



International Journal of Science, Architecture, Technology and Environment

Impact of Sedentary Lifestyle on Job Productivity, and Job Satisfaction Among Office Workers in Surigao City

Romelyn G. Minglana, RN^{1*}, Lucy L. Teves, PhD, RN²

^{1,2}Surigao del Norte State University, Narciso Street, Surigao City

*Corresponding author

DOI: <https://doi.org/10.63680/ijstate062672.81>

Abstract

This study explored the impact of a sedentary lifestyle on job productivity and job satisfaction among office workers in Surigao City. Specifically, it examined the prevalence of physical ailments such as back pain, neck pain, eye strain, obesity, and mental health issues like stress, anxiety, and fatigue. The study assessed how these ailments influenced work performance (focus, accuracy, attendance) and satisfaction (compensation, workplace interventions, relationships). Utilizing quantitative methods, responses from 298 office workers were analyzed using frequency counts, mean scores, standard deviation, and Pearson r correlation. Findings revealed that physical ailments were moderately experienced ($M = 2.590$), while mental health issues were slightly less acknowledged ($M = 2.169$). Sedentary-related ailments had a slight but consistent effect on job productivity ($M = 2.127$) and a moderate impact on job satisfaction ($M = 2.553$). Correlation analysis showed that both physical and mental ailments significantly influenced job productivity and satisfaction, with mental ailments exhibiting stronger correlations across outcomes. When controlling for years in service, mental ailments continued to show a greater negative impact than physical ones. The study concluded that while both physical and mental ailments affect workers, psychological strain has a more profound influence on performance and morale. It recommends implementing holistic wellness programs that include ergonomic adjustments, mental health resources, and movement-based interventions to mitigate the effects of prolonged sedentary work and foster a healthier, more productive workforce.

Keywords: Sedentary-related ailments, job productivity, job satisfaction, mental health, office workers

INTRODUCTION

Sedentary lifestyles, defined as any waking activity with low energy expenditure, such as sitting or reclining, have been widely identified as a health risk factor. Modern office environments are particularly susceptible to sedentary lifestyles as employees spend large portions of their workday seated. The shift toward technology-based work has exacerbated this issue globally, with office workers now spending between 70% and 80% of their workday seated (Thorp et al., 2012). People are now able to carry out nearly all of their daily activities while sitting down. A growing body of evidence is emerging

demonstrating adverse associations of excess sedentary time with physical and mental health. In office workers specifically, higher occupational sitting time and time spent sitting while at a computer were detrimentally associated with mental health. This evidence demonstrates that higher sedentary time is adversely associated with physical and mental health in office workers and the general population (Bailey DP et al., 2021). Environmental and behavioral interventions have been implemented to combat sedentary behavior in the workplace. Environmental interventions primarily alter the physical space where employees work to promote less sedentary behavior, whereas behavioral interventions aim to alter employee physical activity and/or to modify sedentary-related ailment patterns using strategies such as individual motivational techniques, changes in social support at work, or computer or smartphone prompts to stand or move. Previous behavioral interventions have decreased sedentary-related ailments among employees by an average of approximately 15 to 45 minutes daily (Morris A.S et. Al., 2020).

In the Philippines, this shift is reflected in the growing number of office-based jobs, especially in urbanizing areas. While office work offers economic stability, it's also encouraging sedentary-related ailments, which have been linked to health issues like cardiovascular disease, type 2 diabetes, and musculoskeletal disorders (Dunstan et al., 2018). These conditions not only affect individual well-being but also contribute to increased healthcare costs and reduced workplace productivity (Buckley et al., 2015).

This is particularly relevant for Surigao City, where the local economy is increasingly reliant on office-based work, and employee health can significantly impact productivity levels. Office work is becoming more prominent, there is a pressing need to address the sedentary nature of this work environment. The connection between sedentary-related ailments and productivity is particularly important in understanding how workplace practices can be adjusted to promote healthier and more efficient work environments. By investigating the levels of sedentary-related ailments among Surigao City office workers and their impact on productivity, this study seeks to inform policies and interventions that can enhance both workers' health and organizational performance. Further analysis of this relationship with statistical adjustment for important factors, such as job satisfaction and sedentary-related ailments, which also may be associated with productivity, is necessary. Previous research indicates significant employer concern regarding the loss of productivity with decreased sedentary time. In order to address the concern of employers in a sector of the workforce likely to encounter barriers to changes in workplace policies, the primary purpose of this study was to investigate the relationship between workplace sedentary behavior and productivity among a large, representative sample of full-time government and private office workers in Surigao City.

Conceptual Framework of the Study

This study examines the impact of sedentary lifestyle-related ailments on job productivity and job satisfaction among office workers in Surigao City. To better understand this relationship, the study is anchored on Dorothea Orem's Self-Care Deficit Nursing Theory (SCDNT), which provides a valuable framework in understanding how individuals, particularly office workers, may develop sedentary-related ailments due to an inability or lack of initiative to engage in self-care activities. According to Orem, health maintenance and prevention are integral parts of self-care. Office workers who experience prolonged sitting and fail to implement preventive measures (such as stretching, using ergonomic tools, or standing periodically) are likely to suffer pain, eye strain, and fatigue. When these self-care behaviors

are insufficient, a self-care deficit occurs, leading to health deterioration that can impact productivity and satisfaction at work.

Integrating Self-Care Deficit Nursing Theory, in this study underscores the responsibility of both individuals and workplace health systems to support employee well-being. It also aligns wellness programs aimed at empowering workers to engage in proactive self-care strategies to reduce sedentary-related risks. Explains that workplace demands, such as prolonged sitting and sedentary-related ailments, can lead to physical and psychological strain on employees. However, the negative impact of these demands can be mitigated through workplace resources, such as ergonomic interventions, wellness programs, and company policies that promote movement and health. Additionally, the Job Demands-Resources (JD-R) Model (Bakker & Demerouti, 2007) Herzberg's Two-Factor Theory of Motivation 1959 (Charlotte Nickerson, 2025) highlights the role of hygiene factors, such as compensation, work conditions, and relationships with co-workers, in influencing job satisfaction. If sedentary-related ailments cause discomfort or absenteeism, job satisfaction may decline, even if other motivational factors (e.g., career growth, recognition) are present. It outlines the relationships among sedentary lifestyle ailments, job productivity, and job satisfaction among office workers in Surigao City. The framework emphasizes how physical discomfort has impacted productivity levels in this population.

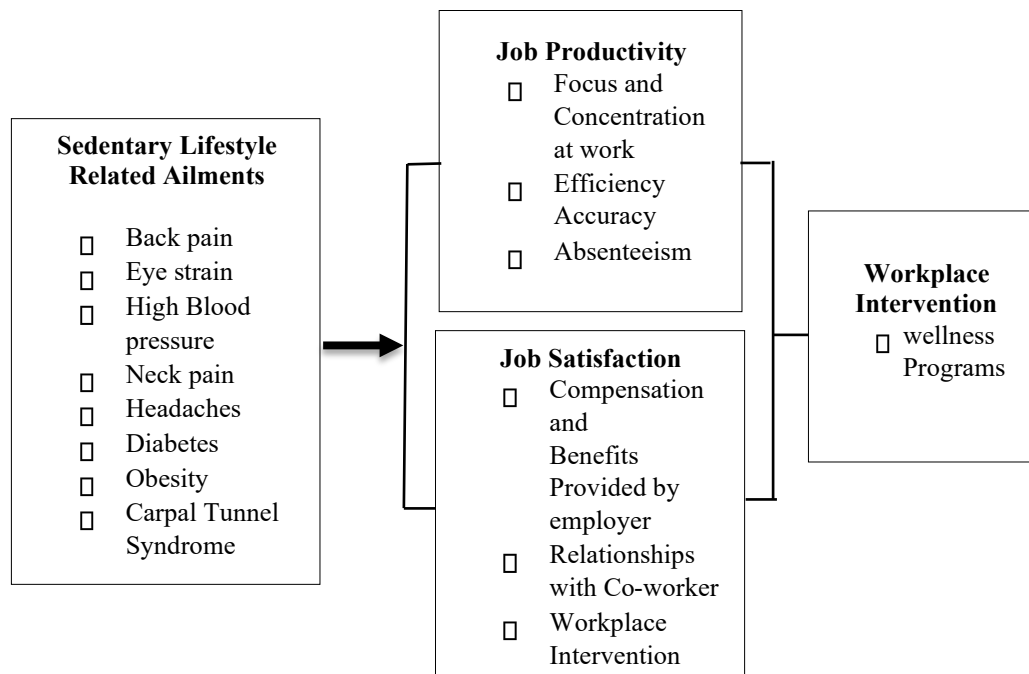


Figure 1. Schematic Diagram of the Study Titled *Sedentary Lifestyle on Job Productivity and Satisfaction among Office Workers in Surigao City*

Method

The study utilized quantitative-descriptive correlational design. This design is appropriate for examining the extent of the relationship between variables, specifically the correlation between sedentary health-related ailments, job productivity, and job satisfaction among office workers. Quantitative correlational

designs allow the researcher to describe the current state of sedentary behavior and assess how these behaviors are associated with health outcomes and workplace performance.

