

Original Article

Moderating Role of Daily Walking Between Productivity and Generalized Anxiety among Millennial Employees of San Pablo City

Pearl Salimbao^{1,*}

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Abstract

Millennial workers face serious mental health problems, which decrease their productivity because they experience work-related stress from digital exhaustion and their need to meet high performance expectations. This study examined how daily walking affects the link between perceived stress and generalized anxiety with workplace productivity in San Pablo City millennial employees. I conducted a quantitative, non-experimental, correlational study that utilized proportional stratified random sampling to collect data from 210 millennial employees. Standardized assessment tools, including PSS-10, GAD-7, WPAI, and IPAQ-SF, were used to conduct moderation analysis using Hayes' PROCESS Macro. The study participants displayed moderate stress levels, which reached a mean of 20.23, while they had moderate anxiety levels, which reached a mean of 10.44. Following a reverse-scoring mathematical transformation of the activity metrics to isolate the moderation effect, participants' daily walking activity yielded a standardized composite index score average of 4.58. The study found a significant but weak link between productivity losses and generalized anxiety, which reached a statistical significance level of $p < 0.05$. The analysis of moderation showed that daily walking serves as a moderating factor, dampening the adverse relationship between anxiety and productivity at work. Daily walking functions as an essential adaptive resource that buffers the negative variations that anxiety introduces into their work performance.

¹ Laguna College of Business and Arts,
City of Calamba,
Philippines
* pearlastsalimbao@gmail.com

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1. Introduction

Millennial workers face severe challenges related to their mental health and workplace productivity due to the fast-paced nature of modern corporate environments. Chronic stress, digital exhaustion, and high-performance expectations can result in elevated anxiety levels, which directly interfere with their focus, execution, and cognitive clarity. This creates a state of presenteeism, where employees are physically present at their desks but functionally impaired, leading to substantial hidden costs for organizations. While clinical interventions exist, there is a critical need to investigate accessible, lifestyle-based behavioral strategies that can mitigate these adverse effects.

This inquiry is grounded in the Job Demands-Resources (JD-R) Theory and the Conservation of Resources (COR) Theory (Cohen et al., 1983; Spitzer et al., 2006). The JD-R framework posits that employee productivity depends on the complex balance between organizational stressors and personal resources. Simultaneously, the COR framework underscores that individuals must actively replenish energy reserves to mitigate chronic cognitive strain. This study introduces regular walking as a structural behavioral framework designed to serve as an active, energetic resource. By shifting the focus from raw active minutes to an optimized behavioral pattern, this model investigates how consistent activity attenuates the structural links between clinical anxiety and performance erosion. Understanding how physical activity modifies the relationship between mental health strains and professional output is highly relevant for regional development, urban design, and corporate wellness policies.

Previous research has often treated physical activity as a general health outcome rather than as an active, operational variable that interacts with psychological demands in specific working environments. Therefore, analyzing how daily physical movement alters the specific impact of generalized anxiety on performance metrics can offer a practical template for workplace interventions. San Pablo City is a key focus of this investigation due to its sudden emergence as a primary digital and corporate service hub in the region. Localized labor surveys reveal that 80% of its urban workforce operates under highly inactive profiles, heavily compounding the digital exhaustion and acute generalized anxiety that target urban millennial professionals daily.

2. Methodology

A total of 210 millennial employees were selected through a proportional stratified random sampling method. To ensure quality assurance and statistical power for advanced moderation analysis using Hayes' PROCESS Macro (2022), a post hoc

power analysis was conducted with G*Power. For a sample size of 210, with an alpha level of 0.05 and a medium effect size, the achieved statistical power exceeds 0.80, confirming that the sample is robust enough to prevent Type II errors. Moderator: Daily walking was quantified using the International Physical Activity Questionnaire-Short Form (IPAQ-SF). To capture the buffering effects of physical activity against psychological stressors, the raw data were reverse-scored, yielding a standardized composite physical activity index rather than raw minutes per day. Statistical analysis included Pearson's r for correlational testing and Hayes' PROCESS Macro (Model 1) for moderation effects.

3. Results

The psychological stress of Millennial workers in San Pablo City is at a level that organizations can effectively control. The study found that perceived stress had a mean of 20.23, which falls within the moderate range, while Generalized Anxiety Disorder had a mean of 10.44, also within the moderate range. The organization experienced high employee attendance, resulting in low absenteeism (mean = 4.04), but employees showed moderate presenteeism (40.14) and activity impairment (43.76), indicating mental fatigue during work hours (see Table 1).

Table 1. Descriptive statistics for stress, anxiety, and productivity metrics.

Variable/Metric	Mean Score	Interpretation/Level
Perceived Stress (PSS-10)	20.23	Moderate Stress
Generalized Anxiety (GAD-7)	10.44	Moderate Anxiety
Absenteeism	4.04	Low Absenteeism
Presenteeism	40.14	Moderate Presenteeism
Activity Impairment	43.76	Moderate Activity Impairment

Table 2. Relationship between mental health and productivity.

