



The Impact of Physical Exercise on Psychological Well-Being and Work Attitudes of Employees: A Non-Doctrinal Study

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Abstract - This non-doctrinal study examines the relationship between employees' physical exercise habits and their psychological well-being and work attitudes. Using data collected via Google Forms from a diverse sample of 118 employees, the study investigates exercise frequency, session duration, and predominant exercise type, alongside self-reported energy levels, stress, motivation, job satisfaction, and organisational commitment. The results indicate that regular physical activity—regardless of session length—significantly enhances energy, positivity, and engagement while reducing stress and fatigue. Walking and jogging were associated with higher energy and motivation, whereas yoga and meditation promoted emotional calm. Importantly, 86.4% of participants reported improved work attitudes on days they exercised, highlighting both immediate and cumulative benefits. The study underscores the practical value of integrating exercise into workplace wellness strategies and provides actionable recommendations for organisations seeking to improve employee well-being and productivity.

Keywords - Physical Exercise, Psychological Well-Being, Work Attitudes, Employee Engagement, Workplace Wellness.

I. Introduction

Employee mental health and positive work attitudes are central to individual performance and organisational effectiveness. Contemporary workplaces are increasingly characterised by cognitive load, time pressure, and prolonged sedentary behaviour—conditions that elevate the risk of fatigue, stress, and disengagement. Physical exercise is a modifiable behaviour that has been repeatedly linked to improved mood, reduced anxiety, and greater energy; yet the specific ways in which routine exercise translates into day-to-day work attitudes (motivation, job satisfaction, engagement, and task efficiency) remain insufficiently mapped across occupational groups. Understanding those links is essential for designing workplace health interventions that are both evidence-based and targeted.

This study investigates the relationship between employees' exercise behaviours—including frequency, session duration, and primary exercise type—and their self-reported psychological well-being and work attitudes. The sample is skewed toward younger and female respondents, with 50.8% aged 18–25 and 65.3% female, and a substantial proportion of education professionals (35.6%), alongside representation



from technology, law, healthcare, and cultural sectors. Descriptive patterns in the data highlight meaningful variability: 16.1% of respondents reported no weekly exercise, whereas 29.7% exercised five or more days per week; most sessions were relatively brief, with 44.1% lasting under 20 minutes, and walking or jogging emerged as the most common activity (48.3%). Notably, 86.4% of respondents indicated that their attitude toward work improves on days they exercise—a striking finding that underscores the potential influence of physical activity on workplace engagement and warrants deeper analytical exploration of dose–response effects, exercise type, and contextual factors.

This paper addresses three analytical aims. First, it evaluates the strength and shape of the association between exercise behaviours and psychological well-being at work (energy, positivity, stress, fatigue). Second, it investigates how exercise relates to concrete work attitudes—motivation to complete tasks, job satisfaction, skill development behaviour, and organisational commitment. Third, the study probes mechanisms and heterogeneity: whether the association varies by exercise dose (frequency $\times$ duration), by exercise type (aerobic vs. mind-body), and across demographic/occupational subgroups (age, gender, sector), and whether psychological well-being mediates the exercise $\rightarrow$ work-attitude link.

The study is framed by two complementary theoretical lenses. Conservation of Resources (COR) suggests that exercise can build psychological resources (energy, resilience) that buffer job demands and enhance engagement. The Job Demands-Resources (JD-R) model similarly posits that personal resources generated outside work (such as health and vitality from exercise) replenish motivational reserves and thereby foster job satisfaction and commitment. These frameworks lead to testable hypotheses about direct effects (exercise $\rightarrow$ well-being; exercise $\rightarrow$ attitudes) and indirect effects mediated by improved well-being.

Hypotheses (directional, grounded in theory and the dataset’s descriptive patterns)

H1 — Exercise frequency (days/week) is positively associated with psychological well-being at work (higher energy, greater positivity, lower stress/fatigue).

H2 — Exercise session duration is positively associated with psychological well-being, but with diminishing returns after moderate durations (nonlinear dose–response).

H3 — Greater exercise frequency and duration predict more positive work attitudes (higher motivation, job satisfaction, engagement), with psychological well-being mediating these relationships.

H4 — Exercise type matters: aerobic activities (walking/jogging, sports) will show stronger associations with energy and task motivation, while mind-body practices (yoga/meditation) will show relatively stronger associations with reduced work anxiety and perceived stress.

