



Original Article



Workplace Wellness Programs, Nutritional Practices, and Employee Productivity: A Systematic Review and Framework

Gurjas Kaur ^a

^a Assistant Professor, Panipat Institute of Engineering and Technology (PIET), India

Article Information

Received 2 Jul 2026

Accepted 16 Sep 2026

Available online 30 Sep 2026

Keywords: Workplace wellness, employee nutrition, employee productivity

Abstract

Employee health and organizational performance are increasingly treated as interdependent priorities in contemporary management practice, yet the conditions under which wellness investment translates into productivity gains remain contested. This paper examines the relationship between workplace wellness programs, nutritional practices, and employee productivity from a management perspective. The study applies a systematic review methodology following PRISMA 2020 reporting guidance, combined with a thematic synthesis of the retained evidence and a quality appraisal conducted using the CASP and JBI critical appraisal checklists. Peer-reviewed studies, systematic reviews, meta-analyses, and industry reports published between 2019 and 2026 were retrieved from Scopus, Web of Science, PubMed, ScienceDirect, SpringerLink, SAGE Journals, and Frontiers, and screened against pre-specified eligibility criteria. The synthesis is interpreted through three established theoretical lenses: social exchange theory, organizational support theory, and the job demands-resources model. The findings indicate that workplace wellness programs influence productivity predominantly through indirect pathways, specifically perceived organizational support, work engagement, and reduced absenteeism, rather than through direct and immediately measurable output effects. Nutritional interventions show the most plausible physiological pathway to energy, cognitive performance, and reduced presenteeism, but the supporting evidence is geographically uneven and concentrated in high-income, office-based settings. Program design, leadership sponsorship, and organizational integration emerge as stronger determinants of outcomes than program scale or budget. The paper also reconciles the persistent divergence between favourable industry-reported returns and the more modest effects observed in randomized academic evaluations, attributing much of the gap to selection effects, proxy measurement, and short evaluation horizons. The paper's principal contribution is an integrated conceptual model that links wellness and nutrition inputs to productivity outcomes through mediating and moderating variables, together with six testable propositions for future empirical work. Practical implications: managers should shift from transactional, benefit-checklist wellness provision toward embedded, leadership-sponsored programs; should treat nutrition counselling and healthy food provisioning as a comparatively low-cost entry point; and should evaluate return on investment using a defined basket of proxy indicators, including absenteeism days, engagement scores, voluntary turnover, and presenteeism scales, rather than participation statistics alone.

Introduction

The relationship between employee health and organizational success has moved from the periphery of management thinking to a central concern of human resource strategy. Organizations now recognize that employees who are physically energized, mentally focused, and free from chronic health burdens sustain the concentration, creativity, and consistency that modern work demands. This recognition has driven a substantial expansion in workplace wellness provision over the past decade, spanning on-site fitness facilities, mental health support, nutrition counselling, healthy food provisioning, and personalized, technology-enabled wellness

platforms. What was once a discretionary perk offered by large corporations has become a mainstream feature of competitive human resource strategy across organizations of many sizes and sectors.

Several pressures accelerated this shift. The COVID-19 pandemic heightened awareness of health vulnerability and prompted employers to expand mental health and physical wellness offerings. Rising healthcare costs encouraged organizations to treat preventive wellness investment as a means of controlling long-term medical expenditure.

<https://doi.org/10.63954/cg8xtn41>



Competitive labour markets made robust wellness benefits a differentiator in talent attraction and retention. Within this landscape, nutrition has emerged as a distinct priority, reflecting recognition that dietary habits shape energy, cognitive performance, mood stability, and chronic disease risk across the workforce.

Despite this investment, the productivity case for workplace wellness remains contested. Proponents cite evidence linking wellness investment to reduced absenteeism, lower healthcare costs, improved engagement, and stronger organizational commitment. Sceptics point to rigorous randomized evaluations that find limited or inconsistent effects on objective health and economic outcomes even when employees report subjective gains in satisfaction and perceived organizational support [1,2]. The divergence raises a question of direct managerial consequence: under what conditions do wellness and nutrition programs translate into genuine productivity gains, and which design features distinguish effective interventions from symbolic benefits that fail to move organizational performance?

❖ Gap in the Existing Literature

Existing reviews address parts of this question but leave three gaps unaddressed. First, the human resource management literature and the public health literature have evolved largely in parallel: HRM reviews [3-5] model well-being as an outcome of HR practice bundles without isolating nutrition as a distinct intervention category, while public health reviews [6,7] evaluate nutritional and behavioral outcomes without situating them within a management decision framework. Second, prior reviews rarely specify the mediating mechanisms that connect wellness inputs to performance outputs in a form that is testable; mechanisms such as perceived organizational support are invoked descriptively rather than modelled. Third, the contradiction between industry-reported returns and academic null findings is frequently noted but seldom explained, leaving practitioners without guidance on how to read conflicting evidence.