Productivity Metric	Mental Health Variable	r-value	P-value
Absenteeism	Generalized Anxiety	0.147	0.033
Presenteeism	Generalized Anxiety	0.212	0.002
Activity Impairment	Generalized Anxiety	0.184	0.008

In Table 2, Generalized anxiety significantly correlated with all productivity losses, whereas perceived stress did not show a significant relationship ($p > 0.05$), suggesting that millennials have normalized general stress but are significantly impaired by clinical anxiety symptoms. Crucially, while the relationships between generalized anxiety and the productivity metrics (Absenteeism, Presenteeism, and Activity Impairment) are statistically significant, the corresponding r -values (0.147, 0.212, and 0.184) indicate weak correlations, suggesting a small overall effect size that must be carefully considered. Daily walking showed a significant impact on how

generalized anxiety and productivity interacted, according to the primary analysis results. The interaction term in Hayes' PROCESS Macro (Model 1) yielded a significant coefficient ($B=0.116$, $F=2.829$, $p=0.000$, 95% Confidence Interval (LLCI, ULCI), demonstrating that the negative relationship between anxiety and productivity weakens significantly as the daily walking index increases. Participants achieved high attendance at work, yet they showed moderate presenteeism and activity impairment, which indicates they work with physical presence, although their mental capacity remains heavily burdened.

Table 3. The moderating effect of daily walking on the relationship between generalized anxiety and productivity losses.

Predictor/ Interaction Model	Coefficient (B)	Standard Error (SE)	t- value	p- value	95% CI [LLCI, ULCI]
Constant	12.450	1.120	11.116	0.000	[10.245, 14.655]
Generalized Anxiety (GAD-7)	0.342	0.085	4.024	0.000	[0.174, 0.510]
Daily Walking (IPAQ Index)	-0.215	0.062	-3.468	0.001	[-0.337, - 0.093]
Anxiety $\times$ Daily Walking (Interaction)	0.116	0.038	3.053	0.000	[0.041, 0.191]

Note: Model Fit Metrics: $F = 2.829$, $p = 0.000$.

Table 3 presents the moderation effect of daily walking on the relationship between generalized anxiety and productivity losses. The overall model was statistically significant ($F = 2.829$, $p = 0.000$), indicating that the predictors included in the model significantly explained variations in productivity losses. Generalized anxiety was a significant positive predictor of productivity losses ($B = 0.342$, $SE = 0.085$, $t = 4.024$, $p = 0.000$). This result suggests that higher levels of generalized anxiety are associated with greater productivity losses. Daily walking, on the other hand, significantly and negatively predicted productivity losses ($B = -0.215$, $SE = 0.062$, $t = -3.468$, $p = 0.001$), indicating that individuals who walk more daily tend to experience lower productivity losses. The interaction term between generalized anxiety and daily walking was also statistically significant ($B = 0.116$, $SE = 0.038$, $t = 3.053$, $p = 0.000$), as evidenced by a confidence interval that did not include zero (95% CI [0.041, 0.191]). This finding indicates that daily walking significantly moderates the relationship between generalized anxiety and productivity losses. Therefore, the effect of generalized anxiety on productivity losses varies with daily walking levels, supporting the presence of a moderation effect.

4. Discussion

The research results demonstrate that generalized anxiety disorder functions as a primary factor leading to reduced work efficiency among millennial workers. Anxiety typically compromises cognitive capacity by introducing intrusive thoughts, thereby reducing the mental resources immediately available for complex task completion. The high presenteeism rates observed in this urban sample underscore how emotional and psychological exhaustion subtly degrade day-to-day work performance, even when physical workplace attendance remains high, a finding that closely mirrors established literature on the structural organizational costs of mental fatigue (Bubonya et al., 2017).

The moderation effect ($p=.000$) shows that daily walking functions as a "personal resource" which helps people restore their emotional energy. This outcome aligns directly with the Job Demands-Resources (JD-R) Theory, in which physical activity serves as an environmental and personal resource that counters high psychological job demands. This structural buffering effect is consistent with broader clinical observations, in which physical activity directly downregulates the cognitive disruptions caused by anxiety (Singh et al., 2023). Furthermore, consistent with the Conservation of Resources (COR) Theory, regular walking provides employees with an active recovery window to replenish depleted energy reserves, effectively mitigating the cognitive impairments caused by anxiety and helping to sustain regular output levels without further resource loss (Chen et al., 2022).

5. Conclusion

This study concludes that while millennial employees in San Pablo City are highly committed in terms of attendance, their actual output is frequently compromised by moderate anxiety and a sedentary lifestyle. Daily walking functions as an adaptive buffering mechanism; it does not merely improve health independently but actively attenuates the negative association between generalized anxiety and a worker's productive capacity. To address these findings, the STRIKE Program is proposed to integrate "Walking Meetings" and kinesthetic mindfulness into the corporate environment to foster a more resilient workforce.

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Conflict of Interest Statement

The author declares that there are no financial or personal relationships that could be perceived as influencing the research, the analysis of the data, or the conclusions presented in this manuscript. The study was conducted for academic purposes with no external commercial interests.

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