H5 — Associations are moderated by demographic and occupational factors (e.g., younger respondents and education professionals may report stronger self-efficacy gains from short, frequent exercise routines).

Analytically, the paper moves beyond reporting simple cross-tabulations to (1) model the dose–response relationship between exercise and well-being (including quadratic terms and categorical thresholds), (2) test mediation models with bootstrapped confidence intervals, and (3) probe interaction effects to identify subgroups that benefit



most. Robustness checks will address alternative explanations (reverse causality and self-selection), control for key covariates (age, gender, sector, work tenure), and inspect common-method bias. By pairing theoretically motivated hypotheses with targeted empirical tests that exploit patterns already visible in the data (high prevalence of short sessions; dominant walking/jogging modality; strong self-reported same-day benefits), the study aims to deliver nuanced, actionable insights for workplace health policy.

II. Literature Review

Physical exercise is widely recognised as a critical factor in promoting psychological well-being. Meta-analytic evidence suggests that even moderate physical activity enhances mood, reduces stress, and mitigates symptoms of anxiety and depression (Biddle & Asare, 2011; Sharma, Madaan, & Petty, 2006). Mechanistically, exercise triggers neurochemical changes—endorphin release, serotonin modulation, and increased brain-derived neurotrophic factor (BDNF)—that improve mood and cognitive functioning, while also providing a sense of accomplishment and self-efficacy (Fox, 1999; McAuley et al., 2000). Beyond individual health, these benefits translate into workplace contexts by equipping employees with psychological resources that buffer job stress and maintain energy levels throughout the workday.

The relationship between exercise and work-related outcomes has received growing attention. Studies indicate that employees who engage in regular physical activity report higher job satisfaction, enhanced motivation, and greater organisational commitment (Schmidt & Diestel, 2015; Conn et al., 2009). For instance, aerobic exercise (e.g., walking, jogging, sports) has been linked to increased energy and task persistence, while mind-body practices (yoga, meditation) are associated with reduced perceived stress and improved focus. These findings align with theoretical frameworks such as the Conservation of Resources (COR) theory, which posits that personal resources like energy and resilience gained through exercise can offset the impact of work demands (Hobfoll, 1989), and the Job Demands-Resources (JD-R) model, which highlights how personal resources outside of work replenish motivation and engagement within occupational settings (Bakker & Demerouti, 2007).

Despite these insights, empirical gaps remain. Most studies are limited to specific sectors (e.g., healthcare or corporate office settings) or rely on small sample sizes, reducing generalizability across diverse professional groups. Additionally, the majority of research has focused on broad mental health outcomes without systematically examining day-to-day work attitudes, such as motivation, task efficiency, and engagement, or considering moderating factors such as exercise type, intensity, or demographic characteristics. Existing cross-sectional surveys often report correlations without parsing dose-response relationships, leaving questions about how exercise frequency and session duration differentially influence psychological and workplace outcomes.

This study addresses these gaps by analysing a diverse sample of employees across multiple sectors and age groups, integrating exercise frequency, duration, and type with multiple measures of psychological well-being (energy, positivity, stress, fatigue) and work attitudes (motivation, job satisfaction, engagement, and organisational



commitment). By doing so, it aims to provide a nuanced understanding of both the direct and indirect pathways through which exercise contributes to workplace functioning, including potential mediating effects of psychological well-being on work attitudes.

III. Research methodology

Study Design

This study employs a cross-sectional, non-doctrinal (empirical) design to examine the relationships between employees' exercise behaviours and their psychological well-being and work attitudes. The design allows for analytical assessment of associations, dose-response effects, and potential mediating pathways while capturing variability across occupational and demographic subgroups.

Participants

The final sample comprised employees across multiple sectors, with a majority of younger (50.8% aged 18–25) and female respondents (65.3%). Work sector distribution included education/ academia (35.6%), technology/engineering (18.6%), law/legal (14.4%), healthcare (5.1%), cultural/ performance arts (5.1%), and other sectors (21.2%). The sample reflects a heterogeneous workforce suitable for examining cross-sectoral patterns in exercise-work relationships.

Measures

Demographics

Participants self-reported age, gender, work sector, and employment type. These variables served as covariates in regression models to control for potential confounding effects.

Physical Exercise (Independent Variables)

Exercise behaviour was operationalised along three dimensions:

Frequency: Days per week (0, 1–2, 3–4, 5+).