Participants

The respondents for this study are the office workers in Surigao City, both from the private, semi-private, and government office sectors. These individuals are chosen because their job roles typically involve sedentary work, such as sitting at a desk for long periods, which makes them relevant for studying the impact of sedentary-related ailments, productivity, and job satisfaction. Since the population size cannot be determined, the central limit theorem was introduced pegged at a 90% confidence level with a 5% margin of error, which resulted in 273; however, the researcher settled on 298 samples to maximize the data for the study, and pegged the population proportion at 50%.

$$\text{Unlimited population: } n = \frac{z^2 \times \hat{p}(1-\hat{p})}{\epsilon^2}$$

where

z is the z score

ε is the margin of error

N is the population size

ĥ is the population proportion

Cross-sectional studies are observational studies that analyze data from a population at a single point in time. They are often used to measure the prevalence of health outcomes, understand determinants of health, and describe features of a population.

Purposive Convenience Sampling: Involves selecting participants who are available, willing, or easy to access or contact. Convenience sampling does not distinguish characteristics among the participants.

Instrument

The main instruments used a self-made questionnaire with four parts: Profile of the Respondent, Common Sedentary-Related Ailments Experienced by Office Workers in Surigao City, Effect of Sedentary-Related Ailments on Job Productivity, Impact of Sedentary-Related Ailments on Job Satisfaction. Moreover, the questionnaires contained items or indicators that asked primarily for their information. Furthermore, the researcher-made questionnaires underwent a validity check with experts and reliability testing by Cronbach's alpha at St. Paul University Surigao with the statistician before the actual data gathering.

The following is Cronbach's analysis on the reliability of each factor in the researcher-made questionnaire. A Likert scale was used as the basis for interpreting data yielded from the participants' responses.

Data Analysis

After the data collection, the gathered data was analyzed using the following statistical tools:

Frequency count and percentage were introduced to set up the distribution of the participants' number of years in the current job and their daily work hours.

Mean and standard deviation were utilized in determining the extent of experience of sedentary ailments among the participants, the perceived effect of sedentary ailments on the participants' job productivity, and the perceived impact of sedentary ailments on the participants' job satisfaction.

Pearson Partial correlation was used to ascertain the statistical significance of the correlation coefficient between the extent of experience of sedentary ailments and job productivity and job satisfaction when considering the participants' number of years in their current job and daily work hours.

Presents the results of the analysis of variance (ANOVA) to determine if the number of years spent in the current job influences the occurrence of sedentary-related ailments.

The results of the analysis of variance (ANOVA) to determine if the number of years spent in the current job influences the occurrence of sedentary-related ailments. Findings show that for physical ailments, the F-ratio is 5.17 (df = 4, 293, $p < .001$), while for mental health issues, the F-ratio is 5.46 (df = 4, 93, $p < .001$). These results are statistically significant.

Results And Discussion

This chapter presents the results and discussion of the study based on the problems cited in the Statement of the Problem.

Table 1.1

Profile of the Respondents

Variables	Classification	<i>f</i> (n=298)	%
AGE	21-25	29	9.732
	26-30	64	21.477
	31-35	55	18.456
	36-40	37	12.416
	41-45	17	5.705
	46-50	14	4.698
	51-55	28	9.396
	56-60	37	12.416
	61 and above	17	5.705
SEX	Male	82	27.517
	Female	216	72.483
MARITAL STATUS	Single	138	46.309
	Married	153	51.342

HIGHEST EDUCATIONAL ATTAINMENT	Widowed	7	2.349
	High School Graduate	8	2.685
	College Graduate	251	84.228
	Vocational Graduate	11	3.691
	Master's degree	17	5.705
EMPLOYMENT STATUS	Doctorate	11	3.691
	Permanent	165	55.369
	Contractual	27	9.06
	Job Order	95	31.879
	Part Time	11	3.691

Table 1.1 shows the profile variables; as to age, the highest number of participants belong to ages 26-30 years old (21.47%) while ages 46-50 are the lowest number of participants (4.698%); as to sex, there 82 Males and 216 females. In terms of marital status, the lowest number of participants are the widows which comprises of 7 (2.349%), while the highest number of participants are the married ones, 153 (51.34%). With regard to educational attainment, the highest are the 251 (84.228%) college graduates, while only 8 (2.685%) are high school graduates. As to employment status, most of the participants are permanent 165 while 27 are Contractual, 95 are Job Order and 11 are Part timers.

Table 1.2

Profile of the Respondents as to years in Current Job and Daily Work Hours

Category	Value	Frequency	Percent (%)
Years in Current Job	Less than 1 year	31	10.403
	1-5 years	121	40.604
	6-10years	38	12.752
	10-15 years	67	22.483
	16-20 years above	41	13.758
	Total	298	100.000
Daily Work Hours	4-6 hours	31	10.403
	7-9 hours	246	82.550
	More than 9 hours	21	7.047
	Total	298	100.000

Table 1.2 shows the profile of the respondents based on their years in their current job and daily work hours. For the years in their current job, most respondents—121 people, or 40.60%—have been in their job for 1-5 years, making it the largest group. This means many of them are still fairly new but already familiar with their roles. The second biggest group is those who have worked for 10-15 years (67 respondents or 22.48%), followed by those with 16-20 years above (41 respondents or 13.76%) and 6-10 years (38 respondents or 12.75%). Only 31 people (10.40%) have been in their job for just less than 1 year, making them the smallest group. Overall, most of the respondents have been working in their current position for 1 to 20 years above, showing a moderately experienced group.

In terms of daily work hours, the majority of 246 respondents, or 82.55%, work for 7-9 hours a day. This suggests that 8 hours is the usual work time for most of them. A smaller number, 31 people (10.40%), work 4-6 hours, while only 21 respondents (7.05%) work more than 9 hours a day. This means most respondents have a consistent work schedule.

Individuals and organizations, regardless of job type, should acknowledge that prolonged occupational sedentary behaviors interfere with work engagement and should take steps to reduce it for white-collar workers at this point. Sakakibara, K., et al. (2023).