This review addresses those three gaps directly. It synthesizes management and health sciences evidence within a single protocol, it specifies the mediating and moderating variables in an explicit conceptual model grounded in social exchange theory, organizational support theory, and the job demands-resources model, and it offers a diagnostic account of why industry and academic estimates diverge.

Theoretical Framework and Literature Review

❖ Theoretical Framework

Three established theories underpin the analysis presented in this paper and provide the vocabulary used throughout the synthesis.

• Social exchange theory

Social exchange theory [8] holds that workplace relationships are governed by a norm of reciprocity: discretionary organizational investment in employees generates a felt

obligation to reciprocate through effort, loyalty, and discretionary behavior. Applied to wellness provision, the theory predicts that programs read by employees as genuine investment, rather than as cost containment or surveillance, will elicit reciprocal performance contributions. This explains why program framing and leadership sponsorship matter more than program cost, a pattern observed repeatedly in the reviewed evidence.

• Organizational support theory

Organizational support theory [9,10] operationalizes that exchange through perceived organizational support, defined as employees' global belief that the organization values their contributions and cares about their well-being. Peña et al. [11] apply this construct directly to enterprise wellness programs and find it mediates the relationship between wellness provision and organizational performance. Organizational support theory therefore supplies the principal mediating variable in the model developed in Discussion.

• Job demands-resources model

The job demands-resources model [12,13] classifies working conditions as demands, which deplete energy, or resources, which support motivation and buffer strain. Wellness and nutrition programs function as job resources operating through the motivational pathway toward engagement and through the health-impairment pathway toward reduced exhaustion and absenteeism. The model also accounts for the differential effects Li [4] reports between job-resource and challenge-demand HR practices, and it predicts that wellness resources will yield the largest returns where baseline job demands are highest.

❖ Wellness Programs, Perceived Organizational Support, and Performance

Peña et al. [11] examine enterprise wellness programs through perceived organizational support and find that when employees perceive genuine investment in their well-being, that perception produces measurable organizational performance benefits, framing wellness as a component of sustainable human resource management rather than a discretionary cost. The study is methodologically strong in construct operationalization, but its cross-sectional design limits causal inference and leaves open the possibility of reverse causation, whereby high-performing units attract greater wellness investment.

A broader strand examines HRM practices and well-being outcomes. Diep and Horváthová [3] report a generally positive association between HRM practices and performance outcomes including job satisfaction and engagement, while also identifying negative effects such as exhaustion in some contexts, with leadership emerging as a significant moderator. The identification of adverse effects is analytically valuable, since much of the wellness literature reports only favorable outcomes. Li [4] disaggregates the relationship further, distinguishing job-resource HR practices from challenge-demand HR practices and demonstrating that categories of HR

intervention affect psychological, physical, and social dimensions of well-being in distinct ways. The implication for this review is that treating wellness programming as a monolithic category obscures effects that operate in opposite directions. Ogbonnaya and Messersmith [5] address the same tension explicitly, testing whether HRM subdimensions produce mutual gains or conflicting outcomes, and finding that performance-oriented and well-being-oriented practices do not always move together.

❖ Nutrition-Specific Evidence

Quak, Ebata, and Barnett's [7] structured review of workforce nutrition initiatives, encompassing ten systematic reviews and fourteen empirical studies, examines whether workplace nutrition programs generate business outcomes sufficient to incentivize employer investment. The review finds promising but geographically uneven evidence, with the business case comparatively underexplored in low- and middle-income countries. Its principal strength is the explicit business-case framing; its principal limitation is that the heterogeneity of included outcome measures prevents pooled estimation, so conclusions remain narrative rather than quantitative.

The Lancet Public Health [6] systematic review and meta-analysis assesses workplace wellness programs for dietary habits, overweight, and cardiometabolic health, situating these interventions within a public health rationale that positions the workplace as a strategic setting for health promotion. This review is methodologically the most rigorous in the retained set and is therefore weighted accordingly in the synthesis. Its findings are also the most cautious: improvements in dietary behavior were detected, but effects on anthropometric and cardiometabolic endpoints were small and inconsistently sustained beyond the intervention period.

❖ Engagement, Holistic Provision, and Organizational Moderators

Rajashekar and Jain [14] analyze employee engagement in information technology companies and find that holistic well-being initiatives incorporating physical, psychological, and social dimensions generate stronger engagement outcomes than narrowly targeted benefit offerings. The thematic design supports depth but the single-sector sample constrains transferability. Guest [15] provides the framework that connects these findings, arguing that HRM contributes to performance through well-being only when practices are designed with employee interests as a primary rather than instrumental objective.