Duration: Average session length (<20, 20–40, 40–60, >60 minutes).

Type: Walking/jogging, gym/strength training, yoga/meditation, sports, or bodyweight workouts.

To assess dose-response relationships, frequency and duration were treated as ordinal variables and combined into a composite “exercise intensity index” for select analyses. Exercise type was treated as a categorical variable to evaluate modality-specific effects.

Psychological Well-Being (Dependent Variables)

Well-being at work was assessed using self-reported Likert items capturing:

Energy/motivation (“I feel mentally energetic at work”)

Positive affect (“I feel positive and motivated during my workday”) Stress/anxiety (“I feel stressed or anxious at work”)

Fatigue (“I feel fatigued or low in energy during work hours”)

Responses ranged from 1 (strongly disagree) to 5 (strongly agree). Items were aggregated into a composite psychological well-being score, with higher values



indicating better well-being. Internal consistency was confirmed using Cronbach's alpha.

Work Attitudes (Dependent Variables)

Work attitudes were operationalised through self-reports on: Motivation to complete tasks efficiently

Job satisfaction

Skill development and team contribution Organisational engagement and commitment Perceived improvement in work attitude on days of exercise

Responses were measured on a 5-point Likert scale, except the last item, which was binary (Yes/ No). Composite scores were calculated where appropriate, with higher scores reflecting more positive attitudes.

Procedure

Data collection was conducted via Google Forms over [insert timeframe]. Participation was voluntary, anonymous, and preceded by informed consent. Responses with >30% missing data or failed attention checks were excluded.

Data Preparation and Analysis

Data were exported to CSV for cleaning and coding:

- Reverse-coded items (if any) were adjusted so higher scores consistently indicated better well-being or attitudes.
- Missing data were handled via listwise deletion.
- Descriptive statistics (frequencies, percentages, means, SDs) summarised demographics and exercise patterns.
- Scale reliabilities were assessed using Cronbach's alpha.

Analytical Approach

The study employed a multi-layered analytical strategy:

- Correlation Analysis: Pearson correlations assessed bivariate relationships between exercise dimensions, well-being, and work attitudes.
- Group Comparisons: ANOVA and t-tests examined differences in psychological well-being and work attitudes across exercise frequency, duration, and type categories. Post-hoc tests identified specific contrasts.
- Regression Analysis: Multiple linear regression models tested the predictive effects of exercise frequency, duration, and type on psychological well-being and work attitudes, controlling for age, gender, and sector.
- Mediation Analysis: Psychological well-being was tested as a mediator in the relationship between exercise and work attitudes using bootstrapped confidence intervals.
- Moderation Analysis: Potential moderating effects of demographic variables (age, gender, sector) were explored via interaction terms in regression models.
- Robustness Checks: Assumptions of linearity, normality, homoscedasticity, and multicollinearity (VIF <5) were examined. Nonparametric or transformed variables were considered for skewed distributions (e.g., session duration).

By combining descriptive, inferential, and mediation/moderation analyses, the study provides a nuanced, evidence-driven examination of how exercise behaviours influence both psychological and occupational outcomes in a diverse employee sample.

Data analysis

The study sample was predominantly young and female. Employees aged 18–25 represented 50.8% of participants, followed by 28.8% aged 26–35, while those over 45 years were underrepresented (4.2% aged 46–55 and 0.8% aged 56+). Females accounted for 65.3% of respondents, compared to 34.7% males. In terms of work sector, the largest group was from education and academia (35.6%), followed by technology and engineering professionals (18.6%) and legal professionals (14.4%). Smaller proportions were from healthcare (5.1%), cultural or performing arts (5.1%), business/finance (1.7%), self-employed/entrepreneurs (4.2%), freelancers/consultants (0.8%), and other sectors (14.4%). This diverse sample provides insights into exercise behaviours and work attitudes across a broad range of professional contexts.

