

Sleep and Performance---What is being said to Workers and Students Really?

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Our scholarly literature contains numerous treatment outcome studies that identify the impact of sleep quality to performance. The laboratory studies in this area indicate vigilance, attention and ability to evaluate material is evident with good quality sleep. Further, studies from clinical populations underscore the importance of addressing sleep deprivation to circumvent circulating hormone stagnation, mood change to depression and increased pre-load to the heart (i.e., essential hypertension). The consequence of these studies is the messages to regulate behaviors that allow and/or alter these lifestyle factors.

Global studies of sleep point to the increased use of technology, worldwide, as an influential behavioral factor affecting sleep [1,2]. Western countries have the highest number of sleep-deprived children. Higher scores in math, reading and science are obtained by students that have had an adequate amount of sleep [3]. College students seek health information online and sleep is one of the most popular topics. Survey study results have identified sleep quality and academic performance at the top of college participants' needs lists [3]. Specific questions about sleep on survey reveal that it is sleep quantity that is paramount over sleep quality, although the relationship between the two is unclear [4]. In the work world, poor sleep quality presents directly with increased absenteeism and work related accidents and indirectly with changes to the negative in motivation and production. In these studies, work related-specific variables such as visual search and motor reaction time represent outcomes sensitive to poor sleep quality. It seems that the longer someone is awake; their ability to conduct visual searches is reduced [5]. Sleep disturbance such as sleep apnea magnifies the poor sleep quality and broadcasts the common messages from the person with poor sleep quality---daytime sleepiness, inability to initiate new tasks, compromises in creativity when compared to those that reported good sleep quality. New studies have indicated that workers work longer on tasks with no gain in effectiveness when experiencing poor sleep quality [6].

The laboratory measurements of performance related to poor sleep quality have commonly identified variables of attention and vigilance loss, and reduced motor performance in workers. In students, the work of intellectual information gathering and mastery is foremost and

cognitive factors of attention and vigilance have been identified. The messages, however, to these populations are that behavioral changes are in order to reduce the incidence of these outcome measures. Little acknowledgment or translation of poor sleep quality consequences to specific work/student responsibilities is explained. Additional focus on the translation to everyday behaviors is needed in the explanation of scientific results to effect change in this area. Behavioral activity records that allow the participant to record work/academic activity would be useful if ratings of the participant's perspective could be added to each activity. Second, the measurement of attention, vigilance and motor activity could be measured at shorter intervals to approximate the actual demand for that task. A third approach would be for more qualitative study in this area of work/student performance on good and poor sleep quality days.

In effect, the media translates conclusions from scientific studies in the Sleep literature. With this the outcome variables may not have an exacting relationship to the sleepers' behaviors. More qualitative studies of sleep behaviors within the context of their performance of tasks for work/school are necessary. If the messages of the media is for the sleeper is to consider the alteration of their sleep schedule to address problems of attention, vigilance and motor performance fatigue, a more narrow relationship to sleep schedule assignment and consequence behaviors is essential.

References

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