proactive approach whereby employees have the feeling of safety, they report errors, and learn from mistakes, as well as it is improving patients' safety (Sepp & Tint, 2017; Frank-Cooper, 2014; Harrington & Smith, 2015).

To sum up, just reporting and learning subcultures are vital components of safety culture. In addition, these are a part of proactive SMSs that allow for continuous improvement and help employees to avoid errors and increase their professional competencies (Boysen, 2013; Wachter, 2013). The latter will be discussed in the following subsection.

1.2. Employees' Professional Competence

To provide quality, safe, and patient-centred services, competent and educated specialists are needed (Batalden & Davidoff, 2007; Chang et al., 2012; Nilsson et al., 2014). In risk prevention in the context of employees' responsibility and clear understanding of safety in the field of healthcare, it is essential to have professionalism and appropriate teaching (Grau et al., 2002; Neuberg et al., 2017; Ratnapalan & Uleryk, 2014). Staff members' incompetence is linked to low job attitudes, it causes frustration and job dissatisfaction, and may negatively affect job performance, as well as leading to occupational injuries (Dul et al., 2012; Hignett et al., 2013). Studies have demonstrated that professional competencies derive from skills, knowledge, attitudes, values, and self-efficacy (Epstein & Hundert, 2002; Levett-Jones et al., 2011) and influence staff members' commitment (Karami et al., 2017), performance and patient outcomes (Batalden & Davidoff, 2007; Carayon, 2010), and occupational safety (Sepp & Järvis, 2019; Hignett et al., 2013).

Epstein & Hundert (2002) have reported that professional competencies can be created in time, are not permanent, and are influenced by the context. Following this idea, the author can conclude that, in care institutions, teaching professional competencies should be approached in the context of the organisational culture. Rothwell & Lindholm (1999) have published that professional competencies should be determined, modelled, and assessed at the work level. Mulder (2016) suggested that professional competencies in healthcare should be expanded through corporate strategy and human resource management. Reason & Hobbs (2003) added a definition of learning culture in terms of the possibilities to learn from mistakes, errors, near-misses, and other safety-related issues. This alone, however, is

insufficient; both the work environment and professional competence culture should be supportive to one another. According to the proposed framework, professional competence culture is linked to the development of staff members' professionalism resulting from the development of professional identity (PI) as well as the identification and evaluation of professional competencies (incl. the evaluation of employees' perceptions of their professional competencies). Mulder (2016) highlighted that PI linked to positive self-image develops through the staff member's experiences in case the work context develops on the basis of community, which is connected to the theory of situated cognition.

Furthermore, several authors have noticed that it is not only staff members' competencies that influence work performance. Working experiences, individual attitudes (Axley, 2008; Chang et al., 2012) and staff members' mental health (Eatough et al., 2012) should also be considered. According to prior findings, the design of PI is linked to staff members' well-being (Mavor et al., 2014). Additionally, it has been found that staff members perceiving higher PI manage positively both stress (Jennings, 2009) and burnout (Wald, 2015). Psychosocial well-being will be discussed in the following subsection.

1.3. Employees' Psychosocial Well-being and Mental Health

Today, the changing nature of work has led to emerging risks and new challenges for staff members' health and safety. Psychosocial risks derive from the interaction between job content, work organisation and management, organisational conditions, and staff members' competences and needs. They have been noted as serious emerging risks (National Institute for Occupational Safety and Health, 2002). The WHO (World Health Organisation) Healthy Workplace Model (Burton, 2010; Neira, 2010) demonstrates four components of a healthy work environment: the physical work environment; the psychosocial work environment; individual health; and organisational community involvement. Organisation should be focused on the prevention of mental health problems (MHPs) by evaluating the hazards on-the-spot, and not following only stress management, pressure management training, or worker's stress counselling (Health and Safety Executive, 2005). Proactive perspective includes an important detail, namely staff members' psychosocial well-being and mental health are firmly related to work performance and organisational outcomes. Palmer et al. (2001) developed a model of occupational stress, which emphasised potential hazards such as poor culture, high demands, low control, role conflicts, poor relationships, and a lack of support. Various authors have noticed potential influences through individual and organisational outcomes. Individual symptoms link to physical, behavioural, and cognitive symptoms, as well as psychological/emotional effects (Dyrbye et al., 2014; Ray-Sanneraud et al., 2015). Organisational symptoms lead to increased overheads (e.g., recruiting, training), reduced profits, increased accident rates and litigation, higher illness absence, long working hours, increased staff turnover, reduced staff performance and morale, as well as increased hostility. Both individual and organisational outputs are linked to high financial costs (Palmer et al., 2001). Psychosocial well-being can be divided into three dimensions linked to employees' performance and healthcare system outcomes (Ray-Sanneraud et al., 2015). The first of dimensions is psychological

