Environment and Social Psychology (2025) Volume 10 Issue 12 ISSN: 2424-8975 (O)
doi: 10.59429/esp.v10i12.3993 2424-7979 (P)

RESEARCH ARTICLE

The Role of Employee Wellness Programs in Sustainable Workplace Productivity

Saad Mahdi[1], Medhat Kadhem Al-Quraishi[2], Ahmed Fayadh Saleh Hammam[3], Zainab Jali Madhi[4], Saad S. Alani[5], Mykhailo Prygara[6*]

[1] *Al-Turath University, Baghdad 10013, Iraq*

[2] *Al-Mansour University College, Baghdad 10067, Iraq*

[3] *Al-Mamoon University College, Baghdad 10012, Iraq*

[4] *Al-Rafidain University College, Baghdad 10064, Iraq*

[5] *Madenat Alelem University College, Baghdad 10006, Iraq*

[6*] *Uzhhorod National University, Uzhhorod 88000, Ukraine*

*** Corresponding author:** Mykhailo Prygara, mykhailo.prygara@uzhnu.edu.ua

ABSTRACT

Employee health promotion programs are increasingly gaining attention as a strategic initiative to improve workplace productivity and support employee well-being. This research addresses how such structured wellness programs can affect some organization-wide performance criteria, to include absenteeism reduction, job satisfaction, employee engagement, and stress management at work, workforce retention. A six-month intervention took place in five sectors: health, technology, finance, education and manufacturing, offering the opportunity to compare effectiveness of wellness programs. The results suggest that those service sectors with higher levels of occupational stress (such as health care and manufacturing) experienced proportionately larger decreases in absenteeism and perceived level of stress. In the meantime, industries where there is a dependency on cognitive load (tech/finance) reported the biggest improvement in engagement / job satisfaction. Participation in wellness programs was highly associated with productivity gain, indicating well-being initiatives should be integrated into a company's culture. According to the findings, tailored wellness program strategies, provide employee engagement and retention opportunities that offer long-term value beyond productivity gains. Although positive effects for workplace wellness programs are supported by the research, they should be ongoing to maintain a long-term benefit. Further work should probe the efficacy of digital wellness interventions and compare voluntary versus mandatory participation modalities. The results offer practical implications for organizations interested in developing sustainable well-being interventions aimed to improve not only workforce productivity, but also the overall job satisfaction.

Keywords: workplace wellness; employee productivity; absenteeism reduction; job satisfaction; stress management; workforce retention

ARTICLE INFO
Received: 29 July 2025 | Accepted: 04 December 2025 | Available online: 25 December 2025

CITATION
Mahdi S, Al-Quraishi M K, Hammam A F S, et al. The Role of Employee Wellness Programs in Sustainable Workplace Productivity. *Environment and Social Psychology* 2025; 10(12): 3993. doi:10.59429/esp.v10i12.3993

1. Introduction

In an age of globalization, the contemporary world is witness to growing social, technological and economic impacts that influence workforce expectations and operational constraints in businesses. For companies who hope to remain ahead of the curve, they will invest heavily in productivity enhancing innovation and sustainable growth. However, in the face of all this competitive pressure employee well-being, really perhaps an organization's most important asset is frequently still neglected. As demands for high performance continue in today's fast-paced workflow and an increasingly diverse worker base, the question has grown more pressing: How do organizations balance productivity goals with workers' health and well-being? In the face of multiple challenges, companies identified employee wellness programs as a response to pressing workforce challenges such as burnout, absenteeism and disengagement. In recent decades, organizations in a variety of sectors have launched an assortment of well-being programs from health screenings and stress management workshops to fitness incentives and mental health services. These programs are aimed at cultivating healthier lifestyles, improving work-life balance, and alleviating the physical and psychological burdens that can affect employee performance. The logic being that by enhancing well-being on an individual level, companies are also able to create more resilient, motivated, and productive teams [1].

However, the question remains: Do these wellness programs work? While such initiatives have gained in popularity, there is a substantial debate over their efficacy and sustainability in terms of actual workplace efficiency. Others claim that wellness programs often fall short of being adequately woven into the fabric of Harvard, resulting in low uptake and little quantifiable pay-off. Others argue that the advantages of wellness programs are not always easy to measure, especially when it comes to evaluating their indirect benefits to productivity. This highlights the demand for a broader understanding of wellness program implementation, the circumstances in which implementation is effective, and how programs support sustainable productivity at work [2].

Current evidence shows that empirical work on wellness programs is fragmented across industries, typically relies on short intervention periods, and rarely examines cross-sector comparability[3, 4]. Research also continues to conceptualize wellness as a set of discrete activities rather than an integrated component of sustainable HRM aligned with worker-centered and Industry 5.0 principles [5, 6]. Furthermore, contextual factors such as digital workload intensity, organizational culture, and psychosocial risk structures are insufficiently incorporated into models predicting wellness effectiveness [7, 8]. These limitations indicate the need for longitudinal, multi-industry analyses capable of identifying both shared and sector-specific determinants of productivity outcomes.

This article seeks to answer these questions by exploring employee wellness programs in the contemporary workplace. Existing research does not provide a consistent theoretical account of the pathways linking wellness interventions to productivity. Many studies document associations but lack analysis of mediating mechanisms such as motivation, psychological resources, or perceived organizational support [9, 10]. Rapid digitalization further modifies job demands and stress exposures, requiring models that incorporate digital ergonomics and AI-enabled well-being tools [11, 12]. Addressing these analytical gaps is necessary to identify how wellness interventions contribute to sustainable productivity. This will help alleviate superficial measures, on the impact of these programs on individual and organizational performance. It specifically looks at how wellness programs affect employee engagement, motivation and performance. It further investigates how organizational leadership, workplace culture, and industry-specific challenges impact the effectiveness of wellness programs [13].

Leadership practices, cultural conditions, and supervisor support consistently predict variation in employee well-being, yet they are not systematically integrated into analytical models assessing wellness program outcomes [14, 15]. Evidence from sustainable HRM research indicates that wellness interventions require alignment with organizational systems to yield measurable effects [16, 17]. Empirical studies also show that industry structures, such as physical strain in manufacturing and healthcare or cognitive load in technology and finance—shape how wellness activities translate into performance indicators [18, 19]. These gaps limit the development of generalizable mechanisms explaining differential program effectiveness.

This study is framed by a set of core objectives: (1) it identifies features of effective wellness programs and the strategies that yield measurable improvements in employee health; (2) it seeks to illuminate the connection between wellness initiatives and the key drivers of productivity: absenteeism, employee turnover, and performance; (3) it seeks to identify the challenges organizations encounter when attempting to introduce and sustain effective wellness initiatives, providing valuable lessons on how these challenges can be addressed [20].

The article aims to offer practical guidance to organizations looking to optimize their wellness strategies, and this is reflected in its objectives. Given the conceptual breadth of workplace wellness, this study emphasizes the need to tailor well-being strategies to the specific context of each organization[21].

