

Investigation of the Perception of Occupational Safety, Work Stress and Happiness in Healthcare Workers

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Abstract

This study aims to examine the relationships between occupational safety, work stress and happiness perceptions of nurses and other healthcare workers working in a university hospital. No sample was selected in the study, the data collection tool was distributed to all employees who agreed to participate in the study and 195 usable questionnaires have been obtained. According to the correlation analysis results, there are negative and weak relationships between occupational safety and work stress, positive and weak relationships between occupational safety and happiness, and negative and weak relationships between work stress and happiness. According to the regression analysis results, it has been determined that perceived occupational safety explains 4.1% of the total variance on work stress, 8.4% of the total variance on happiness and perceived work stress explains 12.4% of the total variance on happiness. The study also found that the variable affecting perceived happiness the most is work stress.

Keywords

Occupational safety, work stress, happiness, hospital

Introduction

Employees spend at least 8 hours a day in their workplaces, and they are confronted with several factors leading to health hazards such as noise, vibration and extreme heat almost every day; therefore, work environments have significant effects on employee health (Bhagawati, 2015). Since such hazards affecting employees' health must be responded to consciously, occupational safety emerges as a concept that organisations should consider and give importance to (Say, 2013). By ensuring occupational safety at workplaces, it is possible to eliminate or minimise the conditions that cause the loss of people, materials, products and time that stop the workflow (Sabuncuoğlu, 2009). Working in a reliable workplace, where physical, social and psychological security measures are taken, enables the staff to work more efficiently, by increasing their confidence in themselves and the work environment and, at the same time, increase the sense of corporate belonging (Say, 2013).

It is inevitable to ensure occupational safety in healthcare institutions due to reasons such as the complex structure of health institutions in general, the obligation to provide a 24-hour uninterrupted service, lack of substitution for the services provided and being classified as 'very dangerous' workplaces according to the legislation (Devebakan, 2019). Indeed, paying attention to the work environment and occupational safety of employees is among the legal

responsibilities of managers of health institutions (Kavuncubaşı & Yıldırım, 2010). Therefore, to provide high-quality and qualified service in health institutions, managers must take necessary measures to ensure a safe work environment, reduce work stress and give due importance to employee happiness.

Although the concepts of occupational safety, work stress and happiness discussed in this study are old concepts, there is no study examining the three variables on healthcare workers. Therefore, it is thought that the results of this study will contribute to filling this gap in the literature. The next part of the study will provide information on the concepts of occupational safety, work stress and happiness.

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Occupational Safety

The concept of occupational safety is defined as a set of measures to be taken to analyse, evaluate and eliminate or prevent the hazards originating from the work environment and the risks that might arise from these hazards (Gültekin, 2018). In other words, occupational safety is systematic efforts to provide a better working environment by clearing the workplaces from the dangers caused by the execution of the work and the conditions that may harm health (Özcüre, 2016). The purpose of occupational safety is to prevent the events that threaten the individual's health, endanger them, harm the national economy, are expressed as 'accidents' and 'occupational diseases' and protect the health of the employee. With occupational safety, employees can be protected, the safety of production and enterprise can be ensured and the damage to the ecological environment can be minimised (Ceylan, 2011). In addition, many positive results, such as increasing employee commitment, productivity, motivation and performance, can be achieved by ensuring occupational safety (Kurt, 2015). Therefore, organisations' sufficient and qualified work on employee safety significantly affects successful management practices (Say, 2013).

Work Stress

Work stress is a concept that is accepted as a major problem for the health of employees and organisations all over the world (WHO, 2004). Work stress is a phenomenon that almost every employee or employer encounters at work and basically refers to the incompatibility between individual abilities and organisational demands (Naqvi et al., 2013). In other words, work stress is defined as a negative reaction people give to situations where they are subjected to excessive pressure and demands in the workplace (Bhui et al., 2016). Work stress is also defined as a group of harmful external factors that arise from psychological, physical or social conditions in the work environment (Gharib et al., 2016). Poor work organisation; the way jobs and work systems are designed; and how they are managed are among the reasons that can cause work stress (WHO, 2004). Excessive workload and management styles emerge as the main causes of stress (Naqvi et al., 2013). In addition, poor job relations among employees, insufficient job descriptions, difficult and complex nature of the job, low job autonomy and insufficient work equipment also emerge as sources of work-related stress (Aytekin & Gürbüz, 2018). It is known that in hospitals, which are among the organisations that are most at risk in terms of occupational safety, work stress is high because the work of the employees is directly related to human health, and the services they provide do not accept faults by nature. Furthermore, the fact that healthcare workers work in shifts and for long hours also emerges as factors that cause work stress (Çankaya, 2020; Öztürk et al., 2018). It is