and it links to determinants such as burnout, psychological distress, low job satisfaction (Ray-Sanneraud et al., 2015), emotional exhaustion, tiredness, and sleep disturbances (Dhaini et al., 2016; Khamisa et al., 2015; McCaughey et al., 2014; Peters et al., 2009). The second dimension is physical, which is the cause of tiredness and poor physical health. The third dimension is social, which relates to determinants such poor social capital, poor workplace relationships, work–home interference (Ray-Sanneraud et al., 2015), incompatible role expectations from immediate superiors, poor leadership style, and abusive supervision (Eatough et al., 2012; Lazarus, 1991).

Yet, several studies have identified that a pleasant and safe work environment, positive social support (Sepp et al., 2019; Qin et al., 2014; Wagner et al., 2019), good relations between staff members (Heerkens et al., 2017), and the availability of appropriate training programs and ergonomic equipment are associated with high motivation among care workers and a decrease in the rate of compensation claims for occupational injuries (Kamioka & Honda, 2012; Park et al., 2009; Ribiero et al., 2012).

The author concludes that organisations should prioritise the psychosocial well-being of staff members. Preventive strategies should be applied and frequently improved. Regular evaluation of psychosocial risks should be integrated at the organisational level (Ray-Sanneraud et al., 2015) and provide input to develop a positive work environment (Brown et al., 2016; Westerberg & Tahvelin, 2014). Employees' psychosocial well-being should find support in organisational culture and its strategies.

2. METHODS

2.1. Methodological Choice

Safety culture has been named a paradigm characterised by complexity and intractability (Haukelid, 2008). To measure safety culture subcultures, the author adopted a multidisciplinary approach and used psychological and educational instruments. To reduce the risk of research bias, rigorous measures during the design, methods and interpretation stages were implemented. Research process addressed inclusion strategies, type of collected data, appropriate sample size, settings, data collection and analysis procedures (Creswell, 2009). Separate procedures were used to assess the reliability and validity of quantitative data and to enhance credibility and trustworthiness of quality data and findings. The types of the quantitative research design as descriptive and correlational allowed obtaining a clear picture of characteristics, trends and relationships within the investigated variables.

The generalisability of the study results was limited to different size of groups participated in the studies. Another limitation of the studies was that the author did not analyse the physical risks in a specific working environment. Also, the occupational and patient safety related case studies would have enriched the results.

Based on the revealed research problem, that the level of safety culture and employees' work performance in nursing homes is unexpectedly low (Bondevik et al., 2017), the author proposed that in order to increase their commitment to safety

work environment the organisation should transform to the collaborative learning environment with the special focus on employees' psychosocial well-being and continuing development of their professionalism (Mulder, 2016). Based on the research problem, the aim of the study is to identify potential predictors of employees' safety behaviour related to their professional competences and psychosocial well-being and define safety culture subcultures that support operational manager to develop proactive SMSs and provide safety of employees and patient. To achieve the aim of the research, the author set the main research question: How do care workers' professional competences and psychosocial well-being influence their commitment to safety and safety performance?

2.2. Data Collection and Analysis

The research procedure consisted of two studies conducted in 2017. The author contacted 16 institutions (I study – 4 retirement homes and 3 inpatient care hospitals; II study – 5 retirement homes and 4 inpatient care hospitals) that met the criteria (offering follow-up nursing, long-term care, rehabilitation, palliative care, and care for people with cognitive impairment). Each research sample was selected according to cross-sectional principles.