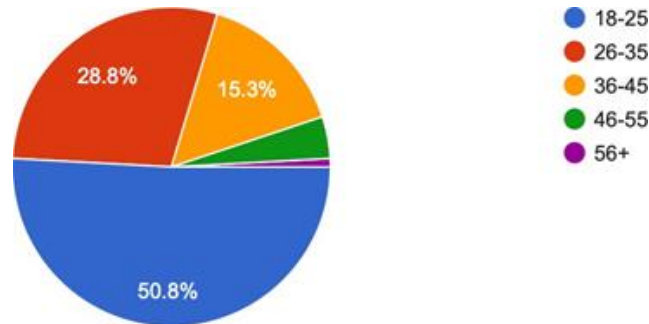


Figure 1: Age Distribution

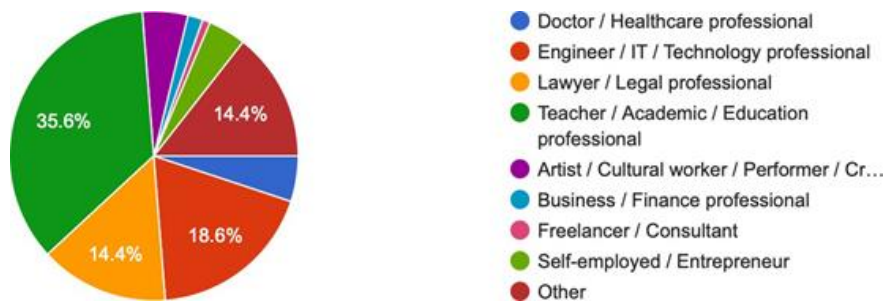


Figure 2: Work Sector Distribution

Exercise behaviours among respondents showed considerable variability. While 16.1% reported no weekly exercise, nearly 30% engaged in exercise five or more days per week. A plurality exercised one to two days weekly (31.4%), and 22.9% exercised three to four days. Session durations were generally brief: 44.1% reported exercising less



than 20 minutes, 22% for 20–40 minutes, 15.3% for 40–60 minutes, and 18.6% for more than 60 minutes. Walking or jogging was the most frequently practised type of exercise (48.3%), followed by gym or strength training (23.7%), yoga or meditation (16.9%), and sports (10.2%). Bodyweight workouts were least common (0.8%). These patterns suggest that consistency and accessibility, rather than long durations, are central to exercise habits among employees.

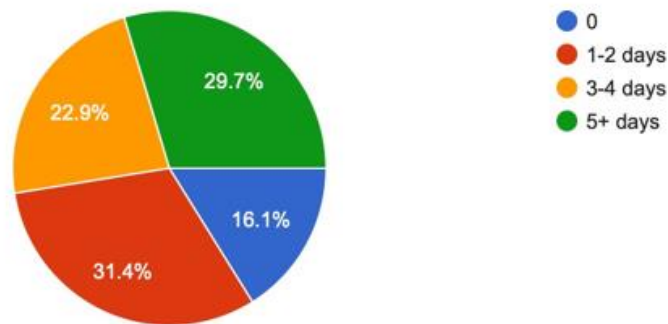


Figure 3: Exercise Frequency

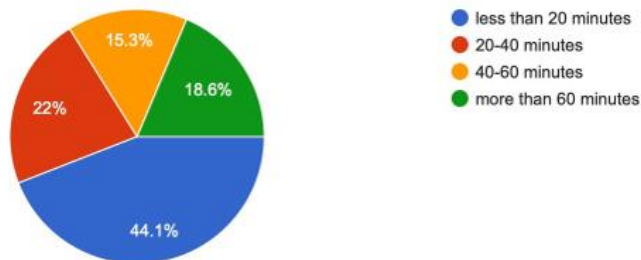


Figure 4: Exercise Duration

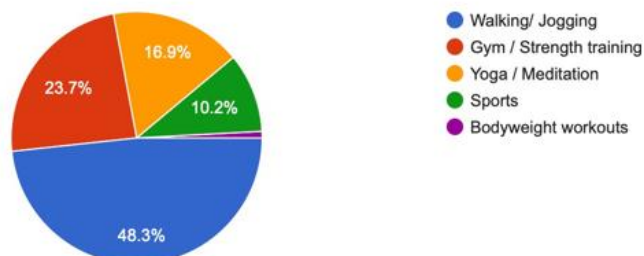


Figure 5: Exercise Type

Psychological well-being among participants was generally high. More than half reported feeling positive and motivated during the workday, with 50% strongly agreeing and 16.1% agreeing with this statement. Similarly, 38.1% strongly agreed and 17.8% agreed that they felt mentally energetic at work. Stress and fatigue levels were comparatively low, with 44.1% strongly disagreeing and 17.8% disagreeing that they felt stressed or anxious, and 30.5% strongly disagreeing and 22% disagreeing that they felt fatigued or low in energy. These results suggest a notable association between regular exercise and elevated energy levels, positivity, and resilience against work-related stress.

