

## Relationship between employees' safety climate and safety performance with respect to mediating effect of safety knowledge and safety motivation in Sarcheshmeh copper complex

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### Abstract

**Introduction:** The present study aimed to investigate the relationship between safety climate and safety performance with respect to the mediating effect of safety knowledge and safety motivation.

**Material and Method:** The study population was a sample of 354 subjects chosen by Cochran formula among all 4252 employee in Sarcheshmeh copper complex in Rafsanjan, 2015. The participants were selected according to stratified random sampling. Data collection was done by four questionnaires (safety climate, safety knowledge, safety motivation, and safety performance). The Cronbach's alpha and composite reliability (CR) were used to evaluate the reliability of the study tools and the coefficient of all variables were acceptable with values of higher than 0.8. Moreover, validity of the questionnaires was confirmed by convergent validity and divergent validity, R-square, effect size ( $f^2$ ), and Q2 criterion. The Average Variance Extracted (AVE) was greater than 0.4 which is relatively acceptable. The obtained data were analyzed using SmartPLS software.

**Result:** Kolmogorov-Smirnov test was used to investigate the normality status of variables distribution. Furthermore, Structural Equations Method (SEM) was adopted to test the research hypotheses. The results confirmed all the research hypothesis and showed safety climate direct effect on safety performance. Moreover, safety motivation and safety knowledge have mediating role in the relationship between safety climate and safety performance. Safety motivation can also mediate the relationship between safety knowledge and safety performance.

**Conclusion:** Overall, it is recommended to improve safety climate, considering its influencing components. Employees' safety knowledge and safety motivation should also be promoted. Additionally, it is recommended to determine other personal and organizational parameters and include them into the model. By determining the mediating variables, their role in the safety performance can be investigated.

**Key words:** *Safety climate, Safety performance, safety knowledge, safety motivation*

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