Table 2

Extent of Experience, Physical Ailments, and Mental Health Issues

Indicators	Mean	SD	Verbal Interpretation
A. Physical Ailments			
1. I often experience back pain due to prolonged sitting.	2.899	0.793	Moderately Agree
2. I feel neck and shoulder pain after working long hours at a desk.	2.963	0.753	Moderately Agree
3. I notice weight gain due to a lack of physical activity at work.	2.828	0.951	Moderately Agree
4. I experience frequent headaches while working in front of the computer.	2.782	0.889	Moderately Agree
5. I suffer from eye strain after long periods of screen exposure.	2.983	0.930	Moderately Agree
6. I experience numbness or tingling in my wrists/hands.	2.574	1.016	Moderately Agree
7. My blood pressure has increased due to a lack of movement at work.	1.896	0.964	Slightly Agree
8. I experience stiffness or discomfort in my lower limbs due to sitting.	2.565	0.873	Moderately Agree
9. I frequently feel physically exhausted even without strenuous work.	2.406	0.939	Slightly Agree
10. I experience difficulty moving or stretching after work hours.	2.121	0.994	Slightly Agree
11. My sedentary lifestyle has affected my metabolism and energy levels.	2.473	1.050	Slightly Agree
Mean Average	2.590	0.568	Moderately Agree
B. Mental Health Issues			
	Mean	SD	Verbal Interpretation
1. I often feel stressed during or after long work hours.	2.674	1.118	Moderately Agree
2. I experience feelings of anxiety while working in a sedentary environment.	2.369	0.994	Slightly Agree
3. I feel mentally drained due to continuous desk work.	2.282	1.045	Slightly Agree
4. I find it difficult to stay motivated at work.	2.077	0.839	Slightly Agree
5. I feel emotionally low or depressed due to my work setting.	1.852	0.860	Slightly Agree
6. I feel fatigued even after a full night's sleep.	2.188	1.082	Slightly Agree

7. I experience mood swings related to work fatigue.	2.262	0.86	Slightly Agree
8. I feel burned out due to repetitive sedentary routines.	2.088	0.929	Slightly Agree
9. I feel helpless or hopeless at work because of health-related issues.	1.909	1.016	Slightly Agree
10. I feel overwhelmed by my daily workload.	2.101	0.732	Slightly Agree
11. I feel isolated while working for long hours without social breaks.	2.03	0.858	Slightly Agree
Mean Average	2.169	0.719	Slightly Agree

Table 2 presents data on the extent of physical ailments and mental health issues experienced by respondents in a sedentary work setting, based on their self-assessment.

Among the physical ailments, the item with the highest mean is *"I suffer from eye strain after long periods of screen exposure,"* with a mean of 2.983 and a standard deviation of 0.930, interpreted as "Moderately Agree." This suggests that most respondents frequently experience visual fatigue due to prolonged use of digital screens. According to Sheppard and Wolffsohn (2018), extended screen exposure is a common cause of digital eye strain, particularly among workers in office-based and digital-heavy environments.

In contrast, the item with the lowest mean is *"My blood pressure has increased due to lack of movement at work"* with a mean of 1.896 (SD = 0.964), interpreted as "Slightly Agree." This indicates that although some respondents may be concerned about potential health risks like hypertension, fewer directly associate increased blood pressure with their sedentary work compared to more immediate and perceivable symptoms like eye strain or back pain.

The average mean for physical ailments is 2.590, interpreted as "moderately agree." This shows that respondents generally acknowledge moderate physical discomfort caused by sedentary work. Prolonged sitting and minimal physical movement have been widely recognized as risk factors for musculoskeletal pain, metabolic concerns, and fatigue (Owen et al., 2010).

Among the mental health indicators, the highest mean is found in the item *"I often feel stressed during or after long work hours"* with a mean of 2.674 and a standard deviation of 1.118, rated as "Moderately Agree." This suggests that stress is the most commonly experienced psychological concern among respondents. Long work hours and lack of movement are strongly linked to increased stress levels, reduced well-being, and emotional exhaustion (Ganster & Rosen, 2013).

On the other hand, the lowest mean is observed in *"I feel emotionally low or depressed due to my work setting"* with a mean of 1.852 (SD = 0.860), interpreted as "Slightly Agree." This indicates that while some emotional effects are felt, full-blown depressive symptoms are not widely prevalent among respondents.

The average mean for mental health issues is 2.169, which falls under "Slightly Agree." This suggests that, while respondents acknowledge some degree of psychological impact from their sedentary work conditions, these effects are generally less intense than physical symptoms. This is consistent with findings by Teychenne, Ball, and Salmon (2010), who reported that sedentary behavior is linked to poor mental health, but the extent may vary depending on other factors such as social support and job role.

Table 3.1

Mean Difference on sedentary ailments when grouped according to number of years in current job

Sedentary Ailments	F - ratio	df	p-value	Interpretation	Decision
Physical	5.17	4, 293	<.001	Significant	Reject Ho1
Mental	5.46	4,93	<.001	Significant	Reject Ho1

Table 3.1 presents the results of the analysis of variance (ANOVA) to determine if the number of years spent in the current job influences the occurrence of sedentary related ailments. Findings show that for physical ailments, the F-ratio is 5.17 (df = 4, 293, $p < .001$), while for mental health issues, the F-ratio is 5.46 (df = 4, 93, $p < .001$). These results are statistically significant.

This suggests that employees who have stayed longer in sedentary work positions are more likely to develop both physical and mental health issues. The length of exposure to sedentary conditions appears to contribute to the gradual development or worsening of these health concerns. These findings align with prior research indicating that long-term sedentary behavior is associated with musculoskeletal pain, poor circulation, increased stress, and fatigue.

According to the study of Falk, G., et al. (2022), Sedentary behavior negatively impacts mental health, which can decrease employee productivity. Employee mental well-being and work performance may improve with sedentary reduction interventions, especially strategies that include environmental workplace modifications and behaviorchanging strategies.

Table 3.2

Mean Difference on sedentary ailments when grouped according to daily work hours.

Sedentary Ailments	F - ratio	df	p-value	Interpretation	Decision
Physical	13.95	2, 295	<.001	Significant	Reject Ho1
Mental	7.24	2, 295	<.001	Significant	Reject Ho1

Table 3.2 shows the effect of daily work hours on the development of sedentary-related ailments. The results reveal significant differences: for physical ailments, the Fratio is 13.95 (df = 2, 295, $p < .001$), and for mental health issues, the F-ratio is 7.24 (df = 2, 295, $p < .001$). These findings confirm that the number of hours spent sitting or being inactive each day significantly affects the physical and mental well-being of employees. Employees who work longer hours are more likely to experience back pain, headaches, poor posture, fatigue, and psychological stress. Prolonged sitting also reduces physical activity levels and disrupts circulation, both of which contribute to health problems that impact job performance and quality of life.

According to the study of Bernards, C., Hildebrandt, V., & Hendriksen, I. (2016) more working hours were associated with less Sedentary Time on non-school/nonwork days, which suggests that older workers with full-time jobs seem to compensate high Sedentary Time on school-/workdays with less Sedentary Time on non-school/nonwork days.

Table 4

Sedentary-Related Ailments (SRA) Impact Job Satisfaction

Indicators	Mean	SD	Verbal Interpretation
A. Compensation and Benefits Provided by Employer			
1. My employer's health benefits adequately address my health needs.	2.945	0.949	Moderately Agree
2. I feel that I deserve better compensation for the physical toll of my job.	2.826	0.923	Moderately Agree
3. There are enough incentives to support wellness in the workplace.	2.765	0.924	Moderately Agree
4. My company provides healthcare options for sedentary-related concerns.	2.816	0.994	Moderately Agree
5. I am satisfied with the benefits offered, given the nature of my work.	2.72	0.951	Moderate Agree
6. I feel that my employer ignores the health issues caused by desk work.	2.107	1.15	Slightly Agree
7. I feel underappreciated for enduring sedentary conditions.	2.048	0.930	Slightly Agree
8. I would be more satisfied with additional wellness-related allowances.	2.819	1.038	Moderately Agree
Mean Average	2.634	0.573	Moderately Agree
B. Relationships with Co-workers			
1. My physical or mental condition affects my interaction with co-workers.	2.547	1.085	Moderately Agree
2. I receive emotional or moral support from my colleagues.	2.459	1.002	Slightly Agree
3. I feel isolated due to my health condition at work.	2.147	1.121	Slightly Agree
4. My health issues create misunderstandings at work.	2.313	1.037	Slightly Agree
5. I can openly discuss work-related stress with my team.	2.544	1.082	Moderately Agree
6. My well-being affects my communication with others.	2.484	0.997	Slightly Agree
7. I avoid social interaction when I'm feeling unwell.	2.564	1.014	Moderately Agree
8. I feel that my health-related absences impact my team dynamics.	2.279	1.03	Slightly Agree
Mean Average	2.427	0.697	Slightly Agree
C. Workplace Intervention			
1. My workplace has wellness programs that support physical health.	2.674	1.124	Moderately Agree

2. Ergonomic furniture/equipment is available in my workplace.	2.246	1.027	Slightly Agree
3. My employer promotes regular movement or exercise during work hours	2.381	1.077	Slightly Agree
4. Management encourages breaks to reduce sedentary risks.	2.740	0.985	Moderately Agree
5. I feel my workplace takes health risks seriously.	2.691	1.169	Moderately Agree
6. I am encouraged to stretch or move between tasks.	2.714	1.021	Moderately Agree
7. I am aware of existing programs addressing sedentary concerns.	2.651	1.011	Moderately Agree
8. There is a need for more interventions to manage sedentary risks	2.634	1.084	Moderate Agree
Mean Average	2.603	0.716	Moderately Agree
Job Satisfaction Mean Average	2.553	0.42	Moderately Agree

Table 4 presents the extent to which sedentary-related ailments (SRAs) impact job satisfaction among office-based workers. The results are categorized into three main dimensions: compensation and benefits, relationships with co-workers, and workplace intervention. The discussion highlights the highest and lowest mean scores in each category, followed by the domain's average mean and relevant scholarly literature to deepen understanding of these workplace experiences.