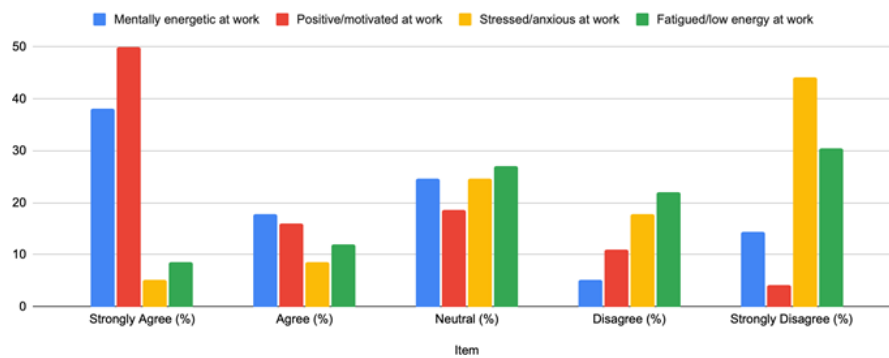


Figure 6: Stacked Bar Chart for Psychological Well-Being items (Energy, Positivity, Stress, Fatigue)

Among the work attitude items, Skill Development and Contribution stand out as the areas with the highest positive perception, with a combined Strongly Agree and Agree percentage of 82.2% (59.3% Strongly Agree and 22.9% Agree), reflecting a strong sense of proactive engagement and commitment to team goals among employees. This item also records the highest proportion of Strongly Agree responses at 59.3%, further emphasising the prominence of skill development and active contribution in shaping positive work attitudes. In contrast, Organisational Commitment exhibits the largest Neutral response at 26.3%, indicating a relatively higher degree of uncertainty or ambivalence among respondents regarding their engagement with the organisation. Notably, Skill Development and Contribution also show the lowest levels of disagreement, with only 2.5% of respondents selecting Disagree or Strongly Disagree (0.8% and 1.7%, respectively), underscoring its status as the most positively perceived dimension of work attitude in this sample.

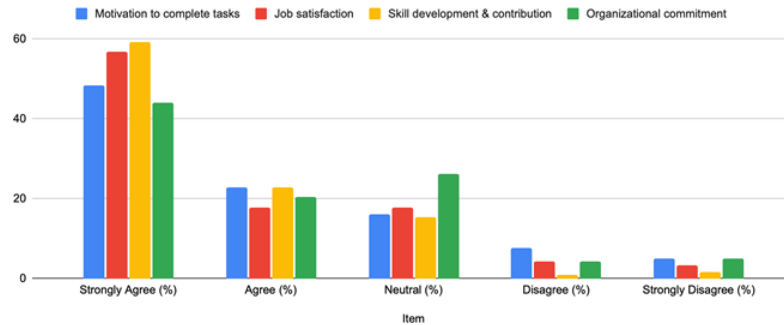


Figure 7: Stacked Bar Chart for Work Attitude items (Motivation, Job Satisfaction, Skill Contribution, Organisational Commitment)

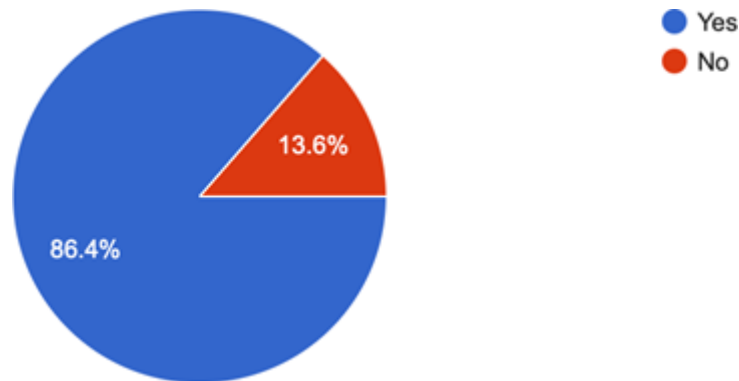


Figure 8: Pie Chart for Work Attitude Improvement on Exercise Days (Yes: 86.4%, No: 13.6%)

Overall, the results indicate several key patterns. Employees who exercised more frequently reported higher energy, greater positivity, and lower stress and fatigue. Walking and jogging were associated with elevated energy and motivation, whereas yoga and meditation appeared more effective for stress reduction and emotional calm. Importantly, the immediate benefits of exercise were highlighted by the fact that the majority of participants reported improved work attitudes on exercise days. Even short exercise sessions of less than 20 minutes appeared sufficient to enhance psychological well-being and engagement, emphasising the accessibility and practical feasibility of incorporating physical activity into the workday.

