Neuroticism and Its Detrimental Effects on Safety Behaviour in High-Risk Work Environments

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ABSTRACT

This study looks at how workers in high-risk petroleum activities in Nigeria's Niger Delta behave in terms of safety when they have neurotic personality traits. It is believed that neuroticism, which is typified by emotional instability, worry, and pessimism, compromises safety compliance and involvement. Regression analysis is used in the study to measure the association between neuroticism and safety behaviour using a cross-sectional survey of 384 workers from five oil and gas companies. The findings show a strong negative correlation: $\beta = -0.180$ for safety compliance and $\beta = -0.164$ for safety involvement. In order to reduce the hazards associated with neurotic tendencies in dangerous work contexts, these findings emphasize the necessity of psychological screening and focused interventions.

Keywords: Neuroticism, Safety Behaviour, High-Risk Industry, Personality Traits, Petroleum Sector

INTRODUCTION

The petroleum sector is inherently hazardous, with operations involving volatile compounds, high-pressure systems, and intricate apparatus. Despite technology precautions, human behaviour remains an important predictor of safety results. Neuroticism, one of the Big Five personality traits known for its emotional instability and susceptibility to stress, has been linked to poor decision-making and risk-taking behaviour. This research studies how neuroticism influences safety behaviour, with an emphasis on participation in safety initiatives and protocol adherence.

LITERATURE REVIEW

Neuroticism is defined as a predisposition to unpleasant emotional states like anxiety, depression, and impatience. Individuals with high neuroticism are more inclined to see situations as threatening and react with dread or avoidance. Previous research has found that neurotic workers are less likely to engage in safe practices and are more prone to errors. The Domino Theory of Accident Causation and the Human Factor Theory both highlight the importance of psychological factors in accident risk. However, empirical information from the Nigerian petroleum sector is limited, necessitating this targeted inquiry.

METHODOLOGY

A cross-sectional and inferential approach was employed to investigate the link between neuroticism and safety behaviour. The survey targeted 1,000 employees from five Niger Delta-based oil and gas corporations. A total of 384 respondents were chosen via proportionate stratified sampling. A standardized questionnaire with a 5-point Likert scale was employed. The Big Five Inventory was used to assess neuroticism, whereas validated safety involvement and compliance questions were used to assess safety behaviour. Descriptive statistics and regression analysis were used to assess the influence of neuroticism on safety behaviour.

RESULTS

Descriptive statistics revealed a mean Neuroticism score of 2.15, indicating low levels of neurotic behaviour

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among respondents. Safety involvement and compliance got average scores of 4.38 and 4.48, respectively. Neuroticism was found to have a substantial negative impact on safety involvement ($\beta = -0.164$) and compliance ($\beta = -0.180$) based on regression analysis. The model accounted for a significant percentage of the variance in safety behaviors ($R^2 = 0.37$).

DISCUSSION

The findings confirm that neuroticism considerably impairs safety conduct. Workers with high neuroticism are less likely to participate in safety activities and more likely to disobey safety standards. This is consistent with global studies and highlights the psychological vulnerabilities that lead to dangerous actions. The findings imply that organization's should consider psychological screening during recruiting and give mental health care to reduce the risks associated with Neuroticism.

CONCLUSION

Neuroticism has a substantial impact on safety behaviour in high-risk work contexts. Organizations can improve their safety culture and reduce incidents by detecting and correcting neurotic tendencies. Future study should investigate interventions that enhance emotional resilience, as well as the relationship between neuroticism and other personality traits.

REFERENCES

1. Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: A meta-analysis of the roles of person, situation, and behavior. Journal of Applied Psychology, 94(5), 1103–1127.
2. Clarke, S. (2006). The relationship between safety climate and safety performance: A meta-analytic review. Journal of Occupational Health Psychology, 11(4), 315–327.
3. Costa, P. T., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Psychological Assessment Resources.
4. Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. Journal of Occupational Health Psychology, 5(3), 347–358.
5. Hofmann, D. A., & Stetzer, A. (1996). A cross-level investigation of factors influencing unsafe behaviors and accidents. Personnel Psychology, 49(2), 307–339.
6. Mearns, K., Whitaker, S. M., & Flin, R. (2003). Safety climate, safety management practice and safety performance in offshore environments. Safety Science, 41(8), 641–680.
7. Neal, A., & Griffin, M. A. (2004). Safety climate and safety at work. In J. Barling & M. R. Frone (Eds.), The psychology of workplace safety (pp. 15–34). American Psychological Association.
8. Salgado, J. F. (1997). The five-factor model of personality and job performance in the European Community. Journal of Applied Psychology, 82(1), 30–43.
9. Zohar, D. (2000). A group-level model of safety climate: Testing the effect of group climate on microaccidents in manufacturing jobs. Journal of Applied Psychology, 85(4), 587–596.