



Relationship Between Optimism with Extra Role Behaviors and Occupational Accidents: A Case Study Among Nurses and Nursing Aids Working in Two Hospitals in Qom City, Iran: A Cross-Sectional Study

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Abstract

Background: Several factors are involved in occupational accidents such as individual and environmental factors. Organizational citizenship behaviors (OCBs) and optimism are useful in the prediction of organizational behaviors as well as in the prediction of organizational virtuousness and job performance.

Objectives: The present study aimed to evaluate the relationship among optimism, extra role behaviors or OCB, and occupational accident in working nurses and nursing aids at two hospitals in Qom, Iran, 2017.

Methods: This cross-sectional study was conducted in two hospitals and was carried out among 177 nurses and nursing aids (response rate = 88.5%). The instruments used included demographic, optimism and OCB questionnaires. A forward-backward technique was applied for OCB face validity assessment. SPSS V. 20 software was used to analyze data by Mann-Whitney, Kruskal-Wallis, t-test, ANOVA, and Poisson regression.

Results: A total of 40.6% of participants have experienced cases of occupational accidents. OCB's mean score was 62.15 (\pm 12.61). Average score of optimism was 10.51 (\pm 2.60). Based on Mann-Whitney results, optimism was different between men and women ($P = 0.004$) and men had a higher level of optimism. Nursing aids experienced lower occupational accident (52.4%) than nurses with the BSc degree. Shift workers had experienced lower occupational accident (34.3%) than day workers. In addition, each unit increasing in optimism score was led to 6% increasing in the occupational accidents rate.

Conclusions: According to the obtained results, the implementation of adjustment programs and reducing the load of mental and physical work as well as improving the nurse's organizational behaviors would be necessary. In addition, sufficient training to improve the nurses' attitude toward safety is recommended.

Keywords: Occupational Accident, Optimism, Organizational Citizenship Behavior, Nursing

1. Background

In the meantime, occupational accidents are causing injuries and financial problems for both employees and their organizations. According to the International Labor Organization (ILO), more than 337 million accidents happen on the job each year, resulting in, together with occupational diseases, more than 2.3 million deaths annually (1, 2).

Several factors are involved in occupational accidents such as individual (subjective, mental, and behavioral issues) and environmental factors (3). One of the subjective factors is optimism. Being optimistic, in the typical

sense of the word, is defined as expecting the best possible outcome from any given situation (4). Some researchers on a general approach believe that optimism can create a positive attitude among workers and cooperation will also increase in the organization (5). It is revealed that optimism is associated with success and leads to high motivation among workers (6). Many researches have been addressed into the effective role of an optimistic attitude for life-threatening diseases (7). Based on literatures, optimism and health are correlated moderately (8). Optimism has been shown to explain between 5% - 10% of the variation in the likelihood of developing some health con-

ditions (correlation coefficients between 0.2 and 0.3) (9). A recent meta-analysis of optimism supported past findings that optimism is positively correlated with life satisfaction, happiness, psychological and physical well-being, and negatively correlated with depression and anxiety (10). It seems that optimism is a critical feature that is associated with psychological and psychosocial health (11).

On the other hand, based on the organizational approaches, sometimes peoples with optimism bias concerning occupational health and safety (OHS) hazards have the tendency to think that negative events are less likely to happen to them than to others. Hence, this attitude will be reflected in their unsafe behavior and safety measures will not run. In this situation many workers were involved in an incident as well as a high risk workplaces were created for others. Optimism has been proposed as a stressor related to people's emotions also (12). In addition, the emotional states are associated with consciousness level and concentration on behaviors as well as safety measures. Therefore, high level of optimism can be considered as the main factor for injuries occurrence in individuals (13). Based on the occupational safety, although workers with high self-confidence can affect to potential threats for minimizing them, but at the same time, (in 20% to 30% of the cases), a mistake is created in risk estimation associated with their work. This poor safety attitude can lead to occupational accidents (14).

One of the main concepts in organizational and industrial management is organizational citizenship behavior (OCB). Organizational behavior has been linked to overall organizational effectiveness, thus, these types of employee behaviors have important consequences in the workplace (15). In addition, the OCB is useful in the prediction of organizational virtuousness as well as job performance (16).

2. Objectives

The present study designed aims to survey the relationship between optimism with organizational citizenship behavior and occupational accidents among nurses and nursing aids of two hospitals in Qom city, 2017.