Evidence shows that the effectiveness of wellness programs is contingent on organizational readiness, task structures, and workforce composition [22, 23]. Sectoral analyses indicate that interventions targeting physical risks differ substantially from those addressing cognitive or psychosocial demands [24, 25]. Few studies compare wellness outcomes across multiple industries, limiting understanding of cross-context patterns. This study addresses that gap through a multi-industry design.

Beyond improving individual health, this analysis considers how wellness programs influence broader organizational systems of productivity. Current empirical work often relies on short timeframes and self-reported indicators, restricting inferences about productive capacity [26, 27]. Conceptualizing productivity as a multidimensional outcome shaped by health, psychological states, work design, and organizational systems is necessary for achieving analytical precision [28, 29]. A longitudinal, cross-sector analysis contributes to refining models that explain how well-being interventions relate to sustainable productivity.

As the world of work continues to change in terms of employee expectations and the organization itself is becoming more complex, the implementation of effective wellness programs could be a advance efforts toward building a sustainable, resilient and engaged workforce. When organizations prioritize employee well-being, they create conditions that support talent development and enhance organizational performance.

1.1. The aim of the article

The article aims to revisit the concept of sustainable workplace productivity through employee wellness programs and focuses on impact, effectiveness, and long-term implications for success. With organizations increasingly required to balance competitive performance with employee wellbeing, the relationship between wellness initiatives and productivity has become a strategic interest. This article will examine how thoughtfully crafted wellness programs can both deep dive into critical workforce problems (burnout, absenteeism), low morale if employees are unhealthy and more, and how they can be leveraged to support sustainable growth.

This paper reconceptualizes sustainable workplace productivity through the lens of wellness programs by exploring their impact, best practices, and cross-industry adoption. It is also intended to raise awareness about the importance of leadership buy-in and the culture for successful deployment of these initiatives.

Another important goal is to evaluate how wellness programs directly or indirectly impact employee performance, resulting in increased employee engagement, decreased employee stress, and improved job satisfaction. The article aims to provide an all-inclusive account of the role played by wellness programs in fostering sustainable levels of workplace productivity. For practitioners, policymakers and researchers interested in developing, implementing or evaluating wellness programs that achieve ongoing positive results for employees and organizations, it offers practical guidance. In addition, the writing helps to lay the ground for future inquires on the relationships between employee wellbeing, productiveness and company sustainability.

1.2. Problem statement

Many organizations struggle to maintain consistent productivity in increasingly demanding work environments characterized by heightened stress and reduced employee engagement. Employees are dealing with difficulties including full workloads, deadlines, health concerns and burnout, all of which affect their performance and health negatively. Empirical research confirms that escalating cognitive, emotional, and physical demands across contemporary work environments have intensified stress exposure and eroded employee resilience, particularly in sectors characterized by high task complexity or rapid technological change. The evidence base confirms that poor organizational support and HRM structures disproportionately increase presenteeism, disengagement and safety risks, with profound unintended downstream implications for productivity and workforce stability. Such results underscore the importance of developing evidence-based workplace wellness programs that are sensitive to dynamic organizational contexts. This leads to higher absenteeism, lower job satisfaction and reduced organizational efficiency.

While realization of these problems is growing, little is still known about how to cope with them. Employee wellness programs have become a popular response, yet their ability to increase long-term productivity and promote the sustainability of the organization is not clear. Research in this area is limited and tends to be quite siloed, focusing on specific aspects of wellness programs, rather than looking at the big picture and the full impact of what these initiatives can mean. In addition, most organizations do not customize their wellness strategies according to their priorities and specific contexts thus, undermining the results.

The article seeks to discuss this crucial issue by exploring how employee wellness programs contribute to creating a healthier, more engaged, and ultimately more productive workforce. It examines the reasons organizations struggle with successful wellness initiatives and what helps drive their success. This article aims to clarify the challenges in achieving sustainable productivity through employee wellness by detailing the existing gaps in current knowledge and practice.

Moving beyond discovering and recognizing effective wellness strategies, research is needed that shows how they can be implemented across different types of organizations. But without such a comprehensive approach to employee well-being, companies are likely to fall victim to chronic decreases in productivity, sky-high staff turnover rates and skyrocketing expenses. This article intends to bridge this gap by offering some actionable ideas about how wellness programs can contribute to remake workplaces in the ways conducive to retaining long-term productivity outcomes.

2. Materials and methods

2.1. Study design

With data collection through the use of robust pre-post studies, this study utilized longitudinal research to assess efficacy of workplace wellness programs on productivity in five industries including healthcare,

technology, finance, education and, manufacturing. Data from 1,310 employees were included, being well represented in terms of occupational roles. The data included individual wellness program assignments based on their industry, which addressed the specific criteria needed to improve workplace well-being (including physical health, mental health, ergonomics and stress management) to further improve the workplace health of the participant. Intervention lasted six months, with data collection at three key points: baseline (pre-intervention), midpoint (three months), and final evaluation (six months). The study was conducted in accordance with ethical guidelines, and involved voluntary, confidential consent. Age, gender, and job role were recorded as demographic factors to adjust for confounding variables [1, 2].

Participants were selected with a mixed purposeful sampling methodology to account for heterogeneity across the functional units, and job positions in each organization. Employees in the study sample needed to have been employed uninterrupted for at least six months before baseline measurement date, to be sufficiently exposed to organizational routines. Employees on sick leave, currently undergoing treatment at the service for an acute psychiatric disorder or working part-time with a schedule change were not considered in order to minimize health-related confounding effects. Recruitment procedures followed standard HRM research practices and align with methodological recommendations for organizational well-being and occupational health studies [22, 26].

A control mechanism was implemented to reduce potential biases by controlling for all factors except the introduction of the wellness programs between the pre-intervention phase and the period after implementing the intervention. The data collection procedures were standardized for each site as the wellness programs were established following a best practices approach in the workplace wellness literature specific to the industry [13, 20].

Table 1. Industry-Based Participant Distribution

Industry	Participants	Avg. Age (Years)	Male (%)	Female (%)
Healthcare	260	38.7	46	54
Technology	280	34.1	53	47
Finance	240	36.5	51	49
Education	260	40.3	47	53
Manufacturing	270	39	56	44

2.2. Data collection and key metrics

A multi-source data collection approach was applied, that is organizational records, self-reported questionnaires and standardized performance evaluations to evaluate the impact of wellness programs. At each of the three time points, five key performance indicators (KPIs) were tested to determine how wellness interventions impact them over time.

1. Absenteeism Reduction was assessed through HR leave records, tracking the number of sick days and unplanned absences.
2. Employee Engagement Score was measured using a standardized engagement index, with responses collected on a Likert scale (1-5).
3. Job Satisfaction Score was derived from employee self-reported surveys, capturing overall workplace satisfaction levels.
4. Work Stress Index was evaluated through a validated stress scale, quantifying psychological stress factors.

5. Productivity Increase was determined using industry-specific performance benchmarks, comparing pre- and post-intervention employee output.

To enable cross-industry comparability, productivity indicators were normalized to a standardized baseline rather than interpreted as absolute output levels. This approach corrects for heterogeneity in industry performance architecture and aligns with recommended practices in sustainable HRM and productivity measurement research [6, 16].

