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The Effects of Excessive Sitting of Computer-Based Professionals on their Daily Productivity

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Abstract

Productivity is a measure of the efficiency of a person, machine, factory or system. However, how a person work depends on many factors such as the workplace design. Office workers are working in a workplace wherein they are always sitting. However, sitting for a longer period can also cause discomfort. This research examined if excessive sedentary sitting affects the productivity of computer-based professionals. This was correlational research exploring the intricacies of work dynamics within the workplace. There was a correlation between excessive sitting and productivity while establishing no correlation between the number of break times and productivity. The study concludes that breaking the excessive sitting through three break times within an eight-hour shift decreases the productivity of the worker. Thus, computer-based professionals can have optimum productivity without considering their health.

Keywords: Break Time, Correlation Study, Sedentary Behavior, Well-Being, Working Hours

1. Introduction

In terms of productivity and occupational health, the incidence of sedentary behavior especially prolonged sitting has grown in importance in the past decade. Given the growing dependence on technology and desk-bound labor in modern professional environments, it is critical to comprehend how sedentary behavior affects productivity to benefit individual health and organizational effectiveness.

A previous study by the UCLA Health (2022) revealed that sitting for more than eight hours a day without any physical activity can lead to a risk of death similar to that linked with obesity and smoking. This underscores the importance of including regular physical activity in our daily lives to reduce the health risks associated with prolonged sitting, obesity, and smoking.

As per the study of Laskowski (2022), bad sitting posture and workplace ergonomics can harm spinal structures over time and increase the likelihood of experiencing recurrent episodes of back or neck pain. Prolonged, static posture is bad for your back, regardless of how comfortable your desk is. Every thirty minutes or so, try to remember to stand up, stretch, and take a short stroll. Your joints, ligaments, muscles, and tendons will stay loose if you move around and stretch frequently throughout the day. This will make you feel more at ease, at ease, and more productive. This previous study was conducted not on computer-based professionals.

According to the study by Rosenkranz, *et al* (2020) [5], office workers who spend less time sitting report better job satisfaction and lower weariness than those who spend longer sitting hours at work, indicating that there is no substantial relationship between sitting time and productivity. Essentially, it refutes common beliefs regarding the detrimental effects of extended sitting on job satisfaction and exhaustion, highlighting the significance of careful, in-depth research for a more precise comprehension of sedentary behavior at work.

The findings from the study of Hennings, *et al*, (2010), suggests a crucial link between frequent, short breaks during continuous computer-mediated work and positive outcomes for worker productivity and well-being, particularly when these breaks are seamlessly integrated with task demands. This study sheds light on the significance of incorporating strategic breaks into the workflow, highlighting their potential to enhance both efficiency and the overall well-being of workers. The implications are substantial for workplace design and policies, as recognizing the positive impact of well-timed breaks could lead to improved productivity and job satisfaction. Moreover, the study underscores the importance of considering task

integration when implementing break strategies, emphasizing a nuanced approach to break scheduling that aligns with specific job demands. In essence, this research contributes valuable insights that could inform workplace practices, ultimately fostering a more productive and healthier work environment.

The understanding that computer-based professionals work long hours and often in seated positions while performing tasks requiring sustained concentration is the foundation for our investigation's reasoning. Previous research has demonstrated a link between sedentary lifestyle choices and unfavorable health consequences, such as heart and musculoskeletal disorders. Nevertheless, little is known about the precise effects of prolonged sitting on the daily productivity of professionals working on computer-related tasks.

Our research aimed to investigate the relationship that exists between extended periods of sitting and the everyday productivity of individuals who work with computers. Additionally, the impact of taking breaks on the productivity of computer-based professionals in an eight-hour work shift.

2. Materials and Methods

This quantitative research aims to explore the impact of excessive sitting on the daily productivity of computer-based professionals. The chosen approach involves the utilization of a survey questionnaire from Clockify.me.com (2024) [4] as the primary method of data collection. The survey will incorporate open-ended questions to allow participants to express their experiences, challenges, and perceptions related to prolonged sitting and its influence on their daily work.

The information collected was analyzed using Pearson's Correlation Method from Statistics Solutions (2022) [7], utilizing a Two-tailed statistical test with a significance level of 0.05. Our survey was completed by 26 participants, and after subtracting 2, we have a degree of freedom of 24. Based on the Table of Critical Values for Pearson Correlation, with a degree of freedom of 24 and a significance level of 0.05, the Critical Value is 0.388.

3. Results and Discussion

Table 1: The highest percentage of respondents' total work hours and number of breaks taken

Question	Percentage	Description
Q1	57.7%	The highest percentage of respondent's total work hours is 8 hours.
Q3	38.5%	The highest percentage of respondent's number of breaks taken during regular work hours is 3 breaks.

The data in Table 1 shows that the majority of respondents allocate a significant portion of their complete work hours to an 8-hour duration, highlighting a common trend of adhering to a typical 8-hour workday. Additionally, the highest number of breaks, specifically 3 breaks, were taken during regular work hours, namely, morning break, lunch break, and afternoon breaks. Overall, the data sheds light on prevailing work hour preferences and break patterns among the respondents, providing insights into their professional routines.

Table 2: The mean average of respondents' productivity and the productivity after taking breaks during the workday.

Question	Mean	Description
Q2	2.38	The average respondent's productivity during work hours is moderate.
Q4	3.6	The average productivity impacted after taking breaks during the workday has improved.

Table 2 presents mean values that offer valuable insights into the respondents' productivity levels. An average productivity rating signifies a moderate level of productivity during regular work hours thus this finding suggests that the surveyed individuals, on average, maintain a moderate work output throughout their workday. In contrast, a higher average rating points to an improvement in productivity after taking breaks during the workday. The data implies that, on average, respondents experience enhanced productivity levels following breaks, underscoring the potential positive impact of breaks on overall work performance. These mean values provide a nuanced understanding of the respondents' productivity dynamics, offering valuable implications for workplace strategies and well-being initiatives.

Table 3: The results of the relationship between variables using Pearson Product Moment Coefficient Correlation

Relationship	r Result	
Relationship between total work hours and productivity rate of respondents.	0.462929186	Significant Relationship
Relationship between the total number of breaks and productivity after taking breaks, during the workday.	0.23294715	No Significant Relationship

Table 3 shows the correlation between the total hours worked per day and productivity, denoting there is a correlation. This suggests that the average total work hours per day strongly influence productivity. Meanwhile, the relationship between the number of breaks taken during work hours and the impact on productivity has no correlation suggesting no relationship between the frequency of breaks and productivity.

In summary, the data suggests that while the average work hours have a correlation and the number of breaks shows no correlation with productivity, the overall picture indicates a moderate perception of work-related factors among respondents. According to the research published on PubMed Central by the Journal of Lifestyle Medicine, it shows that sitting for 8 hours in a sedentary workplace has a significant effect on health therefore affecting the productivity of workers and their daily living. Understanding these relationships can be valuable for workplace optimization, emphasizing the importance of considering both work hours and breaks in enhancing productivity.

4. Conclusion

This research shows that there is a connection between the number of hours spent working and overall productivity. In simpler terms, just putting in more hours means getting more work done. On the other hand, the research found no correlation between taking breaks during work and productivity.

5. Recommendations

For optimal productivity in computer-based work settings, it is advisable to prioritize the efficient allocation of work hours, with a focus on completing tasks within reasonable timeframes. Employers and individuals alike are encouraged to take note of these insights when designing work schedules to improve overall productivity in computer-based work environments.

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