Ngo, Le, and Doan [16] examine wellbeing-oriented HRM practices among hospitality employees in a developing country during the pandemic, finding that psychological preparedness and organizational support mediated the relationship between HRM practices and employee outcomes in patterns differing from those reported in high-income corporate settings. This sectoral and contextual variation reinforces a theme running

through the retained evidence: findings drawn from large corporations in wealthy economies may not transfer to smaller organizations, developing economies, or labour-intensive sectors.

❖ Contradictory and Null Findings

A rigorous reading of this literature requires explicit attention to studies reporting limited or null effects, which are under-represented in practitioner-facing summaries. Three sources are particularly important. The Lancet Public Health [6] meta-analysis found that workplace wellness programs produced only modest improvements in dietary habits and limited, inconsistently sustained effects on overweight and cardiometabolic markers. Song and Baicker's [1] randomized clinical trial of a multisite workplace wellness program found improvements in self-reported health behaviors after eighteen months but no significant differences in clinical measures, healthcare spending, or employment outcomes relative to control worksites. Jones, Molitor, and Reif [2], reporting the randomized Illinois Workplace Wellness Study, found that observed savings in non-experimental settings were substantially attributable to selective participation by already-healthier, lower-cost employees rather than to program effects.

Taken together, these results do not overturn the case for workplace wellness, but they discipline it. They indicate that the strongest and best-evidenced returns lie in engagement, satisfaction, retention, and perceived support rather than in short-run clinical or cost outcomes, and that observational estimates of savings should be treated as upper bounds.

❖ Measurement Challenges

Productivity is difficult to measure directly in knowledge and service work, where output is not counted in discrete units. Consequently, much of the evidence relies on proxies: self-reported engagement, absenteeism rates, presenteeism scales, healthcare cost trends, and voluntary turnover. Proxy reliance introduces two problems for management decision-making. It permits divergent estimates of the same program depending on the proxy selected, and it makes return-on-investment calculations sensitive to assumptions that are rarely stated. Section on Measuring Return on Investment proposes a standardized measurement basket intended to reduce this variability.

❖ Summary of the Literature and Position of This Review

The reviewed literature converges on three propositions: wellness and nutrition programs carry genuine potential to support productivity; that potential is realized primarily through engagement, satisfaction, energy, and reduced absenteeism rather than direct output effects; and the strength of the relationship depends on program design, organizational integration, and the dimensions of well-being targeted. It diverges on the magnitude of effects, the appropriate outcome

measures, and the transferability of findings across sectors and economies. This review contributes by integrating the management and health sciences streams under one protocol, specifying the mechanisms as a testable model, and explaining rather than merely noting the divergence between industry and academic estimates.

Research Methodology

❖ Research Design

This study adopts a qualitative systematic review design with thematic synthesis, reported in accordance with the PRISMA 2020 statement [17] and analyzed using the thematic synthesis method described by Thomas and Harden [18]. The objective is to map the conceptual and empirical relationship between workplace wellness programming, nutritional practices, and employee productivity from a management perspective. A review-based design is appropriate because the relevant evidence is distributed across human resource management, public health, and organizational behavior, and no single primary study spans those boundaries. A protocol was specified in advance covering the research questions, databases, search strings, eligibility criteria, screening procedure, appraisal instrument, and extraction fields; it was not registered with PROSPERO, which is noted as a limitation.

❖ Search Strategy

Searches were conducted across seven databases selected for coverage of management and health sciences literature. Searches were restricted to peer-reviewed publications and reputable industry reports issued between January 2019 and the search date, and to English-language records. Reference lists of retained systematic reviews were hand-searched for additional eligible studies. Table 1 records the databases searched, the search string applied in each, and the yield.

Table 1. Databases searched, search strings, and records retrieved

Database	Search string (title / abstract / keywords)	Date range	Search date	Records
Scopus	TITLE-ABS-KEY(("workplace wellness" OR "employee wellness" OR "wellbeing program*" OR "well-being program*") AND ("productivity" OR "performance" OR "absenteeism" OR "presenteeism") AND ("human resource*" OR "management" OR "organization*"))	2019–2026	[to be inserted]	[n = __]
Web of Science	TS = (("workplace wellness" OR "worksites health promotion") AND ("employee productivity" OR "organizational performance") AND ("HRM" OR "human resource management"))	2019–2026	[to be inserted]	[n = __]