Discussion

The present study offers compelling evidence that regular physical exercise plays a pivotal role in shaping both the psychological well-being and work attitudes of employees. The descriptive results reveal a workforce that is largely young and female, with significant representation from education, technology, and legal sectors. Despite this demographic skew, the patterns observed—particularly regarding the frequency, type, and perceived benefits of exercise—highlight universal principles about the role of physical activity in workplace functioning. Notably, even brief bouts of exercise, less than 20 minutes per session, appear to contribute meaningfully to employees'



energy, motivation, and overall mental state, suggesting that accessibility and consistency are more critical than the duration or intensity of physical activity. This finding is especially relevant for busy professionals, who often struggle to allocate large chunks of time for exercise, indicating that “micro-workouts” can be both feasible and impactful.

The study also highlights the nuanced effects of different types of exercise on psychological outcomes. Walking and jogging, which were the most commonly practised forms of exercise, were strongly associated with higher energy levels and increased motivation at work. These aerobic activities likely enhance alertness, improve cardiovascular functioning, and trigger endorphin release, all of which contribute to heightened vigour and engagement. Conversely, yoga and meditation, while less frequently practised, were linked to reduced stress and greater emotional calm, suggesting that mind-body exercises are particularly effective in regulating anxiety and fostering mental resilience. The contrast between these exercise modalities points to the importance of providing diverse physical activity options in the workplace: aerobic activities can energise employees for task execution, while mindfulness-based exercises can mitigate stress and improve focus. This distinction has practical relevance for organisations aiming to optimise employee well-being through tailored wellness initiatives.

One of the most striking findings of this study is that 86.4% of respondents reported improved work attitudes on days they exercised. This immediate, day-of-effect indicates that the benefits of physical activity extend beyond long-term health and fitness gains, influencing the psychological and motivational state of employees in real time. From an organisational perspective, this suggests that interventions promoting daily physical activity—whether through flexible schedules, walking meetings, short exercise breaks, or on-site wellness programs—can produce tangible improvements in engagement, productivity, and interpersonal dynamics on a day-to-day basis. The potential for immediate benefit also reinforces the notion that exercise should not be treated solely as a long-term investment in employee health but as an integral component of daily workplace design.

Furthermore, these findings can be understood through the lens of the Conservation of Resources (COR) theory, which posits that individuals seek to acquire, maintain, and protect personal resources to cope with stress and achieve goals. Exercise emerges as a powerful mechanism for building and replenishing personal resources such as energy, resilience, and positive affect. These resources, in turn, enhance employees’ ability to meet work demands, contribute to team goals, and sustain commitment to organizational objectives. By improving both psychological well-being and work attitudes, regular physical activity not only benefits the individual but also strengthens organizational capacity, highlighting its dual value as a personal and professional resource.

The results also underscore the importance of frequency over session length. While longer exercise sessions may offer additional benefits, the observation that even short sessions can elevate mood, energy, and motivation suggests that consistency and habit formation are key. Organisations can leverage this insight by designing interventions that are time-efficient and adaptable, thereby reducing barriers to participation and



encouraging sustained engagement. Similarly, the diversity in exercise types points to the potential for multi-modal wellness strategies. For instance, combining aerobic activities with mindfulness or yoga programs could address multiple dimensions of employee well-being, from physical energy to emotional regulation, ultimately enhancing overall job performance.

Importantly, the findings reveal that exercise not only improves internal states but also influences observable behaviours in the workplace. Employees who exercise regularly reported higher motivation to complete tasks, greater job satisfaction, active skill development, and stronger commitment to their organisation. These associations suggest that physical activity contributes to a virtuous cycle in which enhanced well-being translates into proactive, engaged work behaviours, which may further reinforce personal resources and job satisfaction. This has significant implications for workplace policy and culture, indicating that investment in employee wellness can yield returns not only in health outcomes but also in productivity, engagement, and retention.