stated that stress factors caused by work lead to a decrease in performance, dissatisfaction, a decline in motivation and commitment, and an increase in absenteeism and intention to quit (Ekundayo, 2014). It is also stated that work stress might lead to an increase in unsafe work practices and accident rates, as well as complaints from clients, and damage the organisation's image (WHO, 2004).

Happiness

Happiness is a subjective emotional state defined as a positive value the individual attributes to himself (Rezaee et al., 2016). According to Myers and Diener (1995), happiness is defined as the frequent positive emotion or affect, infrequent negative affect and the feeling of complete satisfaction with life as a whole. In other words, happiness is a concept that incorporates 'the belief that one is getting the important things one wants, as well as certain pleasant affects that normally go along with this belief' (Kraut, 1979). Happiness is also conceptualised as a positive inner experience, a high degree of well-being and the ultimate motivational tool for all human behaviour (Bekhet et al., 2008). Happiness at work means that the employee enjoys his job and loves what he does at work. It is expressed that happiness in the workplace is related to job satisfaction, and happy employees are more satisfied with their jobs than unhappy ones (Duche Pérez & Rivera Galdos, 2019; Hwang, 2019; Mousavi et al., 2018; Stoia, 2016). There is also evidence in the literature that happiness is associated with positive outcomes in different life spheres, including health, performance at work and income. However, it is also claimed that happiness is not merely the product of being successful, but being happy is the thing that leads to successful results as well (Hashim & Zaharim, 2020).

Method

Aim and Hypotheses

This study aims to examine the relationships among occupational safety, work stress and happiness perceptions of nurses and other healthcare workers working in a university hospital. The research hypotheses formed in line with the purpose of the research are as follows:

Hypothesis 1 (H₁): Participants' perceptions of occupational safety have a statistically significant effect on work stress.

Hypothesis 2 (H₂): Participants' perceptions of occupational safety have a statistically significant effect on their level of happiness.

Hypothesis 3 (H₃): Participants' perceptions of work stress also have a statistically significant effect on their level of happiness.

Hypothesis 4 (H₄): Participants' perceptions of occupational safety and work stress have a statistically significant effect on their happiness levels.

Sampling

Nurses and other healthcare workers (e.g., dieticians, laboratorians, health technicians, etc.) working at a university hospital in the Yozgat province of Turkey constitute the universe of the study. A total of 236 nurses and 120 other healthcare workers work in this hospital. No sample was selected in the study, and the data collection tool used in the research was distributed to all nurses and other healthcare workers who agreed to participate in the study. The data collection process took place between 1 September and 13 November 2020, and 195 usable questionnaires were obtained in the study.

The examination of the participants' demographic characteristics shows that 52.8% of the participants are female, and 69.8% have a bachelor's or higher education level. The mean age of the participants is 29.70, their average working time in the health sector is 7.19 years and the average working time in the current hospital is 4.53 years. While 57.4% (112 people) of the participants are nurses, 42.6% (83 people) are made up of other healthcare workers.

Data Collecting Tools

The questionnaire form consisted of three scales and six demographic questions (age, gender, educational level, duty in the hospital, total working time in the health sector and the current hospital). 'The Occupational Safety Scale for Health Care Personnel Working in Hospital' developed by Öztürk and Babacan (2012) to measure the occupational safety perceptions of the participants was used in the study. The scale consisted of 45 items and 7 sub-factors (occupational diseases and complaints, health screening and recording system, accidents and poisonings, administrative support and approaches, material, equipment and equipment control, protective measures and rules, physical environment compliance). Expressions related to this scale are weighted as 5-point Likert scale ranging from 1 = 'strongly disagree' to 5 = 'strongly agree'. The reliability value of the scale in the study is calculated as 0.947. Sample questions regarding the scale: 'Training programmes are organised for occupational safety', 'There are patient transportation rules, and they are applied'.