PubMed	("workplace"[MeSH] OR "occupational health"[MeSH]) AND ("nutrition" OR "diet") AND ("productivity" OR "absenteeism" OR "presenteeism")	2019–2026	[to be inserted]	[n = __]
ScienceDirect	"workforce nutrition" OR "workplace nutrition" AND "employee performance"	2019–2026	[to be inserted]	[n = __]
SpringerLink	"employee well-being" AND "human resource management" AND "performance"	2019–2026	[to be inserted]	[n = __]
SAGE Journals	"wellness program*" AND "perceived organizational support"	2019–2026	[to be inserted]	[n = __]
Frontiers	"workforce nutrition" AND ("business case" OR "employer investment")	2019–2026	[to be inserted]	[n = __]
Grey literature / industry	Targeted search of workplace wellness benchmarking publishers (e.g. Wellable) for benchmarking and prevalence data only	2019–2026	[to be inserted]	[n = __]

Note. Boolean operators AND, OR, and truncation () were applied; proximity operators were not used. Full unabridged strings, including database-specific field tags and filters, are reproduced in Appendix A.*

❖ Eligibility Criteria

Eligibility was specified before screening and applied independently at title-and-abstract and full-text stages.

Inclusion criteria. Studies were eligible if they (i) examined a workplace wellness, well-being, or nutrition intervention delivered in a formal employment setting; (ii) reported at least one organizational or productivity-related outcome, including productivity, performance, engagement, job satisfaction, absenteeism, presenteeism, turnover intention, or healthcare cost; (iii) were empirical studies, systematic reviews, meta-analyses, or benchmarking reports from established industry publishers; (iv) were published between 2019 and 2026; and (v) were available in English.

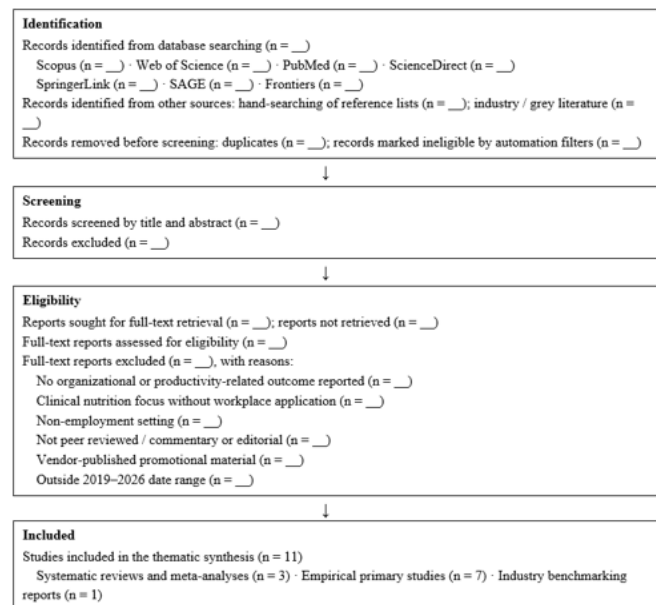
Exclusion criteria. Studies were excluded if they (i) addressed clinical nutrition science with no organizational application; (ii) examined wellness provision outside formal employment contexts, such as community or school programs; (iii) were editorials, commentaries, conference abstracts, or theses without peer review; (iv) reported health outcomes only, with no organizational or performance-relevant measure; or (v) were vendor-published materials promoting a specific commercial product, which were excluded on conflict-of-interest grounds.

❖ Study Selection

Records retrieved from all databases were exported to a reference manager and de-duplicated. Titles and abstracts were screened against the eligibility criteria, and full texts were

retrieved for all records passing that stage. Screening was conducted by the author; to reduce single-reviewer bias, a random twenty per cent sample of records was re-screened after a two-week interval and intra-rater agreement was recorded. Reasons for full-text exclusion were logged. Figure 1 presents the PRISMA 2020 flow of records through the review.

Figure 1. PRISMA 2020 flow diagram of study identification, screening, and inclusion



Note. Counts marked (n =) are to be populated from the search log before submission; the included count reflects the studies synthesized in Findings (Thematic Synthesis) and listed in Table 2.

❖ Quality Appraisal

Each included study was appraised for methodological quality using the instrument appropriate to its design: the CASP [19] Systematic Review Checklist for reviews and meta-analyses, the CASP Randomized Controlled Trial and Cohort Study checklists for primary quantitative studies, and the JBI [20] Checklist for Qualitative Research for thematic and interpretive studies. Industry benchmarking reports were not appraised with these instruments, as they are not designed for grey literature; they were instead assessed for transparency of sampling and method, and are treated throughout the synthesis as indicative of prevalence and practice rather than as evidence of effect. Each study received an overall rating of high, moderate, or low confidence. Ratings informed the weight assigned to each study in the synthesis, with high-confidence studies given precedence where findings conflicted. Appraisal outcomes are reported in the final column of Table 2.

