

THE EFFECT OF SAFETY SELF-EFFICACY AND SELF-REGULATION ON WORKPLACE ACCIDENTS AMONG THE STAFF OF BOYER AHMAD CITY EDUCATIONAL HOSPITALS

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ABSTRACT

The purpose of this study is to investigate the effect of safety self-efficacy and self-regulation on workplace accidents among the employees of educational hospitals in Boyer Ahmad City. This is a descriptive-correlational research using the field method. It is an applied research in terms of nature and a cross-sectional research in terms of time. The study population consists of the employees of Boyer Ahmad hospitals with a total number of 1494 employees in 2017. A total of 306 employees were selected from the population as the sample size using the Cochran formula. The results showed that self-efficacy and self-regulation variables (promotion focus and prevention focus) influence the work-related accidents. Self-efficacy, self-regulation and prevention focus have negative effects on workplace accidents while promotion focus has a positive impact on it. The results of multiple regression also showed that in total 0.62 percent of occupational accident changes are explained by self-efficacy and self-regulation variables.

Keywords: self-regulation, self-efficacy, self-efficacy, promotion focus, prevention focus, workplace accidents

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PROBLEM STATEMENT

Workplace accidents are considered one of the major factors that lead to the loss of labor and working hours. According to statistics, workplace accidents are the third most common cause of death in the world, the second leading cause of death in Iran after driving accidents, and one of the most important health, social and economic risk factors in industrial and developing societies (Flein & Mirens, 2000). In Iran, the Legal Medicine announced that 1101 people lost their lives in workplace accidents during the first 7 months of 2012, which shows a 24% increase over the same period in 2011 (Legal Medicine report, 2013). These statistics rose to 14727 accidents in 2015. Recently, studies on safety and accidents are seeking to investigate the effects of cognitive processes on the occurrence of unsafe behaviors and workplace accidents (Clissold et al., 2012). Self-efficacy is one of the cognitive variables about which few studies have been conducted in the area of self-efficacy. Self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations (Bandura, 1997). Self-efficacy perceptions affect one's motivation to engage in particular behaviors (Bandura, 1997). Therefore, self-efficacy is expected to be used for understanding safe behaviors in organizational environments. However, despite the potential effects of self-efficacy on safe operation and workplace accidents, this area has received little attention. Safety self-efficacy is defined as one's belief in the ability to safely perform and work safely. Brown et al. assumed that safety efficiency derived from the self-efficacy of the carriage believed positive safety behaviors. They used a model to predict safe work behaviors in a steel plant in the United States. Their models included organizational variables such as safety hazards, safety barriers, working pressure, ease of attitude and safety self-efficacy. The results showed that managers and staff agreed that these organizational factors affect individual factors (attitudes toward safety behavior, safety self-efficacy) and ultimately affects the safe behavior of the workplace (Brown et al., 2000). Another cognitive variables affecting workplace accidents is self-regulation. Self-regulation includes activities that enable people to direct their activities towards their goals over time by modifying their thoughts, emotions and behaviors (Latham, 2007: 254). The Regulatory Focus Theory (RFT) has received a considerable amount of research attention in recent years (Higgins, 1997). According to the RFT theory, people show different efforts or different task strategies to perform desirable outcomes, such as doing a job properly. Individuals may carry out their duties using a

promotion focus strategy, which is in fact an enthusiastic focus or concern to do a lot of work fast.

It is also possible for individuals to have a prevention focus strategy, which uses a precautionary focus or concern to comply with laws, work-related regulations, and accountability (Johnson & Chang, 2008). Considering these points and the importance of the cognitive issues in prevention of workplace accidents, the present study deals with the effect of safety self-efficacy and self-regulation on workplace accidents among the employees of educational hospitals in Boyer Ahmad city.