'Oxford Happiness Scale' was developed by Hills and Argyle (2002), and adapted to Turkish by Doğan and Akıncı Çötök (2011). The scale consists of seven items and one dimension. Two statements in the scale are reverse coded.

Statements related to the scale are evaluated on a 5-point Likert-type response scale (1 = strongly disagree, 5 = totally agree). In the study, the reliability value of the scale is calculated as 0.667. Sample questions regarding the scale: 'I am very satisfied with everything in my life', 'I am not satisfied with myself'.

Finally, the 'Work Stress Scale' developed by Baltaş and Baltaş (1990) was used to measure the work stress of the participants. This scale consists of 15 items. Measurements are scored on a 5-point Likert scale (1 = never, 5 = always). The reliability value of the scale is calculated as 0.879 in the study. Sample questions regarding the scale: 'Do you feel that your job is an obstacle to your family life?' and 'Do you encounter any difficulties in obtaining the information you need to do your job?' in the form.

Data Analysis

All statistical analyses were carried out using SPSS 22 program. Descriptive analysis, reliability analysis, correlation analysis and regression analysis were used in the analysis of the data.

Ethical Considerations

The study was approved by the Ethics Committee of Burdur Mehmet Akif Ersoy University in accordance with its decision numbered GO2020/75. Potential participants were given a document outlining that participation was voluntary, and that collected data would be used solely for scientific purposes.

Results

Considering the basic statistics regarding the research variables in Table 1, the mean of the scores given by the participants to the dimension of occupational safety is 2.65 ± 0.60 ; to the dimension of work stress, it is 2.78 ± 0.66 ; and to the dimension of happiness, it is 3.24 ± 0.62 . Accordingly, it can be said that the occupational safety and work stress levels of the participants are moderate, and their happiness levels are above average. The correlation analysis results showed negative and weak correlations ($r = -0.204$; $p < 0.01$) between occupational safety and work stress, and positive and weak correlations ($r = 0.289$; $p < 0.01$) between occupational safety and happiness. In addition, a negative and weak correlation is found between work stress and happiness ($r = -0.352$; $p < 0.01$).

Four different regression models were generated in order to analyse the relationship between the variables and to test the hypotheses. Results of the regression analysis conducted to determine the effects of occupational safety on work stress are presented in Table 2. The analysis results show the R^2

Table 1. Descriptive Statistics and Intercorrelations Between Research Variables.

Variables	Mean	SD	Occupational Safety	Work Stress	Happiness
Occupational safety	2.65	0.60	I		
Work stress	2.78	0.66	−0.204*	I	
Happiness	3.24	0.62	−0.289*	−0.352*	I

Source: The authors.

Note: SD: Standard deviation. * $p < 0.01$.

Table 2. Results of Regression Analysis.

Dependent Variable	Independent Variable	B	SE	β	t-Value	p-Value
Work stress	(Constant)	3.375	0.211		15.986	<0.001
	Occupational safety	−0.225	0.078	−0.204	−2.891	0.004
	$R = 0.204$ $R^2 = 0.041$	$F = 8.355$	$p = 0.004$	Durbin–Watson = 1.945		
Happiness	(Constant)	2.447	0.194		12.638	<0.001
	Occupational Safety	0.299	0.071	0.289	4.197	<0.001
	$R = 0.289$ $R^2 = 0.084$	$F = 17.616$	$p < 0.001$	Durbin–Watson = 1.906		
Happiness	(Constant)	4.156	0.181		23.023	<0.001
	Work stress	−0.330	0.063	−0.352	−5.217	<0.001
	$R = 0.352$ $R^2 = 0.124$	$F = 27.216$	$p < 0.001$	Durbin–Watson = 1.886		
Happiness	(Constant)	3.413	0.281		12.142	<0.001
	Occupational safety	0.235	0.069	0.227	3.386	0.001
	Work stress	−0.286	0.063	−0.305	−4.554	<0.001
	$R = 0.416$ $R^2 = 0.173$	$F = 20.080$	$p < 0.001$	Durbin–Watson = 1.919		