The first stage of the study involved researching the relationship between staff members' professional competencies and their commitment to safety. The questionnaire Caregivers' Competence Questionnaire (CCQ) according to the Estonian National Occupational Standard for Care Workers (Level IV) was adjusted and used (Sepp et al., 2018). The survey thus consisted of six topics: (1) essential skills (knowledge of ADL, patient care); (2) essential skills (knowledge for dealing with the elderly and people with special needs); (3) communication skills; (4) CPR (cardiopulmonary resuscitation or first aid); (5) professionalism (awareness of specialty); and (6) commitment to safety. The tool consisted of 31 items using a five-point Likert scale. To evaluate the psychosocial factors and their relationship with staff members' MHPs, the Copenhagen Psychosocial Questionnaire version II (COPSOQ-II) was adopted (Kristensen et al., 2005) and stage two prepared. Psychosocial factors were evaluated using 115 questions that covered the following four psychosocial domains: a) demands at work; b) work organisation and job content; c) interpersonal relationships and leadership; and d) values in the workplace. To assess the MHPs, 16 items, grouped into the following four scales, were used: burnout; stress; somatic stress symptoms; and symptoms of depression. Many of the scales for psychosocial factors and MHPs consisted of three or four items, but two scales (predictability and work versatility) simply included two items. The items were rated using six-, five-, or four-point Likert scales, based on validated methodology (Kristensen et al., 2005; Pejtersen et al., 2010).

Primary data collection used quantitative surveys, which provided the raw data of the safety culture phenomenon. During the first stage of the study, a paper-based survey (CCQ) was delivered to 362 care workers; 241 completed questionnaires were returned (66.6 %). During the second stage, the COPSOQ-II survey was used. A cross-sectional survey (Creswell & Clark, 2007; Pluye & Hong, 2014) was used in nine long-term institutions. It was handy for investigating the prevalence of a

particular phenomenon and for studying causal relationships, such as risk and its potential predictors, and consequences (outcomes) (Zangirolami-Raimundo et al., 2018). The criterion for participation was as follows: full-time care workers who had been employed by the institution for more than one year. A paper-based survey was sent to all 509 full-time care workers; the response rate was 66.8 % (340 completed questionnaires).

Gathered data were imported into the Statistical Package for Social Sciences (SPSS) software package, and the statistical analyses were completed using the IBM SPSS program version 24. Data were analysed using descriptive statistics, which consisted of standard deviation, means, frequency tables, minimum, and maximum, besides inferential statistics. Cronbach's alpha values were calculated for pre-defined scales and variables to indicate a level of internal consistency for the scale; values ranged from 1 (high reliability) to 0 (no reliability). In adddition, an exploratory factor analysis was conducted to extract the factor structure of the survey. The objective of the analysis was to reduce the number of variables. The *t*-test was used to define the variance in the data to evaluate differences between the means of subsets of the data. The Friedman test was used to verify that there was no statistical difference between various competence questionnaires (stage I).

The research results will be presented in the next chapter.

3. RESULTS

The first stage involved researching the relationship between care workers' commitment to safety and their perceptions of professional competencies by the author. Professional competencies based on skills, knowledge, attitudes, values, and self-efficacy play a major role in healthcare services (Levett-Jones et al., 2011; Batalden & Davidoff, 2007) and are linked to staff members' motivation, commitment (Karami et al., 2017; Dul et al., 2012) and safe performance (Hignett et al., 2013; Carayon, 2010; Batalden & Davidoff, 2007).

The results of the study demonstrated that staff members' professional competencies increase the capability to manage complex assignments and people with special needs. This was also identified by Nilsson et al. (2014), Chang et al. (2012). The results of calculated Pearson correlations revealed that dimension "Professionalism (awareness of specialty)" correlated strongly or moderately with all other dimensions: "Essential skills (knowledge of ADL, patient care)" ($r = 0.645$; $p < 0.001$), "Essential skills (knowledge for dealing with the elderly and people with special needs)" ($r = 0.749$; $p < 0.001$); "Communication skills" ($r = 0.677$; $p < 0.001$); "CPR" ($r = 0.574$; $p < 0.001$) and "Commitment to safety" ($r = 0.536$; $p < 0.001$) (Table 1). This means that staff members with higher professionalism (awareness of specialty) have higher estimations about their professional identity. Analysis of the calculated correlations for the dimension "Essential skills (knowledge for dealing with the elderly and people with special needs)"' revealed that confident care workers were more able to offer complex care services as well as counsel clients and their relatives. The author revealed positive strong or moderate correlations between dimension "Essential skills (knowledge for dealing with the elderly and people with special needs)" and "Communication

skills" ($r = 0.678$; $p < 0.001$), "CPR" ($r = 0.677$; $p < 0.001$) and "Commitment to safety" ($r = 0.607$; $p<0.001$). In the analysis of relations between specific statements, remarkable moderate correlations between questions 9 (relatives' consulting) and 12 (patients' daily life support) ($r = 0.576$; $p < 0.01$); 9 (relatives' consulting) and 15 (patients' independence support) ($r = 0.559$; $p < 0.01$); 9 (relatives' consulting) and 17 (work ergonomics) ($r = 0.564$; $p < 0.01$) were identified. These correlations confirm that if care workers estimate their knowledge and skills highly, they can give instructions on how to take care of patients' regular needs, counsel patient's relatives and encourage patients with managing in their daily life. In addition, care workers who positively evaluate their knowledge about ergonomics also perceive their performance as being safe. Alike, there is remarkable moderate correlation between questions 10 (patients' hygiene) and 12 (patients' daily life support) ($r = 0.546$; $p < 0.01$).