LITERATURE REVIEW

Rahimi Pardanjani and Mohammadzadeh Ebrahimi (2015) conducted a research entitled " Safety self-efficacy and self-regulation, predictors of workplace accidents among the staff of an industrial company". The results of their study showed the importance of two cognitive variables of prevention focus and safety self-efficacy as predictors of workplace accidents. Sabeti Motlagh et al. (2015) also conducted a research entitled " Estimation and analysis of workplace accidents in Qazvin Province using DALY method between 2011 and 2013", coming to the conclusion that the workplace accidents rate in Qazvin Province increased by 33.6% during the three years of the study. Also, the frequency distribution of workplace accidents shown in this research is consistent with those in other studies conducted in Iran and other countries of the world from different aspects such as age group, gender, cause of accident, type of accident and activity of industries. Lopez Arquillos & Rubio-Romero (2016) conducted a study entitled "Analysis of Workplace Accidents in Automotive Repair Workshops in Spain. The results of their study showed that occupational health and safety training courses should be tailored to the characteristics of workers, and improvement of workers' participation in small companies would help improve the working conditions. Yong Jeong et al. (2016) conducted a study entitled "Workplace Accidents and Work-related Illnesses of Household Waste Collectors", and found that many accidents happen to people aged fifty or more. It was also shown that 51.4% of the workplace accidents occur for employees of 49 years of age or under this age. The damage often occurs when workers work on slippery surfaces.

RESEARCH HYPOTHESES

Self-regulation affects workplace accidents in the educational hospitals of Boyerahmad City.

Self-efficacy affects workplace accidents in the educational hospitals of Boyerahmad City.

Promotion focus affects workplace accidents in the educational hospitals of Boyerahmad City.

Prevention focus affects workplace accidents in the educational hospitals of Boyerahmad City.

RESEARCH METHOD

This is a descriptive-correlative research field research. It is an applied research in terms of nature and a cross-sectional research in terms of time. The data collection tools used in this study include a questionnaire and note-taking. The statistical population of this research consists of the staff of the educational hospitals of Boyerahmad City in 2017, with a total number of 1494. As many as 306 employees were selected as the sample size using the Cochran formula. With regard to the number of personnel in each hospital, the sample size was chosen proportional to this number.

Table 1. Statistical population and its proportional sample size

Hospital	Personnel number	sample size
Imam Sajjad	810	166
Shahid Rajaei	54	11
Shahid Beheshti	630	129

Three questionnaires of self-efficacy, self-regulation and workplace accidents were used for data collection and the data were analyzed using the SPSS software.

FINDINGS

The results of the descriptions of the staff at the Yasuj Educational Hospital showed that 60.8% of the participants were male and 39.2% were female. In other words, 186 of the respondents were men and 120 respondents were women. 12.4% of the research participants belonged to the age group of 20-30 years, 27.7% belonged to the age group of 31-40, 42.5% belonged to the age group of 41-50 years, and 27.5% belonged to the age group of more than 50 years. 4.6% of the participants had high school diploma degrees, 4.6% had associate's degrees, 57.8% had bachelor's

degrees, 25.8% had master's degrees and 7.2% had Ph.D. degrees. 68.3% of the participants were married while 31.7% of them were single. In other words, 209 respondents were married and 97 participants were singles. 14.7% of the research participants had 1-5 years of work experience, 35% had 6-10 years of work experience, 34.3% had 11-20 years of work experience and 16% had over 20 years of work experience. 54.2% of the participants were working in Imam Sajjad Hospital, 3.6% were working in Shahid Rajaei Hospital, and 42.2% were working in Shahid Beheshti Hospital. As the inferential results presented in Table 2 show, the self-regulation variable explains 0.305% of the workplace accidents. The beta value obtained shows that a one unit increase to self-regulation leads to a reduction of the workplace accidents by 0.55. Considering the F-value and its significance, we can say that H1 is accepted and the results can be generalized to the whole statistical population. The self-efficacy variable explains 0.4% of the workplace accidents. The beta value obtained shows that a one unit increase to self-efficacy leads to a reduction of the workplace accidents by 0.63. Considering the F-value and its significance, we can say that H1 is accepted and the results can be generalized to the whole statistical population. The promotion focus variable explains 0.235% of workplace accidents. The beta value obtained shows that a one unit increase to promotion focus leads to a reduction of the workplace accidents by 0.484. Considering the F-value and its significance, we can say that H1 is accepted and the results can be generalized to the whole statistical population. The prevention focus variable explains 0.217% of workplace accidents. The beta value obtained shows that a one unit increase to prevention focus leads to a reduction of the workplace accidents by 0.466. Considering the F-value and its significance, we can say that H1 is accepted and the results can be generalized to the whole statistical population

Table 2. Single-variable regression between the independent variables and workplace accidents

Variable	B	β	R	R ²	F	sig
self-regulation	-0.145	-0.55	-0.55	0.305	133.66	0.001
self-efficacy	-0.682	-0.63	-0.63	0.4	200.14	0.001
promotion focus	0.239	-0.484	0.484	0.235	93.2	0.001
prevention focus	-0.194	-0.466	-0.466	0.217	84.367	0.001