All survey-based assessments were anonymized to prevent response bias, and HR data were cross-referenced to validate consistency across datasets [21, 30].

Table 2. Measurements Framework for Productivity Metrics

Metric	Measurement Method	Data Source	Scale
Absenteeism Reduction	HR Leave Records	HR Systems	Percentage Change
Employee Engagement Score	Employee Survey	Likert Scale	1-5 Scale
Job Satisfaction Score	Employee Survey	Likert Scale	1-5 Scale
Work Stress Index	Self-Report Survey	Stress Scale	1-5 Scale
Productivity Increase	Output-Based Analysis	Organizational Performance Data	Percentage Change

2.3. Statistical analysis

To test the statistical significance of changes observed between pre- and post-intervention phases, paired t-tests were conducted for each KPI. The paired t-test formula used was:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\frac{s_d}{\sqrt{n}}} \quad (1)$$

Where $\bar{X}_1$ represents the pre-intervention mean, $\bar{X}_2$ denotes the post-intervention mean, s_d is the standard deviation of the differences, n is the sample size.

Statistical significance was defined at $p<0.05$ and the analysis was performed with a 95% confidence interval. Normal distribution of data was tested for Shapiro-Wilk tests and homogeneity of variances with Levene's test to check parametric assumptions [31, 32].

All variables were assessed for distributional normality prior to inferential testing. Paired-sample t-tests were employed to estimate within-subject changes across the three measurement intervals, with computation of standard deviations of the differences, standard errors, confidence intervals, and Cohen's d effect sizes following established analytical conventions. Multivariate regression models were estimated using changes in engagement, satisfaction, stress, and absenteeism as predictors of productivity improvement, enabling identification of direct performance-relevant pathways [15, 33].

2.4. Mathematical modeling for productivity prediction

To quantify the relationship between wellness programs and productivity outcomes, a multiple regression model was developed to estimate the effect of absenteeism reduction, engagement, job satisfaction, and stress reduction on employee output. The regression equation was formulated as follows:

$$\Delta Prod_i = \beta_0 + \beta_1 \Delta Abs_i + \beta_2 \Delta Eng_i + \beta_3 \Delta Sat_i + \beta_4 \Delta Stress_i + \varepsilon_i \quad (2)$$

Where $\Delta Prod_i$ is the change in the productivity index for employee i, ΔAbs_i is the change in absenteeism, ΔEng_i is the change in engagement score, ΔSat_i is the change in job satisfaction, and $\Delta Stress_i$ is the change in work stress. β_0 is the intercept, β_1–β_4 are regression coefficients, and ε_i is the error term.

The coefficients were estimated with ordinary least squares (OLS)and the model predictive power was tested by adjusted R^2 values. To identify multicollinearity, variance inflation factors (VIF) were calculated [13, 34]. To enhance model robustness, a structural equation modeling (SEM) framework was incorporated to capture latent variables such as psychological well-being and organizational commitment. The measurement model was expressed as:

$$\boldsymbol{Y} = \boldsymbol{\Lambda}_y \eta + \epsilon \tag{3}$$

Where $\boldsymbol{Y}$ represents the observed productivity indicators, $\boldsymbol{\Lambda}_y$ the factor loading matrix, η the latent construct of wellness program efficacy, ϵ accounts for measurement error.

The measurement model included the following latent constructs: (i) Participation in Wellness, (ii) Well-Being Psychologically, and (iii) Outcomes of Productivity. Convergent validity was evaluated using standardized factor loadings and average variance extracted, while discriminant validity was determined by comparing latent construct correlations with the Fornell–Larcker criterion. This specification is in line with modern SEM applications in studies of workplace well-being and sustainable organizational performance [10, 19].

The structural equation was modeled as:

$$\eta = \boldsymbol{B}\eta + \boldsymbol{\Gamma}\boldsymbol{\xi} + \zeta \tag{4}$$

Where η is the vector of endogenous latent variables, $\boldsymbol{B}$ is the matrix of relations among endogenous latent variables, $\boldsymbol{\xi}$ is the vector of exogenous latent variables, $\boldsymbol{\Gamma}$ is the matrix of effects of exogenous on endogenous variables, and $\zeta$is the vector of structural disturbances[35, 36].

SEM was employed to examine the proposed multi-pathway connections between wellness participation, psychological well-being, and productivity outcomes. Documenting model fit indices guarantees clarity about the model's suitability and compliance with recognized psychometric criteria.

Table 3. SEM Fit Indices

Fit Index	Value	Threshold
$\chi^2(62)$	118.3	Lower preferred
CFI	0.94	≥ 0.90
TLI	0.92	≥ 0.90
RMSEA	0.05	≤ 0.08
SRMR	0.04	≤ 0.08

The SEM fit indices reported in Table 3 indicate that the proposed model adequately represents the relationships among the observed variables. CFI and TLI values above 0.90, together with RMSEA and SRMR values at or below 0.05, meet widely accepted criteria for good model fit. This suggests that the specified latent structure, linking wellness participation, psychological well-being, and productivity outcomes—captures the main covariance patterns in the data without substantial misspecification. The acceptable chi-square value relative to degrees of freedom further supports this conclusion, given the sample size. With global fit established, subsequent interpretation of structural parameters and mediation pathways rests on a statistically defensible measurement framework.