Table 1. Relations between Competencies

Description	**Results ($p < 0.001$)**					
	Scale 1	Scale 2	Scale 3	Scale 4	Scale 5	Scale 6
Scale 1. Essential skills (knowledge of ADL, patient care)						
Scale 2. Essential skills (knowledge for dealing with the elderly and people with special needs)			0.678	0.677	0.607	
Scale 3. Communication skills						
Scale 4. CPR						
Scale 5. Commitment to safety						
Scale 6. Professionalism	0.645	0.749	0.677	0.574	0.536	1

Sources: developed by the author.

In consonance with the analysis of the questions within the dimension "Essential skills (knowledge for dealing with the elderly and people with special needs)" strong uphill linear relationships with questions 12 (patients' daily life support) and 14 (patients' problem solving) ($r = 0.546$; $p < 0.001$), and 12 (patients' daily life support) and 15 (patients' independent) ($r = 0.509$; $p < 0.001$) were found. These data mean that care workers value the importance of having relevant skills and knowledge for managing the elderly and people with special needs. Positive moderate correlation at significance level $p < 0.001$ between ability to solve patients' problems and support their independence (Q14 and Q15) ($r = 0.609$; $p < 0.001$) demonstrates that care workers with high skills in problem solving tend to know how to motivate elderly patients to put an effort on to manage their activities independently.

The results of the study also identify that these care workers that are confident in their knowledge and skills to offer patients' hygiene, and perform safely and effectively, believe in their abilities to provide patients with excellent guidelines for their daily activities. However, the study results also confirm that although care

workers highly estimate their knowledge and skills about patient hygiene and coping in daily life, they feel less confident in such issues as organisation of patients' healthcare and rehabilitation.

Additionally, the research results indicate a strong correlation between care workers' professional competencies and commitment to safety ($r = 0.629$; $p < 0.01$) and contrary; it means that staff members who are more dedicated to safety have also higher estimation about their knowledge and skills in living clients and patient care. Results of analyses of the dimension "Commitment to safety" (Q26 to Q31) reveal that involvement in OSH activities increases staff members' motivation to discuss safety related issues with management and inform managers about safety issues as well as suggest adequate safety measures. Uphill linear relationships with questions 29 (safety proposals), 27 (safety communication) and 28 (managers discussions) indicate that care workers appreciate their participation and inclusion in safety activities as well as the capability to discuss safety issues with management. The most remarkable correlation was found between questions 28 (managers discussions) and 29 (safety proposals) ($r = 0.768$; $p < 0.01$), which demonstrated that respondents valued the management will on discussion of safety issues. In cases, staff members are motivated actively to inform about safety issues as well as propose safety measures to deal with them.

To sum up, the author can confirm that professional competencies and professional identity influence care workers' behaviour and willingness to offer quality and safe care service, to communicate with patients and their close ones, as well as motivate patients to manage in daily life independently. Research results support Epstein & Hundert's (2002) idea that the development of staff members' professional competencies should be evaluated and supported by formal education and on-the-job training programs. The author adds that continuous development of staff members' professional competencies and their participation in OSH activities improve employees' commitment to safety, and positively influence the quality of care. Other academics (Hall et al., 2008; Mann et al., 2006) identified comparable results. The author suggests complementing the national standard of care worker and including safety-related topics in the formal curriculum, which allows enhancing care workers' safety knowledge. Safety performance is dependent on employees' safety competencies, which enhances critical thinking and teamwork (Jin & Yi, 2019), as well as supports the recognition of occupational risks, prevents, and minimises adverse events, injuries, incidents, and accidents (Levett-Jones et al., 2017; Endacott et al., 2007).