❖ Data Extraction and Thematic Synthesis

Data were extracted into a standardized form capturing author, year, country and sector, study design, sample and setting, intervention or exposure type, outcome measures, key findings,

reported effect direction and magnitude where available, and quality rating. The extraction template is reproduced in Appendix B.

Analysis followed the three-stage thematic synthesis procedure set out by Thomas and Harden [18]. Findings sections of included studies were first coded line by line; codes were then organized into descriptive themes reflecting patterns across studies; and descriptive themes were finally interpreted into analytical themes that answer the review questions and extend beyond the content of any single study. Five analytical themes resulted: indirect mediating mechanisms, nutrition-specific pathways, program design and organizational integration, measurement and return on investment, and contextual and sectoral variation. Where studies conflicted, the divergence was retained and examined rather than averaged away.

❖ Ethical Considerations

This study is a secondary analysis of published literature. It involved no human or animal participants, no collection of primary data, no intervention, and no access to identifiable personal information. Under the institutional research ethics policy of Panipat Institute of Engineering and Technology, and consistent with the standards applied to desk-based reviews, ethical approval was not required for research of this type. No informed consent procedures were applicable. All sources are publicly available published works and are cited in full.

Ethical reporting within the reviewed evidence was assessed as part of appraisal. The peer-reviewed primary studies in the retained set reported institutional review board or equivalent approval and participant consent procedures, consistent with the requirements of their publishing journals. The industry benchmarking report included in the synthesis does not document consent, sampling frame, or data protection procedures, which is one reason it is treated as indicative rather than evidentiary throughout this paper.

The review also raises broader ethical questions about workplace wellness practice that management should weigh, and which are returned to in Section on Cost Implications and Ethical Trade-offs in Program Selection. Technology-enabled wellness platforms collect biometric, dietary, and activity data whose confidentiality, retention, and secondary use are frequently governed by vendor terms rather than by employment agreements, creating privacy exposure for employees and data-protection liability for employers. Incentive-linked programs raise questions of voluntariness, since financial penalties for non-participation can render participation effectively coercive, particularly for lower-paid staff. Equity concerns arise where provision is structurally more accessible to office-based, day-shift, permanent employees than to shift workers, contract staff, or those with caring responsibilities, so that programs intended to improve aggregate workforce health may widen internal health disparities. Finally, programs that locate responsibility for health in individual behavior risk displacing attention from

organizational determinants such as workload, job design, and scheduling.

Findings (Thematic Synthesis)

This section reports the characteristics of the included studies and then presents the five analytical themes derived from the synthesis. Table 2 summarizes the eleven included sources.

Table 2. Characteristics of included studies

Reference	Design	Setting / sector	Intervention or exposure	Key findings relevant to this review	Quality
[3]	Systematic review	Cross-sector, multi-country	HRM practice bundles and well-being	Generally positive association between HRM practice and outcomes including satisfaction and engagement; adverse effects such as exhaustion identified in some contexts; leadership operates as a moderator.	High
[4]	Quantitative	Cross-sector	Job-resource vs. challenge-demand HR practices	HR practice categories affect psychological, physical, and social well-being differently; wellness provision cannot be treated as a single undifferentiated category.	High
[5]	Quantitative	Cross-sector	HRM subdimensions	Performance-oriented and well-being-oriented HR practices do not consistently move together; mutual gains are conditional rather than automatic.	High
[11]	Quantitative, cross-sectional	Enterprise, Spain	Enterprise wellness programs	Perceived organizational support mediates the relationship between wellness provision and organizational performance; wellness framed as sustainable HRM rather than discretionary cost. Cross-sectional design leaves causal direction unresolved.	Moderate
[7]	Structured review (10 reviews, 14 studies)	Multi-country; LMIC and HIC	Workforce nutrition initiatives	Promising business-case evidence for workforce nutrition; evidence geographically uneven and underdeveloped in low- and middle-income countries; outcome heterogeneity prevents pooling.	Moderate to high
[6]	Systematic review and meta-analysis	Worksites, multi-country	Wellness programs targeting diet and cardiometabolic health	Modest improvements in dietary behavior; small and inconsistently sustained effects on overweight and cardiometabolic markers beyond the intervention period.	High
[1]	Multisite randomized trial	Retail, United States	Multicomponent wellness program	Improved self-reported health behaviors at 18 months; no significant differences in clinical measures, healthcare spending, or employment outcomes versus control worksites.	High
[2]	Randomized trial	University employer, United States	Comprehensive wellness program	Savings observed in observational designs largely attributable to selective participation by healthier, lower-cost employees rather than to program effects.	High
[14]	Qualitative thematic analysis	IT sector, India	Holistic well-being initiatives	Holistic initiatives spanning physical, psychological, and social dimensions generate stronger engagement than narrowly targeted benefits. Single-sector sample limits transferability.	Moderate
[16]	Quantitative	Hospitality, developing economy	Wellbeing-oriented HRM during COVID-19	Psychological preparedness and organizational support mediate HRM–outcome relationships; mediation patterns differ from those reported in high-income corporate settings.	Moderate to high