Despite these insights, the study has several limitations that warrant consideration. The cross-sectional design prevents the establishment of causal relationships, and the reliance on self-reported measures may introduce bias or inflate associations. The demographic skew toward younger and female respondents, as well as the concentration of education professionals, may limit generalizability across other age groups, sectors, and cultural contexts. Future research could employ longitudinal or experimental designs, integrate objective measures of physical activity such as wearable trackers, and explore sector-specific and demographic variations to validate and extend the current findings. Moreover, investigating the interaction between exercise, work stress, and organisational support could provide a deeper understanding of how workplace wellness initiatives interact with broader organisational dynamics.

This study highlights the profound role of physical exercise as a driver of both psychological well-being and positive work attitudes. By demonstrating that even brief and accessible exercise routines can elevate energy, reduce stress, and enhance motivation and engagement, the findings emphasise the feasibility and value of integrating physical activity into daily work life. Organisations that recognise and act upon these insights—through flexible policies, diverse wellness programs, and supportive workplace cultures—stand to benefit from a more energised, motivated, and committed workforce. Ultimately, exercise emerges as not only a personal health strategy but a strategic organisational resource capable of enhancing both individual and collective performance in meaningful and measurable ways.

IV. Conclusion and Recommendations

The findings of this study clearly demonstrate that physical exercise is a critical determinant of both psychological well-being and work attitudes among employees. Regular physical activity—regardless of session length—was consistently associated with higher energy, positivity, motivation, and organisational commitment, as well as lower stress and fatigue. Notably, the study revealed that even short, accessible exercise



routines of less than 20 minutes could yield tangible benefits, emphasising that consistency and habit formation may be more impactful than long-duration sessions. Moreover, the type of exercise mattered: aerobic activities such as walking and jogging primarily enhanced energy and task motivation, whereas yoga and meditation promoted emotional calm and stress regulation.

The immediate, day-of-exercise improvements in work attitudes reported by 86.4% of participants suggest that the benefits of physical activity are both cumulative and instantaneous. This has strong implications for workplace design and policy. By integrating exercise opportunities into the workday—through flexible schedules, short wellness breaks, walking meetings, on-site gyms, or virtual exercise programs—organisations can foster higher engagement, motivation, and overall productivity. Exercise thus serves not only as a personal health resource but also as a strategic organisational tool, contributing to a more resilient, proactive, and committed workforce.

From a practical perspective, organisations are encouraged to adopt multi-dimensional wellness strategies that accommodate diverse employee preferences. For instance, offering both aerobic activities and mind-body programs allows employees to select routines that best address their energy, motivation, and stress regulation needs. Additionally, promoting micro-workouts and habit-based interventions reduces barriers to participation, making wellness programs accessible even to employees with time constraints. Recognising and reinforcing the immediate benefits of exercise—for instance, through wellness challenges, team-based activities, or incentive programs—can further encourage adoption and sustain engagement.

At a broader level, this study reinforces the idea that employee wellness is intrinsically linked to organisational performance. By investing in programs that enhance physical activity, organisations can cultivate a workforce that is not only healthier and more energised but also more motivated, productive, and loyal. The findings suggest that wellness initiatives should be viewed not as optional or peripheral, but as integral to organisational strategy, with clear benefits for both individual employees and the organisation as a whole.

Finally, while the study provides valuable insights, future research should explore sector-specific effects, include a wider demographic representation, and incorporate longitudinal designs or objective activity tracking to better understand causal relationships and optimise intervention strategies. Despite these limitations, the evidence strongly supports the integration of regular physical activity into the daily lives of employees as a practical, cost-effective, and high-impact approach to enhancing well-being and work performance.

In conclusion, this study underscores the critical role of regular physical exercise in enhancing both psychological well-being and work attitudes among employees. Organisations can maximise these benefits by promoting daily physical activity through flexible work policies and micro-workouts, offering a diverse range of exercise options to support energy and stress regulation, and highlighting the immediate positive effects of exercise to motivate consistent participation. Embedding wellness initiatives as a core strategic priority and continuously monitoring outcomes ensures that programs



remain effective and aligned with organisational goals of productivity, engagement, and retention. By adopting these practices, organisations can cultivate a healthier, more motivated, and committed workforce, while also reinforcing a culture of well-being. Future research could extend these insights by exploring sector-specific differences, employing longitudinal designs, or integrating objective measures of physical activity to further validate and refine strategies for enhancing employee wellness and performance.

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