In the dimension of compensation and benefits, the highest-rated item was “My employer’s health benefits adequately address my health needs” (mean = 2.945, SD = 0.949), which reflects a moderate agreement that structured health programs are in place to assist employees. The presence of employer-sponsored health benefits is essential in managing workplace-related health issues and contributes to perceived organizational support (Grawitch et al., 2006). On the other hand, the lowest-rated statement was “I feel underappreciated for enduring sedentary conditions” (mean = 2.048, SD = 0.930), interpreted as slightly agree. This indicates that while formal benefits may be present, there is a gap in emotional recognition and appreciation for employees dealing with the toll of sedentary work. According to Eisenberger et al. (2002), perceived organizational support must encompass both tangible and intangible aspects—such as emotional acknowledgment—to foster higher levels of satisfaction and commitment. The general average for this category was 2.634 (moderately agree), suggesting that while practical support is moderately sufficient, there remains room for improvement in acknowledging the physical toll of sedentary roles (Goetzel et al., 2014).

In the area of relationships with co-workers, the highest mean was observed in “I avoid social interaction when I’m feeling unwell” (mean = 2.564, SD = 1.014), suggesting a *moderate agreement* that poor physical or mental health can lead to social withdrawal in the workplace. Chronic discomfort caused by sedentary behavior—such as fatigue, pain, or mental exhaustion—can undermine an individual’s motivation or ability to engage socially (Teychenne et al., 2010). In contrast, the lowest mean in this dimension was “I feel isolated due to my health condition at work” (mean = 2.147, SD = 1.121), interpreted as slightly agree, indicating that although isolation is experienced, it is not pervasive. This

may reflect partial success in fostering inclusive team dynamics, though health-related exclusion still warrants attention. The average mean for this domain was 2.427 (Slightly Agree), implying that SRAs exert a subtle but consistent influence on social connectedness, with implications for teamwork, collaboration, and morale (Grzywacz and Marks, 2000).

Regarding workplace intervention, the highest mean score was given to “Management encourages breaks to reduce sedentary risks” (mean = 2.740, SD = 0.985), reflecting a *moderate agreement* that organizations promote physical movement as a preventive strategy. This aligns with Owen et al. (2010), who stressed the importance of breaking up prolonged sitting with brief periods of movement to reduce risks of musculoskeletal disorders, cardiovascular issues, and metabolic syndromes. However, the lowest mean was recorded in “Ergonomic furniture/equipment is available in my workplace” (Mean = 2.246, SD = 1.027), interpreted as *slightly agree*, highlighting that environmental design elements intended to mitigate sedentary effects may be inadequate or inconsistently provided. This lack of ergonomic support is concerning, as proper seating, workstations, and supportive tools are crucial to reduce strain, improve posture, and maintain comfort (Robertson, Ciriello, and Garabet, 2013). The general average mean for workplace intervention was 2.603 (Moderately Agree), suggesting that wellness initiatives exist but may not be comprehensively or equitably implemented (Proper and van Mechelen, 2008).

The overall mean for job satisfaction in the context of SRAs was 2.553 (Moderately Agree), revealing that employees recognize and appreciate certain wellness-related provisions but continue to experience emotional, relational, and physical strains due to prolonged sedentary practices. These findings suggest the need for more integrated and holistic wellness strategies that address both physical ailments and the psychosocial components of job satisfaction, particularly in desk-bound occupations (Goetzel et al., 2014; Owen et al., 2010; Teychenne et al., 2010).

Table 5

Correlation between Sedentary Ailments and Job Satisfaction when Daily Work Hours are Controlled

Dependent Variables	Sedentary Ailment			
	Physical		Mental	
	r_{xy}	p -value	r_{xy}	p -value
Job Productivity				
Focus and Concentration at Work	0.152**	0.009	0.242**	<.001
Efficiency and Accuracy	0.108	0.064	0.161**	0.006
Absenteeism	0.468**	<.001	0.554**	<.001
Overall	0.368**	<.001	0.479**	<.001
Job Satisfaction				
Compensation and Benefits provided by the Employer	0.174**	0.003	0.142*	0.014
Relationship with Co-workers	0.322**	<.001	0.401**	<.001
Workplace Intervention	0.073	0.208	0.140*	0.016
Overall	0.298**	<.001	0.365**	<.001

Note: *Correlation significant at $p < .05$

**Correlation significant at $p < .01$

Table 5 illustrates the correlation between sedentary ailments, which are classified as physical and mental, and two key workplace outcomes: job productivity and job satisfaction, while controlling for daily work hours. The analysis shows that most correlations are statistically significant, particularly for mental ailments, underscoring their stronger influence in the workplace. However, there are also areas where no significant correlation is observed concerning physical ailments.

Focusing on the significant correlations, mental ailments were found to have a strong positive correlation with absenteeism and presenteeism ($r = 0.554$, $p < .001$), indicating that as mental health issues such as stress, fatigue, and anxiety increased, employees were more likely to be absent from work or present but less productive. Physical ailments also significantly correlated with absenteeism and presenteeism ($r = 0.468$, $p < .001$), though the relationship was slightly weaker. Similarly, both physical ($r = 0.368$, $p < .001$) and mental ailments ($r = 0.479$, $p < .001$) showed significant correlations with overall job productivity, implying that health issues caused by prolonged sedentary behavior hindered performance. Notably, mental ailments also significantly affected focus and concentration at work ($r = 0.242$, $p < .001$) and efficiency and accuracy ($r = 0.161$, $p = 0.006$), while physical ailments significantly influenced focus and concentration ($r = 0.152$, $p = 0.009$).

In terms of job satisfaction, both physical ($r = 0.298$, $p < .001$) and mental ailments ($r = 0.365$, $p < .001$) significantly correlated with overall satisfaction. Relationships with co-workers also showed significant positive correlations with physical ($r = 0.322$, $p < .001$) and mental ailments ($r = 0.401$, $p < .001$), indicating that social support in the workplace became more important as employees dealt with physical and emotional strain. Furthermore, satisfaction with compensation and benefits was significantly correlated with both physical ($r = 0.174$, $p = 0.003$) and mental ailments ($r = 0.142$, $p = 0.014$). Mental ailments also significantly correlated with satisfaction on workplace interventions ($r = 0.140$, $p = 0.016$), suggesting that mentally strained workers were more responsive to support programs.

On the other hand, some correlations were not statistically significant, particularly those involving physical ailments. For instance, physical ailments did not significantly correlate with efficiency and accuracy ($r = 0.108$, $p = 0.064$) or workplace interventions ($r = 0.073$, $p = 0.208$). These results suggest that physical discomfort does not strongly influence how accurately tasks are performed or how employees perceive wellness programs, possibly because such physical symptoms are more tolerable or less disruptive compared to psychological distress.

Overall, the findings highlight that mental ailments have stronger and more consistent significant relationships with job productivity and job satisfaction than physical ailments. This reinforces the importance of prioritizing mental health interventions in sedentary work settings. As Ganster and Rosen (2013) emphasize, psychological strain can severely impact employee functioning and satisfaction, and addressing these issues is essential for maintaining a healthy and productive workforce.