As the multiple regression analysis in Table 3 shows, the coefficient of determination indicates that 0.624 percent of the workplace accidents are predicted based on safety self-efficacy and self-regulation. When the two main variables of the research simultaneously entered the variables of workplace accidents, they were able to explain a major part of the dependent variable variation, which indicates the importance of these two variables in workplace accidents in the educational hospitals of Yasuj City. As the results in Table 4 indicate, the calculated beta value which prioritizes the effect of the variables regardless of the index, shows that self-efficacy and self-regulation have the highest impact on workplace accidents with a beta of -0.468 and -0.335 respectively.

Table 3. A summary of the model

Correlation coefficient	Squared correlation coefficient	Adjusted squared correlation coefficient	Standard error of estimation
.659	.434	.431	2.51977

Table 4. Regression coefficients

variable	Non-standardized coefficients		Standardized coefficient	t	level of significance
	B	Standard error	BETA		
Fixed value	5.123	.933	**	5.493	.001
self-regulation	-.066	.015	-.252	-4.477	0.003
self-efficacy	-.507	.061	-.468	-8.313	0.001

CONCLUSION

This study investigated the effect of safety self-efficacy and self-regulation on workplace accidents among the employees of the educational hospitals in Boyer Ahmad City. According to the results of this test, self-regulation has a negative effect on workplace accidents so that the increased self-regulation helps reduce the workplace accidents. The RFC theory seems to be a

good explanation of why and how employees behave differently in the safety and production outcomes. When employees use the promotion focus, they may be unsafe to reach their goals and may face accidents due to their focus on doing the job quickly. Self-efficacy perceptions affect one's motivation to engage in particular behaviors. Therefore, self-efficacy is expected to be used for understanding safe behaviors in organizational environments. However, despite the potential effects of self-efficacy on safe operation and workplace accidents, this area has received little attention. Safety self-efficacy is defined as one's belief in the ability to safely perform and work safely. Brown et al. assumed that safety efficiency derived from the self-efficacy of the carriage believed positive safety behaviors. Safety self-efficacy requires both skills and belief in one's ability to perform those skills. When individuals' self-efficacy is formed for safety-related behaviors, these beliefs will guide people's reactions, endeavors, behaviors and aspirations. On the other hand, people's past experiences relating to success in complying with safety rules, the perception of safety-related behaviors of managers and supervisors, the dissemination of safety information and knowledge and the prioritization of safety can increase people's safety self-efficacy and, consequently, reduce their workplace accidents. According to the self-regulation theory, employees who have promotion focus tend to engage in work activities due to their desirable economic and developmental outcomes. Therefore, adopting a promotional strategy may lead to errors and mistakes due to one's concern about carrying out a large number of tasks so quickly, so that they may act in an unsafe manner in doing their tasks. In other words, employees with a strong promotion focus apply certain strategies to maximize their productivity, which can marginalize their safety and increase the number of workplace accidents. If a person uses the prevention focus, he actively tries to perform the task in a safe way, thereby reducing the chance of getting involved in an accident. Employees with a strong prevention focus employ strategies that increase the quality and safety of work. A preventive strategy, due to concerns about the negative consequences of a job, is likely to lead to safe engagement in tasks. Such an individual actively strives to do the work in a safe way, thereby reducing the chance of getting involved in an incident, but this may reduce his productivity in the short term due to his caution in work, but his overall performance in the long term will increase due to the reduced likelihood of engagement in accidents. Considering the results obtained, we can say that the formation of employees' safety self-efficacy can affect their safe behavior. Managing the variable, vague, unpredictable and stressful situations, such as situations where there is a high probability of

unsafe behaviors and consequent events, involves multiple skills and belief in these abilities. Interaction with the environment is partly influenced by one's judgments about his or her abilities. This means that if people believe in their abilities, they can safely perform their duties in particular situations in the face of risky situations. Moreover, as mentioned earlier, the prevention focus approach is associated with fewer workplace accidents than the promotion focus approach, because the former highlights quality and safety, while the latter emphasizes quantity and productivity. However, since employees are likely to fluctuate from time to time between the prevention focus and the promotion focus approaches, those who choose either one properly tailored to the requirements of the task and the situation are likely to improve the quality of their work over time, or create a balance between the speed and accuracy of the overall performance of their jobs.

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