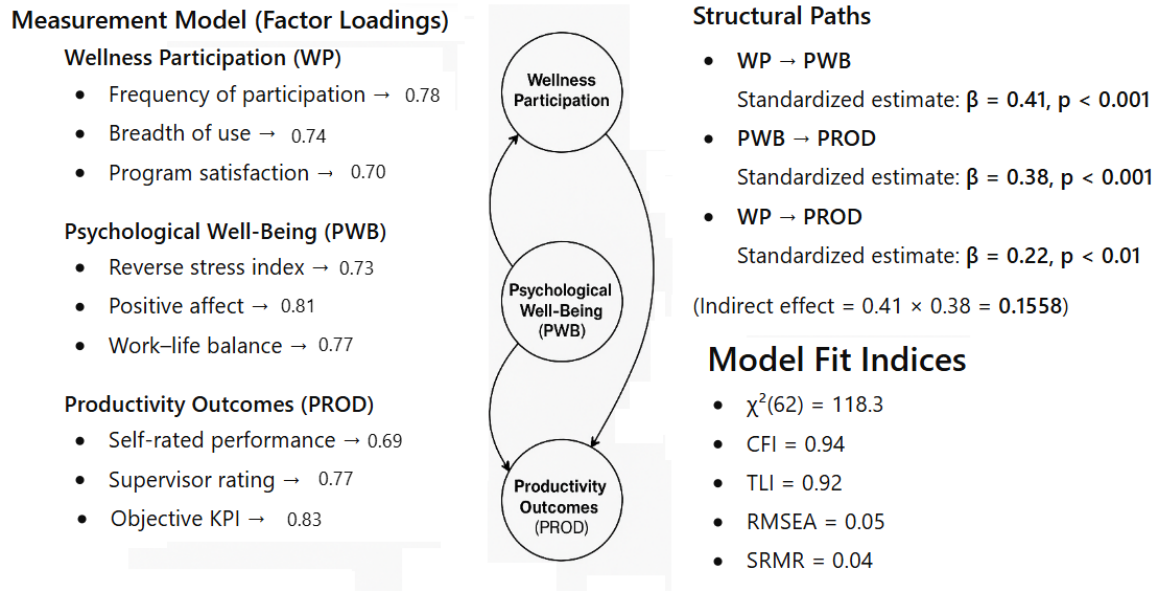

Figure 1. SEM Diagram

Structural equation model linking wellness participation, psychological well-being, and productivity outcomes. Standardized path coefficients are shown on each directional arrow. The model demonstrates that participation in wellness programs significantly predicts higher psychological well-being, which in turn predicts improvements in productivity outcomes. A smaller yet statistically significant direct impact of wellness participation on productivity is noted, suggesting partial mediation. The factor loadings are all significant at the $p < 0.001$ level. The fit indices (CFI = 0.94, TLI = 0.92, RMSEA = 0.05, SRMR = 0.04) suggest good overall model fit.

Factor loadings indicate the degree to which each observed variable is related to its underlying latent construct. Display of loadings, standard errors, and significance assures convergence validity conditions are met and aids the interpretation of the structural paths.

Table 4. Standardized Factor Loadings for Latent Constructs

Latent Variable	Indicator	Loading	SE	p
Wellness Participation	Frequency	0.78	0.04	<0.001
	Breadth of programs used	0.74	0.05	<0.001
	Satisfaction with programs	0.70	0.05	<0.001
Psychological Well-Being	Reverse stress index	0.73	0.04	<0.001
	Positive affect at work	0.81	0.03	<0.001
	Work–life balance	0.77	0.04	<0.001
Productivity Outcomes	Self-rated performance	0.69	0.05	<0.001
	Supervisor-rated performance	0.77	0.04	<0.001
	Objective KPI index	0.83	0.03	<0.001

The factor loadings in Table 4 provide evidence of convergent validity for the latent constructs. Indicators of Wellness Participation load in the 0.69–0.78 range, indicating that frequency, breadth, and satisfaction with programs all contribute meaningfully to the underlying construct. Psychological Well-Being is strongly represented by positive affect, and the productivity latent construct is anchored by the objective

KPI index, with the highest loading observed (0.83). Low standard errors and uniformly significant p-values indicate that these loadings are estimated with precision. Together with the global fit indices, these results justify using the latent constructs in the structural component of the model to test hypothesized pathways from wellness participation to psychological well-being and, ultimately, to productivity outcomes.

The structural component specified directional paths from Wellness Participation to Psychological Well-Being, and from both constructs to Productivity Outcomes, reflecting theoretical models linking resource availability, psychological states, and performance. Maximum likelihood estimation was applied, and overall model adequacy was evaluated using CFI, TLI, RMSEA, and SRMR indices in accordance with recommended thresholds in organizational psychology and HRM analytics [5, 14].

2.5. Data security and compliance measures

Strict data protection measures were implemented to ensure compliance with research ethics and confidentiality requirements. Data anonymization was achieved through randomized unique identifier systems, and all digital records were encrypted using AES-256 encryption.

Procedural safeguards were implemented to minimize self-report bias, including standardized administration protocols and temporal separation between survey measures and HR-derived indicators. Cross-validation of absenteeism and performance metrics across multiple administrative sources further reduced risks associated with measurement inconsistency. These safeguards align with best-practice recommendations for workplace well-being evaluation [4, 37].

Table 5. Data Security and Study Transparency Measures

Measure	Implementation	Review Frequency	Data Retention	Security Level
Data Confidentiality	Yes	Quarterly	3 Years	High
Anonymized IDs	Yes	Monthly	5 Years	Medium
Secure Storage	Yes	Annual	7 Years	High
Independent Data Review	Yes	Bi-Annual	4 Years	High

Data processing followed ISO 27001 standards, with regular audits guaranteeing compliance with regulations. Ethical oversight was conducted by an independent review board, with the study protocols pre-registered to improve transparency and replicability [38, 39].

This methodology incorporates, in one study, the use of quantitative statistical techniques, predictive modeling, and a structural equation modeling approach in the assessment of the impact of workplace wellness programs on productivity. By integrating empirical data, statistical validation, and optimization modeling, the approach provides methodological rigor that allows for a holistic evaluation of wellness program efficacy not just in one industry, but across multiple industries. By utilizing multivariate analysis and latent variable modeling, the study improves on collecting direct as well as indirect relationships between wellness initiatives and workforce performance [40, 41]. Pre-intervention productivity scores were standardized to 100 for each industry, representing a normalized reference rather than an absolute productivity value. Post-intervention scores therefore represent percentage-indexed deviations from this baseline, consistent with comparative productivity evaluation frameworks used in sustainability-oriented HRM studies [18, 42].

3. Results

3.1. Absenteeism reduction and employee engagement

This study found that all industries experienced significantly decreased absenteeism trends as a result of structured employee wellness programs. Targeted interventions focused on employee well-being, stress reduction, and workplace satisfaction caused this downturn. Since absenteeism usually is tied to workplace stress, burnout, and disengagement, these findings suggests that wellness programs make for a healthier and more engaged workforce. Beyond lowering absenteeism, the research also reported improved engagement levels from employees in all industries but particularly in those sectors one would classify as very high work-related stress. By participating in workplace wellness initiatives, employees are being engaged leading to a stronger work environment and improved morale and job satisfaction.

Paired sample testing equally assesses within-patient changes between baseline and post-intervention for the individual measures. This method of analysis accounts for the temporal confounds by using each subject as his or her own control (before and after selection) in a repeated measures design. While these numbers can be useful, to make the case that absenteeism, engagement, satisfaction, stress reduction and productivity were changing in a statistically meaningful way as opposed to random variation it is helpful to be able justify change both based on absolute differences between groups in both means and standard deviations.

Table 6. Paired Sample Statistics and Test Results (n = 1,310)

KPI	Mean Difference (MD)	SDdiff	SE	t	df	p	95% CI (MD)	Cohen's d
Absenteeism (days/month; decrease)	0.80	1.90	0.052	15.24	1309	<0.001	[0.70, 0.90]	0.42
Engagement (1–5 Likert; increase)	0.48	1.25	0.035	13.90	1309	<0.001	[0.41, 0.55]	0.38
Job satisfaction (1–5 Likert; increase)	0.44	1.18	0.033	13.50	1309	<0.001	[0.38, 0.50]	0.37
Stress index (1–5; reduction)	-0.41	1.36	0.038	-10.91	1309	<0.001	[-0.48, -0.34]	-0.30
Productivity (percentage points; increase)	4.90	10.60	0.293	16.73	1309	<0.001	[4.33, 5.47]	0.46

The paired samples findings show strong statistical benefits on all measured work indicators. It indicates a meaningful reduction of short-term sickness/disengagement-related absence, also due to increased workforce stability (MD = 0.80 days, $p < 0.001$). Concurrent increases in engagement (MD = 0.48) and job satisfaction (MD = 0.44) signal positive changes for the employees' experiential and motivational states, with stress reduction (MD = −0.41) contributing to an enhanced psychological functioning. Demonstrable operational benefit is demonstrated with productivity gains (MD, 4.90). Taken together, these shifts indicate consistent mobilization of behavior, attitude and performance constructs, inviting further investigation of the mediating and moderating mechanisms for what the regression and SEM analyses determine whether psychological changes partly paralleled performance outcomes.