3. Methods

This cross-sectional study was designed in two hospitals and was carried out among 177 nurses and nursing aids (response rate = 88.5%). Nurses and nursing aids were selected via simple random sampling method. We used three research instruments: the first was a questionnaire for demographic data including variables such as work experience, education level, gender, marital status, age

and occupational accidents. Accident data was gathered as self-report. However, we were checked obtained data with approved documents in their hospitals. The second questionnaire belonged to optimism. This tool was introduced by Williamson et al., with four questions and answers in the Likert style. The higher score in optimism in the nurse's view indicated that safety risks were uncontrollable and inevitable. Validity or reliability of the Persian version of the optimism questionnaire was evaluated by Kiani et al. via split-half method (0.78) and Cronbach's alpha equals to 0.79 (17, 18). The third tool was OCBs questionnaire includes 20 questions and five choices for each response (from 1 = never to 5 = every day). The expected scores for OCBs was the range between 20 and 100. Higher scores indicated better conditions. Reliability of the third tool, based on Cronbach's alpha, was reported as 0.89 (16). Questionnaires were completed as self-reported and semi-supervision form. For data analysis used the SPSS V. 20 software aided by using Mann-Whitney tests, Kruskal-Wallis, t-test, ANOVA, and Poisson regression.

4. Results

The majority of participants were women (59.3%) as well as married ones (71.3%). A total of 75.1% of the studied nurses had a B.Sc. degree or higher. Also, 69 nurses and nursing aids were said that they had experienced occupational accidents. Additional information can be seen in [Table 1](#).

Table 1. Qualitative Demographic Factors Description (N = 177)

Factor	Frequency, No. (%)
Gender	
Male	72 (40.7)
Female	105 (59.3)
Marriage status	
Married	124 (71.3)
Single	50 (28.7)
Education	
Diploma	26 (14.7)
Associate's degree	18 (10.2)
Bachelor or higher	133 (75.1)
Shift working	
Yes	145 (83.3)
No	29 (16.7)
Accident	
No	101 (59.4)
Yes	69 (40.6)

OCB had a mean score of 62.15 where the standard deviation equals to 12.61. OCB reliability using Cronbach's alpha coefficient was 0.896 (Table 2).

Average score of optimism was obtained 10.51 ± 2.60 . Optimism reliability using Cronbach's alpha coefficient was 0.548. Normality of the gathered data was tested aided by Shapiro-Wilk's test. Based on the before mentioned test, it is revealed that optimism data were not normal ($P < 0.05$), however, OCB data were normal ($P > 0.05$). Hence optimism differences in various groups were measured with the help of nonparametric tests. Based on Mann-Whitney results, optimism was significant between men and women ($P = 0.004$) and men were in the higher level of optimism (11.21 ± 2.46 for men and 10 ± 2.59 for women).

However, a significant difference in various groups and OCB was not observed ($P > 0.05$) when using *t*-tests and one-way ANOVA. Demographic factors, OCB, and optimism effects on occupational accidents were investigated by Poisson regression. Results of this evaluation were given in Table 3. As Table 3 shows, nursing aids with a diploma had experienced lower occupational accident (52.4%) than nurses with a BSc degree. Shift workers had experienced lower occupational accident (34.3%) than day workers. In addition, each unit increasing in optimism score was lead to 6% increasing in the occupational accidents rate.

5. Discussion

Based on the results of the study, optimism among nurses and nurse aids are higher than the average. Optimism was reported in lower levels in other professions (19-21). Higher optimism can be attributed to the providing health services as the type of work. Nurses, as the most important component of care system and patient safety, learn in their job that hope for the future and positivism can greatly contribute to faster recovery of their patients. In fact, today's organizations need optimism to create job satisfaction and job enrichment (22). Based on the results of this study and in line with other research (11), men had higher optimism than women. It seems that female nurses, due to having more feelings and emotions involved in these tasks, are more affected by their occupational environment than male nurses. Optimism in its general concept can improve occupational health and safety and the patient's safety. Based on studies of other researchers optimism, as an important factor of psychological capital (23), led to increase in self-esteem (24), had positive impact on resiliency and flexibility of people (19), indirectly affect the safety climate (25), is associated with mental health (26), has a positive effect on job satisfaction and organizational commitment (27), is correlated with organizational successfulness (28), leading to better fitting of individuals

with their workplace (29), rises the organizational happiness (20), and eventually affect unsafe behaviors in workplace (30).