Source: The authors.

value of 0.041, and the overall relationship is significant ($F = 8.355, p < 0.05$). Results further indicate that occupational safety explained 4.1% of the variance for work stress. In the regression model, when the results of the t -test regarding the significance of the regression coefficient are examined, the increase in the participants' perceived occupational safety decreases the work stress statistically ($t = -2.891; p < 0.05$). This finding shows that H_1 is confirmed.

According to the results of the regression analysis conducted regarding the effect of perceived occupational safety on happiness, it is observed that perceived occupational safety explains 8.4% of the total variance on happiness. According to the analysis results, the increase in perceived occupational safety increases the participants' perception of happiness statistically ($t = 4.197; p < 0.001$). These results show that H_2 is confirmed.

According to the results of the regression analysis conducted regarding the effect of work stress perception on happiness, it is observed that the perception of work stress explains 12.4% of the total variance on happiness. According to the analysis results, the increase in the participants' perceived work stress statistically decreases their perceived happiness ($t = -5.217; p < 0.001$). These results show that H_3 is confirmed.

When the results of the fourth regression analysis are examined, it is observed that the perceptions of occupational

safety and work stress together explain 17.3% of the total variance on perceived happiness. Analysis results show that the increase in perceived occupational safety escalates the perception of happiness statistically ($t = 3.386, p < 0.05$); however, the increase in the perceived work stress statistically decreases the perceived happiness ($t = -4.554, p < 0.001$). The variable that most affects the perception of happiness is work stress ($\beta = -0.305$). These results show that H_4 is confirmed.

Discussion

In this study, the relationships among occupational safety, work stress and happiness perceptions of nurses and other healthcare workers working in a university hospital were examined. The main starting point of this study is that research examining the relationships between these three variables on healthcare workers is not given enough importance in the literature.

The analysis results of the study determine that the occupational safety perceptions of the participants are at a medium level. The findings of this study are similar to the findings of other studies. In studies by Karaer and Özmen (2016), Akkaya and Atay (2018), Devebakan (2019) and Gül et al. (2020), it was found that the occupational safety levels

of the participants were at a medium level. On the other hand, Durdu (2019) found that the perception of occupational safety is below the average in her study on nurses. Research by Korkmaz et al. (2018) concluded that the occupational safety perceptions of the participants were at a good level. Altun Uğraş et al. (2018) found that the nurses working in the operating room found occupational safety more inadequate as compared to other surgical nurses. Several studies in the literature have also determined that nurses find occupational safety conditions inadequate (Çelikkalp et al., 2016; Çil, 2016; Güzel, 2017; Samur & Seren İntepeler, 2017). It is highly essential to take the necessary precautions and measures regarding occupational safety to ensure the continuity of the services provided in hospitals and provide effective services to the patients. As is known, hospitals are institutions with high-risk areas (e.g., the operating room, emergency room, intensive care), and therefore, the risk of having occupational diseases and occupational accidents is very high for employees. The insufficiency of the physical environment, the inadequacy of protective measures and rules are also common in hospitals. All these can negatively affect employees' perceptions of occupational safety.

This study identified the work stress levels of the participants as moderate. Similar to the results of this study, in studies by Gök (2019) and Deniz et al. (2020), work stress was also determined to be moderate. On the other hand, Kemper et al. (2011) and Şantaş et al. (2018) found that participants' work stress levels were high. It is not desirable to have a high level of work stress in hospitals. Factors such as healthcare workers working under a heavy workload, the fact that their jobs do not accept mistakes by nature and the rise in violence against healthcare workers, particularly, increase the work stress levels of healthcare workers. Therefore, it is crucial for managers to take measures to reduce work stress.

