The Impact of Inadequate Sleep on Worker Performance

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ABSTRACT

Workers in the chemical process industry are often required to work long hours performing monotonous tasks, various times of the night and day. Their work performance can suffer from inadequate sleep caused by a variety of factors including sleep disorders such as sleep apnea that affects the quality of sleep, sleep deprivation resulting in limited hours of sleep, or other sleep related issues associated with working varying shifts which can influence the ability to sleep. Research has shown that inadequate sleep can be detrimental to vigilance, information integration, and cognitive abilities. These performance effects can have significant and dangerous results in the processing industry where workers are often involved in monotonous monitoring tasks that periodically require critical decision making and problem solving skills.

This research presents an industrial survey that explores the potential impact of inadequate sleep on individual’s work performance. Questions were taken from the Pittsburgh Sleep Quality Index (PSQI) to measure the workers’ sleep quality. Additional questions that explore workers’ perceptions on this issue and evaluate the perceived benefit of various strategies to improve workers’ performance and vigilance were also included in the online survey. The expected results would likely identify potential incidents and issues to consider when designing operation procedures and facilities. Additionally the results should indicate directions for further research in this area with the goal of decreasing errors and improve system safety.