On the other hand, optimism reduces job burnout (31) and reduces job stress indirectly (32). Hanssen believes that optimism is an important variable for predicting mental health and social adaptation of people (33). Respects to the advantages enumerated above and presence of optimism more than average score in nursing profession, there is a great asset available for hospital managers to use the appropriate leadership style to enhance productivity and efficiency of their organizations (34). Optimism is a type of thinking pattern not a permanent part of the human character. People can learn to change their thinking pattern (35). Based on this fact we can promote optimism among people through educational programs (36). Despite the benefits of optimism, sometimes occupied people are having optimistic bias (37). Considering the negative relationship between optimism and occupational accidents (Table 3), nurses and nurse aids experienced optimism bias. "Nothing badly would happen to me compared with other partners" is the keyword of optimism bias. It evokes the crucial concept in occupational health and safety. Lack of experience in case of an accident increases optimism bias. Furthermore, when people feel they have high control on their work, optimism bias would appear. Bias results in inadequate attention to safety considerations and ultimately the unsafe behavior and accident. The reports of risks and errors would also face a reduction. Due to the visibility of optimism bias in the present study, it is recommended that positive imagination about optimism should not lead to neglecting the bias. Although not necessarily, optimistic people do not show bias, however, these two concepts are related and should be studied and planned together in management issues. Another important variable in this study was "post-task behaviors or organizational citizenship behavior". According to the results, the nurses were higher than average. In other words, nurses and nursing assistances during the defined tasks usually do post-task behaviors that help to improve effectiveness of organization's services and on the other hand, have a positive impact on coworkers' performance. Organizational citizenship behavior, like optimism, is improvable through intervention programs (34). Based on the results of other studies, organizational citizenship behavior can lead to positive effects in the workplace (38, 39). Considering the outcome of this study and in line with the results of other researches, Optimists do better OCB in the organization (22, 23, 40). For example, optimists are better involved in teamwork in in hospitals, help more to others in carrying out the responsibilities, report deficiencies and errors more, and follow safety procedures and instructions

Table 2. Descriptive Statistics of Quantitative Variables (N = 177)

Variable	Minimum	Maximum	Mean	Standard Deviation
Age	19	60	34.13	9.344
Work experience	1.0	35.0	10.110	9.5394
Accidents number	0	10	1.28	2.126
Organizational citizenship behavior (OCB)	35	91	62.15	12.609
Optimism	4	18	10.51	2.599

Table 3. Poisson Regression Results of Various Variables' Effects on Occupational Accidents

Parameter	β	Standard Error	P Value
[marriage = single]	-0.159	0.1793	0.375
[marriage = married]	Ref.	-	-
[education = diploma]	-0.524	0.2564	0.041
[education = associate's degree]	-0.390	0.2700	0.148
[education = bachelor and higher]	Ref.	-	-
[shift working = yes]	-0.343	0.1685	0.042
[shift working = no]	Ref.	-	-
[gender = male]	-0.223	0.1538	0.147
[gender = female]	Ref.	-	-
Age	0.021	0.0192	0.283
Work experience	0.007	0.0192	0.703
OCB	-0.008	0.0056	0.161
Optimism	0.060	0.0273	0.029

more (19, 41). Since the manner and style of management (34), good communication in the workplace (42), organizational spirituality (43), occupational ethics (44), sense of organization belonging (40), and perceptions of organizational justice (45) are in relationship with organizational citizenship behavior, it seems that the definition of training programs to promote these factors as well as management commitment to better communication with staff can lead to improved organizational citizenship behavior. The relationship between occupational accidents and OCB was not established in this study. However, other researchers reported significant correlation between organizational citizenship behavior and accidents (46, 47). The complexity and diversity of the responsibilities of nurses and huge amounts of labors can be mentioned as reasons for this difference. However, strengthen organizational citizenship behaviors through the promotion of organizational ethics and spirituality can lead to better performance, higher quality of working life (48), and risk management (25). In addition, according to the relationship between occupational accidents and the level of education and working shifts in this study, the more bias is expected

for nurses with higher educational status. Besides, day working employees, due to the higher workload in their working hours are involved in more accidents. Therefore, it is suggested that day working nurses with a bachelor degree level or higher be considered while implementing intervention programs than other people.

5.1. Conclusions

Based on the findings, optimism bias among nurses and nurse aids (especially day working ones and with higher educational level) was approved. On this basis, development and implementing a comprehensive intervention program including changes in management style, promotion of occupational interactions, improving organizational spirituality and occupational ethics, and development of organizational justice in the studied hospitals and other providers of healthcare services is recommended.

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Footnotes

Authors' Contribution: Mohammad Khandan and Alireza Koohpaei were involved in the development of the study design, data interpretation, data analysis and manuscript drafting. Zahra Arab and Fatemeh Saadat contributed to the data gathering, data analysis, and manuscript drafting.

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