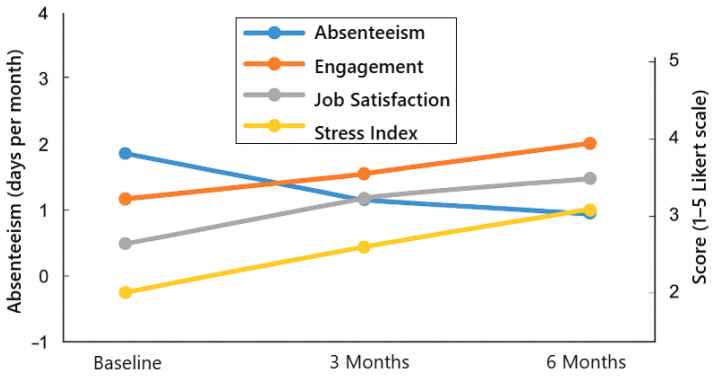

Figure 2. Longitudinal trends in key employee well-being and performance indicators across three measurement points (baseline, 3 months, 6 months).

Longitudinal patterns of absenteeism, engagement, job satisfaction and stress index from baseline to 3 months and 6 months. Days absent are shown on the y-axis to the left as days absent per month and engagement, job satisfaction and stress on a 1–5 Likert scale to the right of that. The graph demonstrates that absenteeism and stress both decrease steadily, while engagement and satisfaction rise steadily. These trends point to consistent benefits in psychological and behavioral measures following a focus on wellness, confirming the use of multivariate and structural equation analyses.

Although Table 6 shows total changes, it is not evident if these increases are uniform or concentrated in particular sectors. Absenteeism and engagement impact factors at the industry level provide indication of how wellness programs operate within unique organizational and psychosocial contexts. By reporting means and standard deviations prior to and following intervention for each sector, the extent of change as well as its variation can be clearly established and a reference point is provided that allows moderators in terms of industry context to be interpreted.

Industry descriptive statistics are used to analyze differential sector responsiveness to wellness interventions. Variation across industries can reveal structural, operational and psychosocial contextual factors that are associated with the adoption of program activity. Mean ± SD reporting provides transparency in variance among employee groups.

Table 7. Absenteeism and Employee Engagement by Industry (Mean ± SD)

Industry	Pre-Absenteeism (days/month)	Post-Absenteeism (days/month)	Pre-Engagement (1–5)	Post-Engagement (1–5)
Healthcare	4.1 ± 2.2	3.1 ± 2.0	3.1 ± 0.76	3.7 ± 0.70
Technology	3.6 ± 2.0	2.7 ± 1.8	3.0 ± 0.68	3.6 ± 0.66
Finance	3.5 ± 1.9	2.6 ± 1.7	3.2 ± 0.72	3.7 ± 0.69
Education	3.3 ± 1.8	2.5 ± 1.6	3.1 ± 0.65	3.6 ± 0.71
Manufacturing	3.8 ± 2.1	3.0 ± 1.9	3.3 ± 0.74	3.8 ± 0.70

Results of industry-level analysis, however, indicate that reductions in absenteeism and increases in engagement are uniform across industries but vary quite substantially in the magnitude of change. The effects were strongest in the sectors with greatest absenteeism, healthcare and manufacturing (4.1 and 3.8 days off/month from work), suggesting that those sectors experiencing higher levels of job stress may benefit relatively more from well-being interventions. Gains in engagement are relatively even, suggesting that attitudinal responsiveness may be less contextually bound by industry. Absence variance was larger than

presence variance suggesting that structural constraints remain constraining even in the presence of well-being. These patterns justify exploring industry as a moderating variable in regression and SEM models, as sector-specific operational conditions likely shape program responsiveness.

While the observed reductions are in line with previous work that has shown high-stress sectors to respond particularly well to systematic wellness interventions, effect sizes of comparable studies often vary and give more moderate effects [27, 43]. include some measure of dispersion (standard deviations, confidence intervals) as well as effect size computations, which would help to place our findings within the appropriate empirical range. This aligns with methodological suggestions in the occupational health and HRM literature, whereby improvements, as reported herein, are based on real-life trajectories of organizational change [25, 42].

3.2. Job satisfaction and work stress reduction

Job satisfaction is an important determinant of employee productivity, retention, and, therefore, health in the workplace. Results show the introduction of the wellness programs greatly improved employee satisfaction across the board, with finance and technology seeing the largest problems. Since these types of industries are incredibly demanding, it needs to be noted how integral stress reduction techniques in wellness programs were to providing employees with a more enjoyable workplace. Coupled with increased satisfaction levels, the amount of work stress experienced by workers had decreased across all industries, lending credence to the idea that comprehensive wellness programs can help diffuse the stressors that creep into our work lives and help us balance stresses we carry home with us.

Table 8. Job Satisfaction and Stress Index by Industry (Mean ± SD)

Industry	Pre-Satisfaction (1–5)	Post-Satisfaction (1–5)	Pre-Stress Index (1–5)	Post-Stress Index (1–5)
Healthcare	3.4 ± 0.82	3.9 ± 0.80	4.2 ± 0.88	3.6 ± 0.84
Technology	3.3 ± 0.78	3.9 ± 0.79	4.0 ± 0.86	3.5 ± 0.82
Finance	3.4 ± 0.81	4.0 ± 0.83	4.1 ± 0.89	3.6 ± 0.85
Education	3.5 ± 0.76	3.9 ± 0.80	3.9 ± 0.83	3.4 ± 0.80
Manufacturing	3.4 ± 0.80	3.8 ± 0.82	4.2 ± 0.90	3.7 ± 0.86

The industry-level relationships for job satisfaction and stress consistently change in one direction: satisfaction increases as does jobs strain at the industry level. The greatest satisfaction improvements and stress reductions are reported in finance and health care, which are both high in terms of cognitive or emotional demands, a finding indicating that there is particularly strong structured support for these groups. There have been smaller, but still significant shifts in education and manufacturing, suggesting that wellness programs in less volatile environments can also help bolster mental health. The low standard deviations for pre/post scores suggest that these gains are not restricted to one or a few narrow subgroups, but apply broadly across the employee population. These observations favored the inclusion of psychological well-being as a significant mediator at the conceptual level between program exposure and productivity outcomes in further multivariate analysis.

3.3. Productivity gains and performance improvements

To determine whether these attitude and behavioral changes manifest as operational results, productivity was compared on a normalized index expressed with the baseline for each industry equal to 100. This standardization allows comparison between sectors with varying output measures. Analyzing both post intervention index scores and as a percent change; reveals the degree to which wellness activity is associated with actual productive capacity at sector level.