[21]	Industry benchmarking report	Employer survey, mainly United States	Wellness benefit prevalence and investment	Reports high rates of employer investment and frequent employer-reported productivity improvement; sampling frame and method not fully documented.	Not appraised
------	------------------------------	---------------------------------------	--	--	---------------

Note. Quality ratings were assigned using CASP checklists for reviews and quantitative primary studies and the JBI checklist for qualitative research, as described in Quality Appraisal. Industry benchmarking material was not appraised with these instruments and is treated throughout as indicative of practice rather than as evidence of effect.

❖ Theme 1: Productivity Effects Operate Through Indirect Mechanisms

The most consistent pattern across the retained evidence is that wellness programming shapes productivity through intervening variables rather than through direct output effects. Perceived organizational support, work engagement, job satisfaction, and reduced absenteeism recur as the channels through which wellness investment reaches performance. Peña et al. [11] demonstrate the mechanism most directly: the psychological experience of being cared for by an employer generates performance benefits that participation counts and utilization statistics do not capture. Ngo et al. [16] identify the same mediating structure in a hospitality workforce, with organizational support and psychological preparedness carrying the effect.

This finding is theoretically coherent. Under social exchange theory, the employee response to wellness provision is reciprocal effort, which is an attitudinal and behavioral process rather than a mechanical one. Under the job demands–resources model, wellness provision functions as a job resource acting through the motivational pathway. Both predict mediation, and both predict that programs not perceived as genuine investment will fail regardless of expenditure. The managerial implication is that evaluation frameworks measuring only inputs and outputs, while omitting the mediating attitudinal variables, will systematically underdetect program effects and misattribute failure.

❖ Theme 2: Nutrition Offers the Clearest Physiological Pathway but the Thinnest Evidence Base

Nutrition-focused provision occupies a distinctive position. The physiological pathway from dietary intake to blood glucose stability, energy availability, and sustained attention is well established in the underlying nutritional science, giving nutrition interventions a mechanistic plausibility that generic wellness provision lacks. This is reflected in the consistency with which poor dietary patterns are linked to fatigue, mid-afternoon energy decline, reduced concentration, and presenteeism.

The organizational evidence, however, is thinner than the physiological rationale implies. Quak et al. [7] find the business case promising but geographically uneven and underdeveloped outside high-income contexts, and the heterogeneity of outcome measures across included studies prevented

quantitative pooling. The Lancet Public Health [6] meta-analysis, the most rigorous appraisal in the retained set, found that dietary behavior improved modestly while downstream health endpoints changed little and inconsistently. The synthesis therefore supports a qualified conclusion: nutrition provision is the most defensible entry point for organizations on grounds of mechanism, cost, and acceptability, but claims of direct, quantified productivity return are not yet supported at the standard the evidence would need to meet.

❖ Theme 3: Design and Organizational Integration Outweigh Scale and Budget

The evidence distinguishes sharply between programs embedded in a strategic HRM approach and those operating as standalone transactional benefits. Diep and Horváthová [3] find leadership moderate the HRM–outcome relationship, implying that identical program components produce materially different results depending on whether leadership actively sponsors them. Rajashekar and Jain [14] find integrated multidimensional strategies outperform fragmented benefit offerings. Li [4] and Ogbonnaya and Messersmith [5] both establish that HR practice categories can pull in opposing directions, so that adding components to a program does not monotonically improve outcomes.

Read together, these results support the conclusion that program architecture, not program scale, is the operative variable. A modest, well-integrated, visibly sponsored program is predicted to outperform an extensive but peripheral one. This has direct budgetary consequence: incremental spending on additional components is unlikely to yield returns until integration and sponsorship conditions are satisfied.

❖ Theme 4: Measurement Practice Constrains What Can Be Concluded

Because productivity resists direct measurement in knowledge and service work, the evidence base rests on proxies whose selection materially affects conclusions. Studies reporting engagement and satisfaction outcomes generally find positive effects; studies reporting clinical and cost outcomes under randomization generally do not [1,2]. This is not necessarily a contradiction. It is consistent with a model in which wellness provision reliably shifts attitudinal and behavioral variables over short horizons while clinical and economic endpoints move slowly, if at all, within typical evaluation windows. Section on Measuring Return on Investment, develops the measurement framework that follows from this reading.