Table 6

Relationship between job productivity and job satisfaction

	Job Productivity							
	Focus & Concentration		& Efficiency & Accuracy		& Absenteeism		Overall	
Job Satisfaction	r_{xy}	p-value	r_{xy}	p-value	r_{xy}	p-value	r_{xy}	p-value
Compensation and Benefits	0.113	0.051	0.02	0.731	0.162*	0.005	0.15*	0.009
Relationship with Co-workers	0.29*	< .001	0.04	0.486	0.402**	< .001	0.374**	< .001
Workplace Intervention	0.038	0.51	0.064	0.267	0.159*	0.006	0.13*	0.025
Overall	0.233**	< .001	0.068	0.242	0.385**	< .001	0.348**	< .001

Note: *Correlation significant at $p < .05$

**Correlation significant at $p < .001$; hence, reject H_{02}

Table 6 displays the correlation between various aspects of job satisfaction and job productivity indicators. The results show statistically significant relationships between job satisfaction and productivity dimensions, particularly in the areas of absenteeism and overall work performance.

Notably, relationship with co-workers showed the strongest correlations across all productivity dimensions. It correlated significantly with: Focus and concentration ($r = 0.29^{**}$, $p < .001$), Absenteeism ($r = 0.402^{**}$, $p < .001$), Overall productivity ($r = 0.374^{**}$, $p < .001$).

Similarly, compensation and benefits showed significant but weaker associations, particularly with absenteeism ($r = 0.162^{*}$, $p = 0.005$) and overall productivity ($r = 0.15^{*}$, $p = 0.009$). Workplace intervention also showed moderate correlations with absenteeism ($r = 0.159^{*}$, $p = 0.006$) and overall productivity ($r = 0.13^{*}$, $p = 0.025$).

The overall job satisfaction score was significantly correlated with: Focus and concentration ($r = 0.233^{**}$, $p < .001$), Absenteeism ($r = 0.385^{**}$, $p < .001$), Overall job productivity ($r = 0.348^{**}$, $p < .001$).

These findings confirm that higher job satisfaction—particularly satisfaction derived from workplace relationships and support—contributes to better job productivity. It reduces absenteeism and improves concentration and accuracy. This highlights the role of social and environmental factors in maintaining a productive workforce, beyond just financial compensation.

Table 7.1

Correlation between Sedentary Ailments and Job Productivity

Job Productivity	Sedentary Ailment			
	Physical		Mental	
	r_{xy}	p-value	r_{xy}	p-value
Focus and Concentration at Work	0.146*	0.011	0.236**	<.001
Efficiency and Accuracy	0.097	0.093	0.153*	0.008
Absenteeism	0.472**	<.001	0.557**	<.001
Overall	0.363**	<.001	0.476**	<.001

Note: *Correlation significant at $p < .05$

**Correlation significant at $p < .001$

Table 7.1 explores how physical and mental sedentary-related ailments affect different areas of job productivity.

Physical ailments are significantly correlated with: Focus & Concentration ($r = 0.146^*$, $p = 0.011$); Absenteeism ($r = 0.472^{**}$, $p < .001$); Overall productivity ($r = 0.363^{**}$, $p < .001$).

Mental ailments show stronger correlations: Focus & Concentration ($r = 0.236^{**}$, $p < .001$); Efficiency & Accuracy ($r = 0.153^*$, $p = 0.008$); Absenteeism ($r = 0.557^{**}$, $p < .001$). Overall productivity ($r = 0.476^{**}$, $p < .001$)

The data show a strong negative relationship between sedentary ailments and job productivity. Employees with more severe physical or mental health issues linked to sedentary work tend to have poorer focus, higher absenteeism, and lower overall productivity.

Mental health issues appear to have a stronger impact than physical ones, especially in terms of absenteeism and general performance. This points to the urgent need for mental health support systems alongside ergonomic interventions in the workplace.

The findings clearly indicate that sedentary-related health problems—especially mental health issues—are linked to lower work performance. The strongest correlations were observed in relation to absenteeism, which increases when workers experience physical discomfort or psychological distress. This suggests that sedentary work conditions contribute to significant productivity losses and highlights the urgent need for mental and physical wellness initiatives in the workplace.

The results of the study of Rosekranz, S., et al. (2020) suggest that sitting time at work is not associated with productivity, and office workers in the lowest level of time spent sitting report higher job satisfaction and lower fatigue as compared with those in the highest level of time spent sitting.

Table 7.2

Correlation between Sedentary Ailments and Job Satisfaction

Job Satisfaction	Sedentary Ailment			
	Physical		Mental	
	r_{xy}	p-value	r_{xy}	p-value
Compensation and Benefits	0.156	0.007	0.131	0.023
Relationship with Co-workers	0.326	<.001	0.404	<.001
Workplace Intervention	0.078	0.177	0.143	0.013
Overall	0.295	<.001	0.364	<.001

Note: *Correlation significant at $p < .05$

**Correlation significant at $p < .001$

Table 7.2 shows the correlations between sedentary-related ailments and job satisfaction factors. The results revealed that: Physical ailments were significantly correlated with: Relationship with co-workers ($r = 0.326^{**}$, $p < .001$), Overall job satisfaction ($r = 0.295^{**}$, $p < .001$).

Mental ailments were more strongly correlated with: Relationship with coworkers ($r = 0.404^{**}$, $p < .001$), Workplace intervention ($r = 0.143^{*}$, $p = 0.013$), Overall job satisfaction ($r = 0.364^{**}$, $p < .001$).

The data indicates that sedentary ailments—especially mental ones—have a considerable negative impact on job satisfaction, particularly with regard to interpersonal dynamics and perceptions of support within the organization. Employees suffering from such ailments tend to feel less connected and supported, which can diminish their motivation and satisfaction at work.

This underlines the importance of creating a health-positive, relationship-oriented workplace culture. Employers should invest not only in physical wellness programs but also in interventions that promote team cohesion, mental health, and employee inclusion.

According to the study of Kosec, Z., et al. (2022) The correlations between job satisfaction, life satisfaction, and work performance have already been proven in many countries. It has also been found that sedentary behavior negatively correlates with an active lifestyle and with less effective work performance.

Findings

The findings of the study were as follows:

1. As to the profile of the respondents, the majority had been in their current job for 1 to 20 years above, with 1-5 years being the most common duration (40.60%), followed by 11-15 years (22.48%) and 16- 20 years above (13.76%), indicating that most of the participants were

moderately experienced in their roles. Only a small portion, 10.40%, were in their less than 1 year of employment, showing a relatively low number of new employees. Regarding daily work hours, most respondents (82.55%) reported working 7- 9 hours per day, while a minority worked either 4- 6 hours (10.40%) or more than 9 hours (7.05%), suggesting that the respondents generally followed a consistent work schedule.