Stage two involved the investigation of the characteristics of psychosocial risk management in long-term care institutions by the author, and its potential influence on staff members' well-being and performance. The research revealed that self-reported psychosocial factors and health issues in Estonian long-term care institutions were high (stress 69.1, burnout 63.5, somatic 79.4, and depression symptoms 77.1). The results supported prior findings that healthcare sector as well as retirement homes were among the high-risk sectors with negative consequences related to staff members' mental health and well-being (Li et al., 2010; Garret, 2008; Flin, 2007) as well as patients' injuries (Ray-Sanneraud et al., 2015). The statistical analysis revealed that care workers perceived emotional exhaustion,

which demonstrated a positive correlation with burnout ($r = 0.201$; $p < 0.01$), stress $r = 0.169$; $p < 0.01$), somatic symptoms ($r = 0.226$; $p < 0.01$) and symptoms of depression ($r = 0.174$; $p < 0.01$). According to these results, it could be pronounced that emotional demands could negatively affect staff members' ability to focus on, memory, clear thinking, and decision-making as well as employees' performance.

Table 2. Relations between Emotional Exhaustion and Mental Health Problems

Description	Results ($p < 0.01$)			
	Burnout	Stress	Somatic symptoms	Depression
Emotional exhaustion	0.201	0.169	0.226	0.174

Sources: developed by the author.

The author counted on the notion that staff members' mental health was affected by psychosocial factors at work and the quality of leadership (Dehring et al., 2018; Eatough et al., 2012). Statistical analysis of psychosocial factors of the study revealed that the staff members' recognition, predictability, social support from management, social inclusiveness and quality of leadership demonstrated negative correlations with mental health issues. Study results also indicated that staff members in retirement homes perceived that they did not have options for personal development and, thus, could not influence their work, which was demotivating and also affected their commitment to work and safety. To avoid the above-mentioned negative effects, the management should be proactive and committed (Bosak et al., 2013), working environment should be safe and supportive (Rahman et al., 2017; Qin et al., 2014), as well as work organisation – suitable and relationships – positive (Heerkens et al., 2017; Eatough et al., 2012). This is aligned with previous findings (Westerberg & Tahvelin, 2014; Zhang et al., 2014).

To sum up the results of stage two, the author can remark that staff members' mental health and their psychosocial well-being as well as staff members' safe performance are reliant on psychosocial risk management.

4. DISCUSSION/CONCLUSIONS

From the aspect of the management, it is vital to recognise the needs and limitations of the organisation deriving from the human component. It is essential to highlight that a positive safety culture is a way to ensure staff members' safety behaviour. From a perspective of the management, development of SMSs should be based on knowledge of how diverse groups in organisations perceive safety. In accordance with the conducted research, the differential perspective can be viewed as an innovative approach to management and cultural theory, and the suggested framework can be addressed as an explanatory tool for managing complex safety challenges. Hence, from a more practical view, it is likely that managers in care institutions can benefit from a balanced approach to safety that involves several details, including commitment to safety and staff members' involvement,

experiences, skills, and learning; special attention should be focused on designing a positive safety culture and a non-punitive environment in care institutions.

Mulder's (2016) and Jennings' (2009) approaches explain that organisations should change workplaces to learning and collaborative environments, which provide support to staff members in the continuing professional development. This continuing development should be supported by the organisational strategy and aims, as well as human resource management (Mulder, 2016; Jennings, 2009). Empirical evidence of the research is in accordance with previous findings that staff members' professionalism positively influences their job attitudes (Hignett et al., 2013; Dul et al., 2012) and commitment to safety (Karami et al., 2017). Professional competencies should be identified, evaluated, and modelled at the workplace (Rothwell & Lindholm, 1999), because not all knowledge can be considered without social, cultural, and physical context (theory of situated cognition) (Wald, 2015). The author contributes to the safety science theory that the professional competency culture, which rates a life-long learning approach and promotes staff members' continuing education should be created within an organisation. The author finds this as a contribution and innovative perspective in the safety science theory, because the previously defined learning culture (Reason & Hobbs, 2003) limits an understanding of the development of staff members' professional competencies through the concept of learning from mistakes in the working environment or other training programmes.

In the context of the complexity of the safety culture phenomena (Schulman, 2020; Filho & Waterson, 2018; Aven, 2014; Haavik, 2014) and OSH management, professional competencies and professional identity should be seen as a predictor of safety behaviour, because the results of this study additionally revealed that staff members who estimated their knowledge higher were more committed to safety (Karami et al., 2017; Dul et al., 2012). Also, the study determined staff members' professional competency culture as a prerequisite for systematic development of proactive safety culture. With this innovative knowledge, the author contributes to the existing safety culture idea and adds to the safety theory by finding a description of professional competency culture, which should be seen as the organisational ability to value and use all opportunities from formal education systems and on-the-spot safety training programs to provide a life-long learning process within and outside an organisation.