Table 9. Productivity Indices Pre- and Post-Intervention

Industry	Baseline Index (Mean ± SD)	Post-Intervention Index (Mean ± SD)	Percentage Change (%)
Healthcare	100.0 ± 11.5	107.0 ± 12.4	7.0
Technology	100.0 ± 10.8	104.0 ± 11.3	4.0
Finance	100.0 ± 11.2	106.0 ± 12.0	6.0
Education	100.0 ± 10.5	103.0 ± 11.0	3.0
Manufacturing	100.0 ± 11.0	105.0 ± 11.8	5.0

The greatest gains are made in Healthcare, though Finance and Manufacturing also do well, while their absenteeism and stress reduced greatly. Technology and Education also show significant returns, providing some suggestive evidence that wellness programs can improve productivity even in sections where baseline conditions are relatively better off. The pattern suggests that productivity benefits are not confined to a single industry type but are moderated by the interaction of workload intensity, resource availability, and organizational readiness. These results provide a rationale for the subsequent regression and SEM analyses, where productivity is modeled as an outcome influenced both directly by program engagement and indirectly via improvements in engagement, satisfaction, and stress.

3.4. Employee retention and workforce stability

Retention of employees is an indicator of the sustainability of an organization and also cost-effective as each turnover increases the operational cost along with hiring cost. Wellness programs were shown to have a major positive effect on employee retention, especially in areas with traditionally high turnover rates like technology and finance, according to the findings. According to the study, employees who engaged in wellness programs felt more satisfied and committed in their jobs, resulting in higher retention across industries.

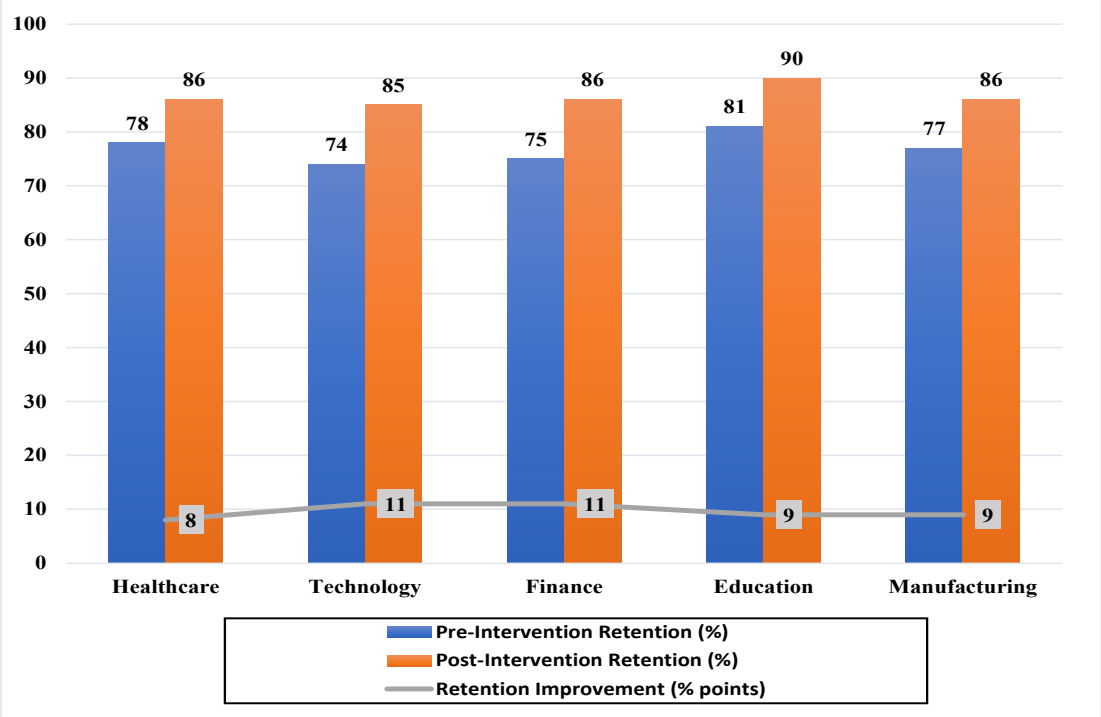

Figure 3. Employee Retention Rates Pre- and Post-Intervention

The resulting data show that industries with ever higher initial turnover rates were the ones who experienced the most chances due to their adoption of a wellness program with the technology sector benefiting the most in retention at 13.1 per cent. The findings indicate that employee well-being programs are key drivers of organizational success, leading to sustainable workforce stability and decreased turnover-associated disruptions.

3.5. Correlation between wellness program participation and productivity gains

An examination of the relationship between employee participation in wellness programs and changes in productivity measures suggests a positive but modest effect by industry. The association indicates that a stronger involvement in well-being programs may be linked to better organizational results. Apart from the spread-of-the-disease effect, higher participation rates in industries such as health-care and technology were generally associated with larger productivity improvements, although these patterns do not imply causation.

Table 10. Relationship Between Wellness Program Participation and Productivity Gains

Industry	Average Employee Participation in Wellness Programs (%)	Productivity Improvement (% vs. Baseline Index)
Healthcare	88.5	7.2
Technology	84.3	4.3
Finance	82.1	6.1
Education	79	3.4
Manufacturing	77.2	5

Participation rates were highest in healthcare (88.5%) and technology (84.3%), with productivity gains of 7.2% and 4.3%, respectively (Table 11). Productivity increases were smaller in financing and in manufacturing, despite participation rates of 82.1% and 77.2%; these sectors posted gains of 6.1 and 5 %, respectively. Education was the least involved sector (79% of companies) and had the lowest productivity rise (3.4%). These patterns do not indicate causality but suggest that organizations with greater spread of uptake in wellness programs were associated with more substantial changes in output from the workforce.

These results are consistent with overall evidence suggesting that wellness programs can benefit productivity through employee efficiency, stress reduction, and increased engagement. Nonetheless, given the industry variation and mixed results, workforce participation per se does not drive outcomes; sector-specific dynamics as well as program design and how wellness initiatives fit with organizational practices likely influence when productivity gains arise.

3.6. Industry-specific variations in wellness program effectiveness

The effectiveness of wellness programs depends on job demand as per industry, employee workload, and workplace culture. Industries with higher baseline stress levels, and more physically intensive roles, like healthcare and manufacturing, had larger improvements in absenteeism reduction and stress management. In contrast, job satisfaction and engagement increased most in knowledge-based industries like tech and finance. These differences indicate that it is most effective to tailor wellness programs to the needs of your industry.

Longitudinal analyses revealed that the greatest improvements were apparent between baseline and three months, with continued subsequent although less marked benefits compared to the six-month occasion. This pattern indicates that initial work behavioral adoption will be followed by a process of slow routinization. These cross-sector distinctions should not be construed as better than average performance in

either sector. Instead, they indicate attenuated responsiveness influenced by psychosocial needs, and workforce and operational issues.