The study determined that the happiness levels of the participants are above average. Research conducted by Nam and Know (2013) and Mousavi et al. (2018) also determined the happiness levels of the participants to be at a good level. In a study by Hwang (2019), it was found that the happiness levels of the participants were low. Happiness is a feeling aimed to be reached for all people. On the other hand, employee happiness is considered a factor that directly triggers productivity and performance within the organisation (Wright, 2009). However, it is stated that some factors like good friendly relationship and achieving personal and professional development goals appear to be factors that increase the sense of happiness in work life (Duche Pérez & Rivera Galdos, 2019). In this study, it is thought that the happiness levels of the participants may have increased due to their friendship relationships.

In this study, negative and weak-level correlations were found between occupational safety and work stress, whereas positive and weak relationships were found between occupational safety and happiness. The results of the regression analysis conducted in the study show that occupational safety explains 4.1% of the total variance on

work stress and 8.4% of the total variance on happiness. According to the analysis results, while the increase in the participants' perceived occupational safety statistically decreases the work stress, it increases their perceived happiness. Kaplan and Eren (2018) and Wu et al. (2018) also found that the perception of occupational health and safety has a negative and significant effect on work stress, and as work stress increases, the safety level is negatively affected. Çetinkaya and Aras (2017) found a positive and significant relationship between occupational safety and work stress in their studies. Korkmaz et al. (2018) revealed that as the participants' occupational safety increased, the tension related to work decreased. Rundmo (1995) found in his study that work stress increased in the case of a risk related to occupational safety.

In this research, a negative and weak relationship was identified between work stress and happiness. Work stress explains 12.4% of the total variance on happiness. In the regression model, the increase in the participants' perceived work stress decreases their perceived happiness statistically. The findings of this study are similar to the findings of other studies. Naseem (2018) found, in his study, that stress is an important predictor of happiness. Kaya and Demir (2017) also found a positive and moderately significant relationship between happiness levels and coping with stress. According to this, it has been determined that the higher the strategies of coping with stress, the higher their happiness levels get. In their study, Akyol and Işık (2018) determined that active planning, one of the attitudes of coping with stress, is a significant predictor of happiness levels. In studies by Sang-Yun and Seung-Hee (2019), it was determined that the state of anxiety has a negative correlation with subjective happiness and has a positive correlation with psycho-social stress. Chia-Hao and Ting-Ya (2018) revealed a strong relationship between work stress and happiness in their studies. In this study, although work stress affects job performance, it has been determined that if happiness is added as a variable, the negative impact of work stress on job performance is significantly reduced.

Finally, the study has revealed that the participants' perceptions of occupational safety and work stress together explained 17.3% of the total variance on perceived happiness, and that the variable that affected the perception of happiness the most was work stress. Duche Pérez and Rivera Galdos (2019) found in their study that psychological well-being is related to occupational safety. Singh and Mishra (2020) reported that people with happiness tendencies are probably more proactive and more resistant to adverse conditions and less prone to stress symptoms. Moustaka and Constantinidis (2010) express that stress is associated with factors such as decreased productivity, performance capacity and decreased interest in the organisation and colleagues. At this point, it is considered very important to take precautions to reduce work stress, primarily to increase the happiness levels of employees in the working environment.

Conclusion

As a result of the study, it was determined that the perception of occupational safety affects the level of work stress and happiness, and that the variable that affects perceived happiness the most is work stress. In this context, it is recommended to make certain regulations to increase the perceived occupational safety and happiness in healthcare workers and reduce their work stress levels. In line with this, to improve the occupational safety of employees, providing training for employees on occupational safety, conducting the necessary preventive studies on occupational health and safety by the hospital management, establishing an occupational health and safety culture, organising the hospital ergonomically, placing the devices and materials in the hospital per the human anatomy and the provision of protective materials can yield beneficial results. Increasing the number of staff to reduce the employees' workload, making working hours more regular and taking further security measures to protect the staff against violence may be effective in reducing stress levels. In order to ensure employee happiness, it is recommended to include employees in decision-making processes, take employee expectations into account, keep internal communication at a healthy level and take a close interest in employees' problems.

Declaration of Conflicting Interests

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