2. As to the extent of physical ailments and mental health issues experienced by respondents in a sedentary work setting, based on their self-assessment, the average mean for physical ailments was 2.590, interpreted as "Moderately Agree," indicating that respondents generally experienced moderate physical discomfort such as eye strain, back pain, and muscular fatigue due to prolonged sitting and screen exposure. Meanwhile, the average mean for mental health issues was 2.169, interpreted as "Slightly Agree," suggesting that while respondents acknowledged experiencing stress, mental fatigue, and occasional emotional lows, the psychological impact of sedentary work was relatively milder compared to the physical symptoms.
3. As to the extent of the difference in sedentary ailments when Grouped According to number of Years in current job and daily work hours: Years in Current Job: Both physical ailments ($F = 5.17$, $p < .001$) and mental health issues ($F = 5.46$, $p < .001$) showed significant differences when respondents were grouped by length of service. This indicates that the longer employees stay in sedentary jobs, the more likely they are to develop physical discomforts (e.g., back pain, eye strain) and psychological concerns (e.g., stress, fatigue). Daily Work Hours: Significant differences were also found for physical ailments ($F = 13.95$, $p < .001$) and mental health issues ($F = 7.24$, $p < .001$) when grouped according to daily work hours. Longer daily sedentary periods were associated with more pronounced musculoskeletal pain, fatigue, and stress. The Implication, Prolonged exposure to sedentary work, whether by years in position or daily hours, increases both physical and mental health risks.
4. As to the extent to which sedentary-related ailments (SRAs) impacted job satisfaction among office-based workers, the overall average mean was 2.553, interpreted as "moderately agree." Among the three dimensions, the highest was compensation and benefits, with an average mean of 2.634, followed by workplace intervention, with a mean of 2.603, both interpreted as "moderately agree." The lowest was relationships with co-workers, with an average mean of 2.427, interpreted as "Slightly Agree." These findings suggest that while SRAs moderately affected employees' satisfaction with benefits and workplace support, their impact on interpersonal relationships at work was slightly less pronounced.
5. As to the correlation between sedentary-related ailments—classified as physical and mental—and the key workplace outcomes of job productivity and job satisfaction while controlling for daily work hours, results showed that most average correlations were statistically significant, particularly for mental ailments. For job productivity, physical ailments had a significant overall correlation of $r = 0.368$ ($p < .001$), while mental ailments had a stronger correlation of $r = 0.479$ ($p < .001$), indicating that mental health issues more greatly influenced employees' ability to perform effectively. Similarly, for job satisfaction, physical ailments had an overall correlation of $r = 0.298$ ($p < .001$), and mental ailments had $r = 0.365$ ($p < .001$), again underscoring the stronger impact of mental conditions in shaping workplace satisfaction. These findings emphasize that while both types of ailments were relevant, mental health concerns had a more pronounced effect on how employees engaged with and felt about their work.

6. As to the Relationship Between Job Productivity and Job Satisfaction, There is Strongest association: Relationships with co-workers had the highest positive correlations with productivity measures, particularly absenteeism ($r = 0.402, p < .001$) and overall productivity ($r = 0.374, p < .001$). Compensation and Benefits: Showed weaker but still significant correlations with absenteeism ($r = 0.162, p = 0.005$) and overall productivity ($r = 0.15, p = 0.009$). Workplace Intervention: Significantly related to absenteeism ($r = 0.159, p = 0.006$) and overall productivity ($r = 0.13, p = 0.025$). Overall, Job Satisfaction: Significantly correlated with focus/concentration ($r = 0.233, p < .001$), absenteeism ($r = 0.385, p < .001$), and overall productivity ($r = 0.348, p < .001$).

The Implication for this is Positive workplace relationships and supportive environments contribute strongly to reducing absenteeism and improving productivity, more so than compensation alone.

7. As to the Correlation Between Sedentary Ailments and Job Outcomes

- (a) Sedentary Ailments and Job Productivity

Physical Ailments: Significantly correlated with focus/concentration ($r = 0.146, p = 0.011$), absenteeism ($r = 0.472, p < .001$), and overall productivity ($r = 0.363, p < .001$). Mental Ailments: Showed stronger correlations across all domains—focus/concentration ($r = 0.236, p < .001$), efficiency/accuracy ($r = 0.153, p = 0.008$), absenteeism ($r = 0.557, p < .001$), and overall productivity ($r = 0.476, p < .001$).

- (b) Sedentary Ailments and Job Satisfaction

Physical Ailments: Significantly correlated with relationship with co-workers ($r = 0.326, p < .001$) and overall job satisfaction ($r = 0.295, p < .001$). Mental Ailments: More strongly correlated with relationship with co-workers ($r = 0.404, p < .001$), workplace intervention ($r = 0.143, p = 0.013$), and overall job satisfaction ($r = 0.364, p < .001$).

The Implication: Mental health concerns have a more substantial negative impact than physical ailments on both productivity and satisfaction, underscoring the need for mental health interventions alongside ergonomic improvements.

Conclusion

Based on the findings, the following conclusions are offered:

1. Office workers in sedentary work settings experienced a moderate level of physical discomfort and a slightly lower degree of mental health concerns. While physical ailments such as eye strain were more commonly reported, psychological impacts like stress were also noted, though to a lesser extent.
2. Sedentary-related ailments (SRAs) have a subtle yet consistent effect on job productivity, with all three domains—focus and concentration, efficiency and accuracy, and absenteeism and presenteeism. Although the impact is not severe, physical discomfort and mental fatigue caused by prolonged sitting were shown to reduce employees' ability to concentrate, complete tasks efficiently, and maintain optimal presence at work.
3. Sedentary-related ailments (SRAs) moderately impact job satisfaction among office-based workers, with employees recognizing the value of health benefits, co-worker support, and workplace wellness initiatives. However, there remain noticeable gaps in emotional recognition,

ergonomic support, and social inclusion. While existing programs provide some relief, the continued presence of physical and psychosocial strains highlights the need for more comprehensive and balanced interventions.

4. There is a significant correlation between mental ailments and workplace outcomes, emphasizing the critical role of psychological well-being in sustaining employee performance and satisfaction. While physical ailments are also relevant, their effects appear less consistent. The absence of significant correlations in some areas suggests that physical discomfort may be more manageable or less disruptive than mental strain.
5. Mental health issues caused by sedentary work have a stronger and more consistent impact on job productivity and satisfaction than physical ailments, regardless of how long employees have been in their positions. While physical discomfort plays a role, it is the psychological strain that more significantly affects performance and morale.

Recommendations

1. Sedentary work environments pose both physical and mental challenges, with physical symptoms being more immediately perceived. Therefore, workplace interventions should prioritize addressing both aspects through ergonomic improvements and mental health support to promote overall employee well-being.
2. Organizations provide ergonomic furniture and encourage regular movement breaks to reduce the negative effects of sitting too long. They should also support employees' mental health by offering stress management programs, counseling, and promoting a positive work environment. These simple actions can help improve comfort, maintain productivity, and support overall well-being in sedentary jobs.
3. To enhance job satisfaction, organizations should adopt a holistic approach that combines physical health strategies—such as ergonomic improvements— with efforts that promote mental well-being, social connection, and genuine appreciation for the challenges of sedentary work.
4. Organizations should consider establishing a comprehensive wellness program that equally addresses mental health and physical well-being by providing access to mental health resources, promoting a supportive work culture, and implementing ergonomic interventions and movement-friendly policies.
5. Organizations are encouraged to develop and implement integrated wellness programs that prioritize mental health alongside physical well-being, such as services, stress management workshops, and mental health days, as well as maintaining ergonomic workspaces and encouraging regular movement breaks so employers can enhance job satisfaction, improve productivity, and promote a healthier, more engaged workforce.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship and publication of this article.

Funding

The author received no financial support for the research, authorship and publication of this article.

References

- Arnold B. Bakker, Evangelia Demerouti; The Job Demands - Resources model: state of the art. *Journal of Managerial Psychology* 3 April 2007; 22 (3): 309–328. <https://doi.org/10.1108/02683940710733115>
- Arora, T. (2021). The impact of physical health on job performance: A systematic review. *Journal of Occupational Health Psychology*, 26(2), 105-121
- Bailey DP, Hewson DJ, Champion RB et al. Sitting time and risk of cardiovascular disease and diabetes: a systematic review and meta-analysis. *Am J Prev Med* 2019; 57:408–16. doi: 10.1016/j.amepre.2019.04.015. [DOI] [PubMed] [Google Scholar]
- Bakker AB, Demerouti E. The job demands-resources model: state of the art. *J Manag Psychol*. 2007;22:309-328. [Google Scholar] <https://doi.org/10.1108/02683940710733115>
- Barone Gibbs B., Kline C.E., Huber K.A., Paley J.L., Perera S. COVID-19 shelter-at-home and work, lifestyle, and well-being in desk workers. *Occup. Med.*. 2021; 71:86–94. doi: 10.1093/occmed/kqab011
- Bernaards, C. M., Hildebrandt, V. H., & Hendriksen, I. J. M. (2016). Correlates of sedentary time in different age groups: results from a large cross sectional Dutch survey. *BMC Public Health*, 16(1). <https://doi.org/10.1186/s12889-016-3769-3>
- Buckley J.P., Hedge A., Yates T., Copeland R.J., Loosemore M., Hamer M., Bradley G., Dunstan D.W. The sedentary office: A growing case for change towards better health and productivity. Expert statement commissioned by Public Health England and the Active Working Community Interest Company. *Br. J. Sports Med.* 2015 doi: 10.1136/bjsports-2015-094618. [DOI] [PubMed] [Google Scholar]
- Chau J.Y., Sukala W., Fedel K., Do A., Engelen L., Kingham M., Sainsbury A., Bauman A.E. More standing and just as productive: Effects of a sit-stand desk intervention on call center workers' sitting, standing, and productivity at work in the Opt to Stand pilot study. *Prev. Med. Rep.* 2016; 3:68–74. doi: 10.1016/j.pmedr.2015.12.003
- Charlotte Nickson, Herzberg's Two-Factor Theory Of Motivation-Hygiene
April 18, 2025, the *Journal of Clinical Psychology* <https://www.simplypsychology.org/herzbergs-two-factor-theory.html>