❖ Theme 5: Contextual and Sectoral Variation Limits Transferability

The retained evidence is concentrated in office-based, high-income, large-employer settings. Ngo et al. [16] show that mediation patterns in labour-intensive hospitality work in a developing economy differ from those reported in corporate office contexts. Quak et al. [7] document the same unevenness

for nutrition specifically. Rajashekar and Jain [14] provide depth in one sector at the cost of transferability. Table 4 maps the geographic and sectoral distribution of the evidence and identifies where it is absent.

Table 3. Synthesis of evidence by intervention type, outcome domain, and strength of evidence

Intervention type	Outcome domain	Direction and consistency of findings	Evidence base	Strength of evidence
Nutrition counselling	Energy, concentration, presenteeism	Positive and mechanistically plausible; largely self-reported outcomes; few controlled organizational evaluations	[7]; [6]	Moderate
Nutrition counselling	Dietary behavior change	Positive but modest; sustainment beyond intervention period uncertain	[6]	Moderate to high
Healthy food provisioning (canteen, subsidy, default nudges)	Dietary quality; short-term energy	Positive on purchasing and intake; organizational performance outcomes rarely measured	[7]; [6]	Low to moderate
Healthy food provisioning	Cardiometabolic markers, weight	Small and inconsistently sustained	[6]	Moderate (evidence of limited effect)
Holistic / multidimensional wellness programs	Engagement, job satisfaction	Positive and consistent across designs	Rajashekar & Jain (2024); [3]; Peña et al. (2024)	Moderate to high
Holistic / multidimensional wellness programs	Perceived organizational support, retention	Positive and consistent; strongest single finding in the retained evidence	Peña et al. (2024); Ngo et al. (2023)	High
Multicomponent wellness programs	Absenteeism	Positive but variable across sectors and measurement approaches	[3]; [21] (indicative only)	Low to moderate
Multicomponent wellness programs	Healthcare spending, clinical measures	No significant effect under randomization; observational savings attributable in large part to selective participation	[1]; [2]	High (evidence of null or negligible effect)
Multicomponent wellness programs	Objective productivity / output	Rarely measured directly; no consistent effect demonstrated	[1]	Insufficient
Any wellness provision	Exhaustion / adverse effects	Adverse effects reported in some contexts where provision adds demand rather than resource	[3]; [4]	Low to moderate

Note. Strength of evidence reflects the volume, design quality, and consistency of the retained studies addressing each intervention–outcome pairing, following the quality ratings reported in Table 2. It is a narrative rather than a formal GRADE assessment.

Table 4. Geographic and sectoral distribution of the retained evidence

Region / economy	Evidence volume	Sectors represented	Observation
North America	High	Retail, higher education, cross-sector employer surveys	Supplies the most rigorous randomized evidence, which is also the most cautious in its conclusions ([1,2]).
Europe	Moderate	Enterprise, cross-sector	Strongest evidence for perceived organizational support pathways ([1,3]).
South and Southeast Asia	Low to moderate	Information technology, hospitality	Indicates that mediation structures differ from Western corporate settings ([14,16]).
Low- and middle-income economies generally	Low	Limited; primarily nutrition-focused	Identified explicitly as an evidence gap for the workforce nutrition business case ([7]).
Africa, Latin America	Very low	Not represented in the retained set	No eligible studies retained; a priority gap for future research.
Manufacturing, logistics, shift-based and frontline work	Very low	Not represented	Evidence concentrated in office-based work, limiting applicability to the sectors where job demands are often highest.

Note. This map is derived from the eleven included sources and reflects the distribution of retained evidence, not of all published literature

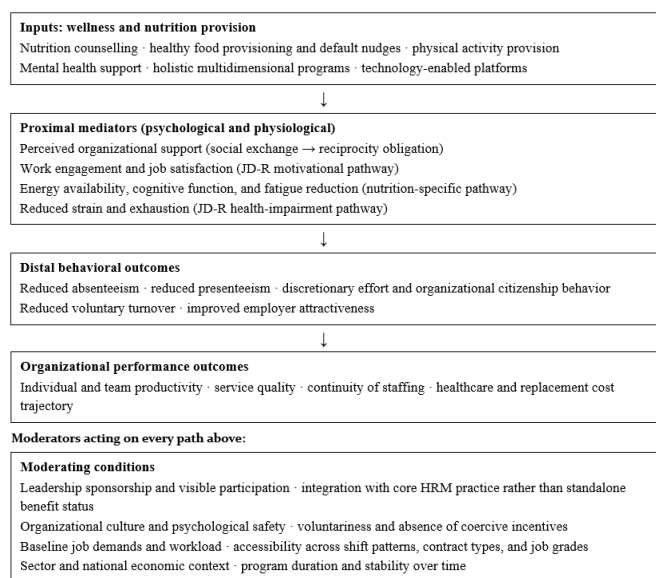
Discussion

The synthesis produces a coherent account of how workplace wellness and nutrition provision relate to productivity, and of why the literature has appeared inconsistent. This section formalizes that account as a conceptual model with testable propositions, reconciles the divergence between industry and academic estimates, compares program types, proposes a measurement framework, considers cost and ethical trade-offs, and states the study's limitations.