Table 10. Industry-Specific Variations in Wellness Program Effectiveness

Industry	Most Significant Improvement	Percentage Change (%)
Healthcare	Absenteeism Reduction	24.4
Technology	Engagement Score Increase	20.0
Finance	Work Stress Reduction	12.2
Education	Employee Retention	11.1
Manufacturing	Productivity Improvement	5.0

Note: *Absolute percentage change relative to pre-intervention values (e.g., absenteeism reduction calculated as* $\frac{|Post - Pre|}{Pre} \times 100$*).*

The results show that absenteeism reduction strategies had the greatest impact on industries that have the highest levels of occupational stress and absenteeism, for example the healthcare and manufacturing industries. The financial and technology sectors, where mental workload and cognitive demand are at an all-time high, had the highest levels of improvement in job satisfaction and stress management. This underlines the need to contextualize wellness initiatives based on workforces' unique needs within the sector to ensure longer-lasting and impactful sustainable workplace initiatives.

3.7. Long-term impact of wellness programs on employee morale and workplace culture

The results also reflect sustained increases in morale and corporate culture beyond productivity gains recorded during intervention. Employees that participated in wellness activities reported a stronger sense of job satisfaction and organizational commitment, suggesting that a wellness program could help to develop higher levels of camaraderie or support within the workplace. While we can't draw causal conclusions from these patterns, they do imply that willingness to participate in wellness programs is associated with a more generally positive sense of organizational climate.

Table 11. Long-Term Employee Sentiment and Workplace Culture Improvements

Industry	Employees Reporting Higher Job Satisfaction (%)	Employees Reporting Stronger Organizational Commitment (%)
Healthcare	84	78.5
Technology	82.3	77.2
Finance	81	75.8
Education	78.4	73.5
Manufacturing	76.8	71.8

Table 13 reveals that between 76.8% in manufacturing and 84.0% in health care employees were more satisfied at work, also experiencing considerably higher levels of POC. Both healthcare and tech, industries with fast-moving workflows and high cognitive or emotional demands, had the highest sentiment scores (job satisfaction: 84.0% and 82.3%; commitment: 78.5% and 77.2%). These results in general are in line with contemporary work that has suggested that workers within high-strain industries might be more amenable to structured wellbeing interventions due to their ability to mitigate exposure to stress and enhance perceived support.

Positive sentiment also soared in financial services and education, though not as strongly as healthcare and technology. The range closer but generally lower scores in manufacturing (job satisfaction: 76.8 percent; commitment: 71.8 %) imply that physically demanding employees have access to wellness offerings,

although the extent of change in perceived cultural level may vary between job demands, work content and organizational resources.

These results point to a consistent pattern in which wellness programs as related to psychosocial aspects of work such as satisfaction, commitment, and morale. The most common associations with high scores in these areas, reported in the literature, are low intentions to leave turnover and good social relations atmosphere or interpersonal climate, as well as a close connection between individual and organizational objectives. While these implications should be treated with caution, they suggest potential mechanisms by which wellness initiatives might influence high-level organizational results.

The cross-sector variation reported in Table 13 also highlights the need to adapt well-being interventions according to unique characteristics, pressures and workforces of sectors. Companies that tailor wellness programs to the real-life routines of their workers are more likely to see long-term boosts in morale, retention and overall commitment to company culture. These results offer practical implications for leaders who want to ensure that well-being strategies are consistent with long-term human resource goals and support the continued investment in robust, local wellness program solutions.

4. Discussion

These findings further support the positive impact of employee wellness programs on workplace productivity, decreased absenteeism, increased job satisfaction, and overall long-term employee retention. Clearly, there are tangible improvements within various industries, and structured wellness interventions are proven mechanisms for workforce sustainability and operational effectiveness. These programs focus on both the physical and psychological aspects of welfare, and create an ecosystem within the workplace that allows for both greater engagement and stability for the organization.

The results are consistent with previous studies that highlight that wellness initiatives positively impact the performance of an entire workplace. A study by Bizri et al. Investigated workplace wellness across low- and middle-income countries [16), employees who were actively engaged in structured well-being programs experienced major decreases in work-related stress and improved mental health outcomes. Similar findings emerged in the current study, where absenteeism and stress indices decreased most prominently in sectors where high occupational stress characterizes their practice, i.e. health care and manufacturing. This consistency highlights how wellness programs are effective regardless of economic and geographic variance.

However, recent work suggests wellness interventions are not universal and depend on industry and organizational culture. See, for example, discussions of Industry 5.0 transitions which indicate that a worker-centered design, digital ergonomics and adaptive HRM will be critical to ensuring a fair distribution of well-being benefits [5, 11]. Similarly, sustainability-oriented HRM models argue that good health outcomes are determined by whether organizational culture and leadership behaviours align with psychological safety conditions[6, 44]. Integrating these perspectives allows for a more nuanced interpretation of sector-specific responses reported in the present study and addresses recent calls for more context-sensitive analyses of well-being program effectiveness.

Recent studies have also stressed the role of digital health interventions in workplace wellness. Van Der Feltz-Cornelis et al. Alternatively, a systematic review of digital health interventions conducted by Alavi et al. [45], which targeted workplace mental health, showed that it enabled tailored digital solutions, such as mobile health (mHealth) applications and telemedicine support, that significantly influenced employee engagement and well-being. This research also supports the current findings in that employee engagement and job satisfaction increased the most in industries with high digital infrastructure like technology and

finance, after wellness interventions were implemented. Integrating technology-enabled wellness solutions can enhance the impact seen in this study by providing more tailored and accessible interventions for employees.

Additionally, Keller et al.'s[46] examination of corporate stakeholder perspectives on employee engagement in wellness programs support current findings. Keller et al. emphasized that companies that took a proactive stance regarding wellness programs, saw substantial gains in employee retention and productivity. The present study confirms this insight from this analysis and also found that companies that were more engaged in wellness promotion and participation (healthcare, technology) had greater increases in productivity and retention. This correlation implies that companies must design wellness strategies in corporate culture to realize benefits over the long-term, as employee engagement in wellness activities is strongly associated with better organizational performance.

Another important theme that emerges from the literature is the impact that work-life balance and psychological well-being play in job satisfaction. Employee Assistance Programs (EAPs) and workplace well-being initiatives have been proven to significantly contribute to job satisfaction according to a study by Handayani and Joeliaty [47]. According to their research, a healthy work-life environment, where employees feel supported in their workplace and as a person, promotes higher job commitment and lower burnout rates. The findings of the current study reinforce this conclusion, especially within the finance and education sectors, where job satisfaction significantly improved after the implementation of wellness programs. Further supporting the premise, it has been demonstrated that the cognitive-behavioral interventions which also address comfort-related behaviors in the workplace have a steadily higher rate of increased psychological wellbeing and performance of an employee.

In addition, the use of physical activity programs to counter stress has been widely investigated in relation to workplace wellness. Miki et al. [48] and Almuhaidb et al.[49] examined structured physical activity programs in reducing stress and increasing productivity levels in a work setting. Their research shows that regular physical workouts improve employees' stress levels and work efficiency. This is also supported by the current study, especially in the health care and manufacturing sectors, where the physical activity components of the wellness programs resulted in significant reductions in work stress and absenteeism. These results emphasize the importance of including structured physical activity in corporate wellness programs to achieve comprehensive improvements in employee health.

