A study of relationship between dimensions of safety climate with safe behaviors in the petrochemical industry

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Abstract

Background: approximately 90 percent of workplace accidents are due to unsafe behaviors and human errors. Identification of the factors influencing unsafe behaviors in the prevention of these accidents is useful. The aim of the present study was to assess the relationship between dimensions of safety climate and safe behaviors in a petrochemical industry.

Methods: In this descriptive – correlation study, the population included all line employees working in an industrial company (N= 1160). Four hundred employees were selected by stratified random sampling. Participants in this study were evaluated by using safe behaviors and safety climate scales. In order to analyze the data, the regression analysis and in the validation stage, the confirmatory factor analysis using AMOS-21 and the Pearson's correlation that using SPSS-19 were applied.

Results: Findings indicated that correlation coefficients between dimensions of safety climate and safe behaviors were positive and significant (P<0/001). Stepwise multiple regression analysis yielded that of the six independent variables, only two variables of management commitment and safety communication and feedback entered the regression equation (R^2=0.423, P<.0001).

Conclusion: The results of this study showed the importance of management commitment and safety communication and feedback as predictors of safe work behaviors. Therefore, in order to select people for high risk environments such as petrochemical industry and also in training courses we should rely on these variables.

Keywords: safe/unsafe behaviors, safety climate, petrochemical industry

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