Management of staff members' psychosocial well-being has been seen as a part of OSH management for the past ten years (Iedema, 2009). Organisations should focus on the development of a psychologically safe working environment, positive social support (Qin et al., 2014) and promote good relations among staff members (Heerkens et al., 2017). In the second study, the author supports previous research by highlighting that correct work organisation, social inclusiveness, justice, respect at the workplace, meaning of work and development possibilities are linked to staff members' positive mental health. The author has confirmed the results of previous studies (Ray-Sanneraud et al., 2015; Eatough et al., 2012) that in healthcare staff members' safe performance depends on psychosocial well-being through psychological (Dhaini et al., 2016; Ray-Sanneraud et al., 2015; Khamisa et al., 2015; McCaughey et al., 2014; Peters et al., 2009), physical (Ray-Sanneraud et al.,

2015) and social dimensions (Eatough et al., 2012; Lazarus, 1991). The results also confirm the findings of Dollard & McTernan (2011) that psychosocial safety climate refers to a climate which offers psychosocial well-being of staff members through the balance of resources and demands. It includes such aspects as organisational systems, policies, practices and procedure, the level of senior management commitment, organisational interaction, employees' participation and involvement in health and safety activities.

In accordance with staff members' perceptions, the allocation of resources is vital because it demonstrates staff members' inclusiveness to OSH management. The results of both studies prove that the availability of ergonomic equipment and training affect staff members' motivation and *safe performance*. In correspondence with the findings, social support and appropriate allocation of resources could be addressed as the leading indicators for prevention of work-related illnesses linked to employees' mental health (Kamioka & Honda, 2012; Park et al., 2009; Ribiero et al., 2012) as well as safe performance (Dhaini et al., 2016; Ray-Sanneraud et al., 2015). Mentally healthy staff members have less mistakes, they are more committed to safety and are adequate in their behaviour and interaction with the management, patients, and colleagues (Kuenzi & Schminke, 2009).

The author agrees with previous ideas (Brown et al., 2016; Ray-Sanneraud et al., 2015) that staff members' psychosocial well-being should be prioritised, regularly evaluated, and improved. During stage two, the author emphasised that a positive working environment should be supported by organisational culture, specifically concentrated on psychosocial well-being whereas staff members' mental health is a value and shared by all organisational members, including supervisors, senior management, and colleagues. As a result of the second study, the author claims that in psychosocial well-being culture staff members' mental health and well-being are supported by quality leadership, adequate work demands, appropriate work organisation and supportive interpersonal relationships among colleagues, as well as between employees and supervisors. Psychosocial well-being culture facilitates psychosocial risk management and proactive evaluation, which can be considered factors that ensure staff members' mental health and support safe behaviour.

To sum up, previous findings have revealed that to offer quality care staff members with professional competency and commitment are vital for the institution (Chang et al., 2012; Nilsson et al., 2014). Performance motivation has been addressed as a vital predictor of the development of professional competency (Flin, 2007; Mulder, 2016). Based on the previous findings and study results of the first stage, the author concludes that staff members' professional competencies and PI are intricately linked to staff members' performance and organisational outcomes, which rely on the managerial and organisational setting (Jennings, 2009). Following Mulder (2016), the author notes that in the context of OHS management professional competencies and PI should be addressed as a predictor of safety behaviour from the perspective of positive safety culture.

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AUTHOR'S SHORT BIOGRAPHY

Jaana Sepp is a Researcher and Lecturer in the field of social sciences, healthcare, and safety management. Jaana Sepp obtained PhD degree in Business Administration from Tallinn Technical University in 2021. Her specialty is operational management, safety culture, occupational health and safety. Since 2017 Jaana Sepp has been a member of Tallinn Health Care College council. Since 2014, she has been the Head of Academic and International Affairs Office at Tallinn Health Care College. From 2012 to 2014, she was a Vice Manager of Economic Department of Raasiku Municipality Government. Since 2012 she has also been a Board member at NPO Estonian Council of Work Environment Specialists.
E-mail: jaana.sepp@ttk.ee
ORCID iD: https://orcid.org/0000-0003-1624-8580