

Design of a Template Worker Unsafe Behavior Scale and Its Relationship with Consumption of Alcoholic Energy Drinks: A Case Study of Construction Sites in Taiwan

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Abstract

Unsafe behaviors are a major factor contributing to workplace accidents among construction workers in Taiwan. The construction industry accounts for a staggering 51% of fatalities in major occupational disasters. Formwork is one of the most critical tasks in construction, requiring the highest labor input and the longest construction duration. Therefore, research examining unsafe behaviors among formwork workers holds significant importance for reducing workplace accidents and enhancing construction safety. This study employed literature review and semi-structured interviews to define dimensions of unsafe behavior, designing a tailored questionnaire for formwork workers. Valid data were collected through surveys and statistically analyzed for validation. Results indicate a significant positive correlation between unsafe behavior and frequency of consuming alcoholic energy drinks, while work experience showed a significant negative correlation with unsafe behaviors. Among the dimensions, environmental risk perception exhibited the strongest correlation with alcoholic energy drinks. Findings revealed that 72.5% of formwork workers consume such beverages nearly daily, empirically confirming the workplace culture phenomenon of consuming alcoholic energy drinks on Taiwanese construction sites. This study further identified a significant positive correlation between this highly prevalent practice and unsafe behaviors within this group. Targeted interventions and changes to construction site culture are urgently needed.

Keywords

Formwork workers, unsafe behavior, scale design, alcoholic energy drinks.