- Coenen, P., Healy, G. N., Winkler, E. a. H., Dunstan, D. W., Owen, N., Moodie, M., LaMontagne, A. D., Eakin, E. A., O'Sullivan, P. B., & Straker, L. M. (2018). Associations of office workers' objectively assessed occupational sitting, standing and stepping time with musculoskeletal symptoms. *Ergonomics*, 61(9), 1187– 1195. <https://doi.org/10.1080/00140139.2018.1462891>
- Daniel P Bailey, Sedentary behavior in the workplace: prevalence, health implications and interventions, *British Medical Bulletin*, Volume 137, Issue 1, March 2021, Pages 42–50, <https://doi.org/10.1093/bmb/ldaa039>
- Demsey, P. C., Friedenreich CM, Leitzmann MF, Buman MP, Lambert E, Wellumsen J, . "Sitting less and moving more: implications for work, life and public health." *Sports Medicine. J Phys Act Health*. 2020 (in press). <https://doi.org/10.1123/jpah.2020-0525>.
- Eisenberger, Robert., Florence Stinglhamber, Christian Vandenberghe, Ivan Laars Sucharski., Perceived Supervisor Support: Contributions to Perceived Organizational Support and Employee Retention. *Journal of Applied Psychology*. July 2002. 87(3):565-73. DOI:10.1037//0021-9010.87.3.565, Source. PubMed
- Fukushima N., Machida M., Kikuchi H., Amagasa S., Hayashi T., Odagiri Y., Takamiya T., Inoue S. Associations of working from home with occupational physical activity and sedentary behavior under the COVID-19 pandemic. *J. Occup. Health*. 2021;63:e12212. doi: 10.1002/1348-9585.12212
- Ganster, Daniel and Rosen, Christopher. Work Stress and Employee Health A Multidisciplinary Review July 2013, *Journal of Management* 39(5):1085-1122. DOI:10.1177/0149206313475815
- Garcia, J. L., & Santos, F. A. (2019). "Sedentary behavior and health risks among Filipino office workers." *Philippine Journal of Occupational Health*
- Goetzel RZ, Henke RM, Tabrizi M, Pelletier KR, Loeppke R, Ballard DW, Grossmeier J, Anderson DR, Yach D, Kelly RK, McCalister T, Serxner S, Selecky C, Shallenberger LG, Fries JF, Baase C, Isaac F, Crighton KA, Wald P, Exum E, Shurney D, Metz RD. Do workplace health promotion (wellness) programs work? *J Occup Environ Med*. 2014 Sep;56(9):927-34. doi: 10.1097/JOM.0000000000000276. PMID: 25153303.
- Grawitch, Matthew J., Gottschalk, Melanie, and David C. Munz, The Path to a Healthy Workplace A Critical Review Linking Healthy Workplace Practices, Employee Well-being, and Organizational Improvements Consulting Psychology Journal July 2006 58(3):129-147. DOI:10.1037/1065-9293.58.3.129
- Grzywacz JG. Marks, Nadine F., Reconceptualizing the Work-Family Interface: An Ecological Perspective on the Correlates of Positive and Negative Spillover Between Work and Family. *Journal of Occupational Health Psychology*. January 2000. 5(1):111-26. DOI:10.1037/1076-8998.5.1.111. Source PubMed

- Goh, J. (2020). The impact of health-related productivity loss on employee job satisfaction and organizational outcomes. *Journal of Occupational Health Psychology*, 25(3), 190-206.
- Gupta, N. (2012). "Work-related musculoskeletal disorders and sedentary behavior," *Journal of Affective Disorders*
- Falk, G. E., Mailey, E. L., Okut, H., Rosenkranz, S. K., Rosenkranz, R. R., Montney, J. L., & Ablah, E. (2022). Effects of Sedentary Behavior Interventions on Mental Well-Being and Work Performance While Working from Home during the COVID-19 Pandemic: A Pilot Randomized Controlled Trial. *International Journal of Environmental Research and Public Health*, 19(11), 6401. <https://doi.org/10.3390/ijerph19116401>
- Herzberg, F. (1959). *The Motivation to Work*. John Wiley & Sons, New York. has been cited in the following article. <https://www.scrip.org>referencespaper>
- Hafeez I, Yingjun Z, Hafeez S, Mansoor R, Cheema K, ur R. Impact of workplace environment on employee performance: mediating role of employee health. *Bus Manag Educ.* (2019) 17:173-93. 10.3846/bme.2019.10379 [DOI] [Google Scholar][Ref list]
- Hallgren, Mats, Thi-Thuy-Dung Nguyen, Neville Owen, David W. Dunstan. "Exercise and Physical activity in the prevention and treatment of depression." *Journal of Affective Disorders.* (2020) <https://doi.org/10.1016/j.ypmed.2020.106021>
- Harter, J. K., Schmidt, F. L., Agrawal, S., Plowman, S. K., & Blue, A. T. (2020). Increased business value for positive job attitudes during economic recessions: A meta-analysis and SEM analysis. *Human Performance*, 33(4), 307-330. https://www.researchgate.net/publication/237670380_Wellbeing_in_the_workplace_and_its_relationship_to_business_outcomes_A_review_of_the_Gallup_studies
- Hedge C, Powell G, Sumner P. The reliability paradox: Why robust cognitive tasks do not produce reliable individual differences. *Behav Res Methods.* 2018 Jun;50(3):1166-1186. doi: 10.3758/s13428-017-0935-1. PMID: 28726177; PMCID: PMC5990556.
- Ishii K, Shibata A, Oka K. Work Engagement, Productivity, and Self-Reported WorkRelated Sedentary Behavior Among Japanese Adults: A Cross-Sectional Study. *J. Occup. Environ. Med.* 2018; 60: e173-e177. doi: 10.1097/JOM.0000000000001270. [DOI] [PubMed] [Google Scholar] [Ref list]
- Janssen, P. (2020). Workplace wellness and productivity: A review of recent evidence. *Journal of Occupational Health Psychology*, 25(4), 245-256
- Katzmarzyk PT, Powell KE, Jakicic JM, Troiano RP, Piercy K, Tennant B, et al. Sedentary behavior and health: update from the 2018 Physical Activity Guidelines Advisory Committee. *Med Sci Sports Exerc.* 2019; 51:1227-41. doi: 10.1249/MSS.0000000000001935. [DOI] [PMC free article] [PubMed] [Google Scholar]
- Kearns, H., & Gardiner, M. (2007b). Is it time well spent? The relationship between time management behaviours, perceived effectiveness and work - related morale and distress in a university context. *Higher Education Research & Development*, 26(2), 235-247. <https://doi.org/10.1080/07294360701310839>

