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Applying attribution theory to Crane Operators and Crane Supervisors' perceptions of incident causation

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Abstract

Crane incidents occur in the ports of South Africa and around the world in the maritime industry. Crane Operators' and Crane Supervisors' accounts of such events are used in investigations and therefore the accuracy of the findings from the incident investigation is important because these findings inform the remedial actions that must be taken to address the cause (s) of the incident. The aim of this research paper is to understand and compare crane operators' and supervisors' perceptions of why incidents happen using attribution theory (Heider, 1958). In this qualitative study, 16 participants from a port in South Africa were used. Specifically, 8 crane operators and 8 crane supervisors. The two groups were interviewed using semi-structured interviews. Thematic content analysis was conducted on the interview data to identify the emerging themes between the two groups utilizing a systems thinking approach (Wilson, 2014). The results support Gyekye (2010), demonstrating that supervisors are more inclined to attribute crane incidents to internal factors of the crane operators while the crane operators are more inclined to attribute crane incidents to external, systemic factors. Both groups identified external factors such as mechanical and maintenance issues, weather conditions, communication, training and skills, and safety culture as factors contributing towards crane incidents. The supervisors were more prone to identifying personal factors attributed to crane operators such as a lack of concentration, fatigue, skills and eye sight as causal factors. Conversely, Crane Operators mostly felt that these factors were insignificant in causing any incidents. The results of the study are also in contradiction to Gykye (2010) in that Crane Supervisors were also shown to take a protective stance by making external attributions to crane incidents. The cultural backgrounds of the two groups were found to have an influence on the way they perceive incidents. This was mostly observed in the Cane Supervisor group where the cultural background of the Crane Supervisors influenced them to blame external situations for the causes of crane incidents instead of placing the blame on Crane Operators as predicted. Safety culture and blame culture were also found to influence the way in which both groups perceive incidents. Both groups were found to be motivated to make external attributions that place the blame on situational factors as a way of diverting blame and punishment away from Crane Operators. This paper was able to show the inaccuracies that exist in the current method of data collection during incident investigations and also provide a foundation for future research on

the topic. It supports the notion that incident investigations should move away from human error analysis and focus more on the entire socio-technical system in order to identify the true causes of incidents. By analysing the relevant factors which contribute towards crane incidents within the organisation, crane incidents can be prevented and reduced.

Keywords: Attribution theory, crane incidents, incident investigations, systems thinking, blame culture and safety culture.