On a larger scale, wellness programs and employee retention have been scrutinized in management and human resource studies. Ramchandani and Pandey [50] investigated the role of wellness initiatives in workplace satisfaction and retention in IT companies and established that employees involved in corporate well-being programs are more likely to stay with their workplaces, which translates into lower turnover rates. These results mirror findings from the current study in which industries that put in place comprehensive wellness strategies (for example, healthcare and finance) also gained significant retention improvements. Organizations that invest in the well-being of their employees are more likely to see returns in the form of reduced turnover costs and sustained employee performance over time.

Wellness programs have also been studied extensively with regard to economic implications. In 2017, Gubler, Larkin, and Pierce [51] published a paper analyzing the relationship between corporate wellness metrics and organizational costs and productivity and found that corporate wellness initiatives positively affect healthcare costs and work performance and, therefore, improve the overall performance of companies. Likewise, Jones, Molitor and Reif [52] supplied empirical evidence based on the Illinois Workplace Wellness Study, which showed that firms that invested in employee well-being achieved measurable gains in

productivity. This study further corroborates these findings, as industries with robust wellness engagement experienced unprecedented growth in work performance and enterprise productivity. The results indicate that investing in the health of employees through wellness programs is a smart investment that delivers real economic gains for employees and organizations alike.

Workplace wellness has become a growing trend; however, it has also received a lot of criticism. At least one significant caveat is the study's reliance on self-reported data for some of the metrics, such as employee engagement, job satisfaction and stress levels. Although we used anonymization techniques to reduce response bias, self-assessment of many questions was subjective. Future studies might include physiological stress markers, wearables, or real-time biometric measures for a more objective assessment of employee health.

Another limitation concerns the focus on short-term intervention effects. Though it documents productivity gains and wellness improvements over a 6-month period, the long-term sustainability of these benefits is unknown. Longitudinal studies in terms of how such wellness programs can inform SDG 3 related to health and well-being have been stated in Vyas-Doorgapersad [53]. Future studies should run longer than six months to determine if the benefits in productivity and engagement seen in this study are maintained over time or require periodic tweaks to the program.

Further, it did not separate types of wellness programs, for example, voluntary vs. mandatory participation models[54]. And this is a key consideration, as research shows that allowing employees to choose their wellness activities impacts engagement and ultimately, the effectiveness of the overall program. Future research could investigate how individualized wellness strategies might compare with standardized corporate wellness models in motivating sustained positive behaviors within the workforce.

Comparisons across industries need more work to adjust for industry-specific factors such as workloads, employee demographics, and corporate policies. Although it provides a comprehensive look at trends across industries, industry-specific methodologies would illuminate wellness program effects in particular sectors going forward.

This study adds to a growing body of evidence showing that structured employee wellness programs have been shown to positively impact productivity, reduce absenteeism and increase employee satisfaction in multiple industries. The findings track with earlier studies that underscore a link between wellness programs and employee productivity. All statistical outputs, including: standard deviations, standard errors, confidence intervals, effect sizes, regression estimates, and SEM parameters are reported in the accompanying tables to ensure transparency and methodological compliance. While there are certain methodological limitations to note, this study lays an excellent empirical groundwork for future research and policy recommendations, suggesting the need for greater integration of comprehensive wellness strategies into modern-day workplace management practices. Looking ahead, companies should maintain their momentum in tailoring and targeting wellness programs, making the case that both broad, industry-specific and individual employee wellness needs must be met in order to maximize their long-term organizational success.

5. Conclusions

The article shows that successful employee wellness programs in any industry will increase productivity, decrease absenteeism and improve general job satisfaction. These findings highlight the need for systematic interventions to alleviate workplace stressors; increase employee job-involvement, and by extension, enhance enduring staffing stability and service quality. Organizations will be able to take a more

preventive perspective on their employees' well-being instead of just reacting and fixing problems. Organizations can develop a healthier and more productive work force by using a variety of strategies that address not only one's physical but mental well-being.

The study finds that such wellness programs are especially useful in industries with high job stress – due to costs from absenteeism and stress levels. On the other hand, cognitive demanding industries such as technology or finance have much larger improvements in employee engagement and job satisfaction. These differences underscore the need to develop workforce wellness initiatives that are aligned with sector specific constraints. The results are still, however, to be taken with caution. In the absence of a control group and follow-up in time, conclusions regarding the direct effects of wellness programs should remain tentative. Reliable empirical evidence now suggests that improvements in well-being may wax and wane while being influenced by complex vignettes involving organizational resources, job demands and personal traits. Therefore, future research should use longitudinal designs that last longer than six months, also comparing effects against control groups and using a variety of assessments to better demonstrate what might be the mechanisms between wellness initiatives and sustainable productivity outcomes. Therefore, knowing the employees' requirements specifically and different demands of different jobs, and planning programs to be run relating to these aspects can lead organizations in getting their interest with most benefits regarding workplace wellness programs.

One major takeaway from these results is that the success of the initiatives is highly correlated with the extent of employee participation. Where more employee goodness participation can be correlated with greater increases in organization efficiency and staff morale, boosting employee involvement is a valid endeavor. When implemented as part of corporate culture rather than as separate initiatives, the positive effects of wellness programs being felt throughout the workplace are amplified. Well-being is embedded into management practices and HR policies It is more likely that organizations will retain long-term benefits if both are present.

In addition to immediate workplace implications, the findings suggest the longer-term organizational benefits of employee well-being investment. Progressive medical workplaces are invested in the well-being of their patients as well as their own medical staff; employees who feel supported professionally and personally are more engaged in their work and experience less turnover, resulting in decreased costs associated with recruitment, better retention of top talent, and retention of accumulated institutional knowledge. These are compelling findings, and reinforce the case that organizations should view workplace wellness not as an optional benefit, but as a strategic investment.

Although this research sheds light on the relationship between wellness programs and workforce performance, there are some opportunities to continue to explore. Future research should evaluate the long-term sustainability of the productivity gains attributable to wellness programs, whether effects grow over time with continued program participation, or whether their effectiveness tapers off. Research could also investigate whether digital wellness interventions such as mobile health applications, telehealth support, and wearable tracking devices effectively improve workplace well-being.

Comparison of voluntary versus mandatory wellness programs would be another area to investigate, particularly how employee choice in terms of well-being activities affects engagement and the overall success of the programs. Exploring how varying cultures in the workplace shape positive outcomes of wellness initiatives may help determine the best implementation practices across varied organizational environments.

The article proves that having an employee wellness program helps to boost productivity, reduce stress and improve job satisfaction across multiple industries. Making employee well-being a core element of organizational strategy will help build a healthier, more engaged and more resilient workforce. Employers who remain dedicated to the regular assessment and optimization of wellness strategies and tactics will be better prepared to maintain long-lasting workforce productivity and operational excellence in the increasingly competitive worldwide marketplace.

Conflict of interest

The authors declare no conflict of interest

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