- Koh, M. (2021). Health, work-life balance, and job satisfaction: An integrated approach. *Journal of applied Psychology*, 106(2), 319-332
- Kosec, Z., Sekulic, S., Wilson-Gahan, S., Rostohar, K., Tusak, M., & Bon, M. (2022). Correlation between Employee Performance, Well-Being, Job Satisfaction, and Life Satisfaction in Sedentary Jobs in Slovenian Enterprises. *International Journal of Environmental Research and Public Health*, 19(16), 10427. <https://doi.org/10.3390/ijerph191610427>
- Martin, A (2021). Health status, physical activity, and job satisfaction: Exploring the links. *Journal of Occupational Health Psychology*, 26(4), 358-370
- Mahmood A, Akhtar MN, Talat U, Shuai C, Hyatt JC. Specific HR practices and employee commitment: the mediating role of job satisfaction. *Empl Relations Int J*. (2019) 41:420-35. 10.1108/ER-03-2018-0074 [DOI] [Google Scholar][Ref list]
- McDowell C.P., Herring M.P., Lansing J., Brower C., Meyer J.D. (2020). Working from Home and Job Loss Due to the COVID-19 Pandemic Are Associated with Greater Time in Sedentary Behaviors. *Front. Public Health*. 2020; 8:597619. doi: 10.3389/fpubh.2020.597619
- Morris A.S., Mackintosh K.A., Dunstan D., Owen N., Dempsey P., Pennington T., McNarry M.A. Rise and Recharge: Effects on Activity Outcomes of an e-Health Smartphone Intervention to Reduce Office Workers' Sitting Time. *Int. J. Environ. Res. Public Health*. 2020; 17:9300. doi: 10.3390/ijerph17249300. [DOI] [PMC free article] [PubMed] [Google Scholar]
- Mullane SL, Buman MP, Zeigler ZS, Crespo NC, Gaesser GA. Acute effects on cognitive performance following bouts of standing and light intensity physical activity in a simulated workplace environment. *J Sci Med Sport*. 2017;20:489-93. doi: 10.1016/j.jsams.2016.09.015. [DOI] [PubMed] [Google Scholar]
- Nicolien M van der Kolk, Schootemeijer S, Bloem BR, de Vries NM. Current Perspectives on Aerobic Exercise in People with Parkinson's Disease. *Neurotherapeutics*. 2020 Oct;17(4):1418-1433. doi: 10.1007/s13311-020-009048. Erratum in: *Neurotherapeutics*. 2022 Mar;19(2):683-685. doi: 10.1007/s13311022-01219-6. PMID: 32808252; PMCID: PMC7851311.
- Owen, N., Healy, G. N., Matthews, C. E., & Dunstan, D. W. (2010). "Too much sitting: the population health science of sedentary behavior." *Exercise and Sport Sciences Reviews*. 38(3), 105-113 doi: 10.1097/JES.0b013e3181e373a2. PMID: 20577058; PMCID: PMC3404815
- Patterson R, McNamara E, Tainio M, de Sa TH, Smith AD, Sharp SJ, et al. Sedentary behaviour and risk of all-cause, cardiovascular and cancer mortality, and incident type 2 diabetes: a systematic review and dose response meta-analysis. *Eur J Epidemiol*. 2018;33:811-29. doi: 10.1007/s10654-018-0380-1. [DOI] [PMC free article] [PubMed] [Google Scholar]
- Proper K.I., van Oostrom SH. (2019) "The effectiveness of workplace health promotion interventions on physical and mental health outcomes - a systematic review of reviews." *Scand J Work Environ Health*. 2019 Nov 1;45(6):546-559. doi: 10.5271/sjweh.3833. Epub 2019 May 28. PMID: 31134284.

- Proper, K. I., & Van Oostrom, S. H. (2019). The effectiveness of workplace health promotion interventions on physical and mental health outcomes – a systematic review of reviews. *Scandinavian Journal of Work Environment & Health*, 45(6), 546–559. <https://doi.org/10.5271/sjweh.3833>
- Robertson MM, Ciriello VM, Garabet AM. Office ergonomics training and a sit-stand workstation: effects on musculoskeletal and visual symptoms and performance of office workers. *Appl Ergon*. 2013 Jan;44(1):73-85. doi: 10.1016/j.apergo.2012.05.001. Epub 2012 Jun 22. PMID: 22727324.
- Rosenkranz, S. K., Mailey, E. L., Umansky, E., Rosenkranz, R. R., & Ablah, E. (2020). Workplace Sedentary Behavior and Productivity: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 17(18), 6535. <https://doi.org/10.3390/ijerph17186535>
- Saidj M, Menai M, Charreire H, Weber C, Enaux C, Aadahl M, Kesse-Guyot E, Hercberg S, Simon C, Oppert JM. Descriptive study of sedentary behaviours in 35,444 French working adults: cross-sectional findings from the ACTI-Cités study. *BMC Public Health*. 2015 Apr 14;15:379. doi: 10.1186/s12889-015-1711-8. PMID: 25884816; PMCID: PMC4403769
- Sakakibara, K., Miyanaka, D., Tokita, M., Kawada, M., Mori, N., Hamsyah, F., Lin, Y., & Shimazu, A. (2023). Association of Work-Related sedentary behavior with mental health and work engagement among Japanese White- and Blue-Collar workers. *Journal of Occupational and Environmental Medicine*, 65(11), e695– e702. <https://doi.org/10.1097/jom.0000000000002952>
- Santos, J. A. R. (1999). Cronbach's Alpha: A Tool for Assessing the Reliability of Scales. *Journal of Extension*, 37, 1-5. DOI: 10.4236/cus.2014.21001 <https://www.scirp.org/journal/paperinformation?paperid=44271#P11>
- Schneider, Susan., & Hinton, P. (2019). "The workplace wellness impact: Sedentary behavior and productivity." *Occupational Health Review*
- Self-Care Deficit Nursing Theory. Source: Orem, D. (2001). *Nursing: Concepts of practice* (6th ed). St. Louis: Mosby in January 2001.
- Sheppard AL, Wolffsohn JS. Digital eye strain: prevalence, measurement and amelioration. *BMJ Open Ophthalmol*. 2018 Apr 16;3(1):e000146. doi: 10.1136/bmjophth-2018-000146. PMID: 29963645; PMCID: PMC6020759.
- Stewart, W. (2020). Career satisfaction and physical health: Examining the interconnections in the workplace. *Journal of Career Development*, 47(2), 223-239
- Straker L.M., Parry S.P., Coenen P., Shrestha N., O'Sullivan P.B., Maher C.G. (2019). Workplace interventions for increasing standing or walking for decreasing musculoskeletal symptoms in sedentary workers. *Cochrane Database Syst Rev*. 2019 doi: 10.1002/14651858.CD012487.pub2. [DOI] [PMC free article] [PubMed] [Google Scholar][Ref list]
- Teychenne M., Ball K., Salmon J. Sedentary behavior and depression among adults: A review. *Int. J. Behav. Med*. 2010;17:246–254. doi: 10.1007/s12529-010-9075-z. [DOI] [PubMed] [Google Scholar]

Thorp A.A., Healy G.N., Winkler E., Clark B.K., Gardiner P.A., Owen N., Dunstan D.W. Prolonged sedentary time and physical activity in workplace and non-work contexts: A cross-sectional study of office, customer service and call centre employees. *Int. J. Behav. Nutr. Phys. Act.* 2012;9:128. doi: 10.1186/1479-5868-9-

128. [DOI] [PMC free article] [PubMed] [Google Scholar]

Tremblay M.S., Aubert S., Barnes J.D., Saunders T.J., Carson V., Latimer-Cheung A.E.,

Chastin S.F.M., Altenburg T.M., Chinapaw M.J.M. Sedentary Behavior Research

Network (SBRN)—Terminology Consensus Project process and outcome. *Int. J.*

Behav. Nutr. Phys. Act. 2017; 14:75. doi: 10.1186/s12966-017-0525-8

Tian, Y., (2022) "Association between occupational sitting and mental health: A crosssectional study among Chinese Workers." *BMC Public Health*

Tummer, L.G., and Arnold B. Bakker (2021). Leadership and Job Demands-Resources

Theory: A systematic Review article. *Front. Psychol.*, 30 September 2021 sec.

Organizational Psychology Volume 12-2021|<https://doi.org/10.3389/fpsyg.2021.722080>

World Health Organization . Geneva: World Health Organization; 2020. Physical inactivity: a global public health problem [Internet] [cited 2020 Jun 15]. Available from: https://www.who.int/dietphysicalactivity/factsheet_inactivity/en/ [Google

Scholar]

World Health Organization. Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. Geneva: World Health

Organization, 2019. Google Scholar