❖ An Integrated Conceptual Model of Wellness, Nutrition, and Productivity

The mechanisms identified in Findings (Thematic Synthesis), can be organized into a single model in which wellness and nutrition inputs act on organizational performance through mediating psychological and behavioral states, conditioned by organizational and contextual moderators. The model draws its mediating pathway from organizational support theory, its motivational logic from social exchange theory, and its resource-demand structure from the job demands-resources model. Figure 2 presents the model.

Figure 2. Integrated conceptual model of workplace wellness, nutrition, and employee productivity



Note. The model is developed from the thematic synthesis reported in Findings (Thematic Synthesis), and is offered as a testable structure rather than as a validated measurement model.

Six propositions follow from the model and are offered as hypotheses for empirical testing.

P1. Perceived organizational support mediates the relationship between wellness program provision and employee productivity outcomes, and the indirect effect exceeds any direct effect.

P2. The effect of wellness provision on engagement and productivity is stronger where leadership visibly sponsors and participates in the program than where it does not, controlling for program scale and expenditure.

P3. Organizational culture moderates the wellness-productivity relationship such that programs introduced into cultures with low psychological safety produce attenuated or negative effects, including increases in reported exhaustion.

P4. Nutrition-specific interventions produce larger short-horizon effects on energy, concentration, and presenteeism than non-nutritional wellness components, while producing smaller effects on perceived organizational support.

P5. Wellness provision yields larger productivity returns in high-demand job roles than in low-demand roles, consistent with the buffering hypothesis of the job demands-resources model.

P6. Programs introduced proactively as part of a stated HR strategy produce more durable behavioral and attitudinal effects than programs introduced reactively in response to a crisis or acute staffing pressure.

❖ Reconciling Industry Estimates with Academic Findings

A central tension in this field is that industry benchmarking reports routinely document employer-perceived productivity gains while randomized academic evaluations report limited effects on clinical, cost, and employment outcomes. The synthesis suggests four reasons for the divergence, none of which requires treating either body of evidence as untrustworthy.

Selection. Jones et al. [2] demonstrate that participants in voluntary wellness programs are systematically healthier and lower-cost than non-participants. Observational comparisons of participants with non-participants therefore attribute to the program an advantage that existed before it began. This mechanism alone can account for a large share of reported savings.

Outcome selection. Industry reporting favours measures on which wellness provision performs well, principally self-reported satisfaction, perceived support, and employer perception of productivity. Academic trials favour measures on which it performs poorly over short horizons, principally biometric markers and healthcare spending. The two literatures are frequently not measuring the same construct.

Evaluation horizon. Attitudinal outcomes shift within months; cardiometabolic and cost outcomes plausibly require years. Trials of eighteen to twenty-four months are well matched to the former and poorly matched to the latter [1].

Respondent and publication incentives. Employer surveys are answered by the managers who authorized the expenditure,

and vendor-adjacent publication channels have limited incentive to report null results. Peer-reviewed publication carries its own bias toward positive findings, though randomized trials of this scale are typically published regardless of outcome.

The practical conclusion for management is not that wellness provision fails, but that its defensible business case rests on engagement, perceived support, retention, and absenteeism, where evidence is reasonably consistent, rather than on near-term healthcare savings, where rigorous evidence indicates little effect. Business cases built on the latter are likely to be disappointed and to discredit provision that was in fact working through other channels.

❖ Comparative Effectiveness of Program Types

Table 3 permits a comparative reading. Holistic, multidimensional programs produce the most consistent effects on engagement and perceived organizational support, which the model identifies as the primary mediators, and are therefore the strongest candidates where the objective is retention, discretionary effort, or employer attractiveness. Nutrition-specific interventions produce the most plausible short-horizon effects on energy, concentration, and presenteeism, and are therefore the strongest candidates where the objective is day-to-day cognitive performance, particularly in sedentary knowledge work with long shifts or irregular meal timing. Single-component programs targeting biometric risk factors alone have the weakest evidence for organizational outcomes, and multicomponent programs marketed on healthcare savings have evidence indicating negligible short-run effect.

An important qualification applies across all types. Li [4] and Diep and Horváthová [3] both find that HR provision can add demand rather than resource. A wellness program requiring participation during unpaid time, or layered onto an already excessive workload, is predicted by the job demands–resources model to increase strain. Comparative effectiveness therefore cannot be assessed independently of the job design context into which a program is introduced.

❖ Measuring Return on Investment

Given that productivity is not directly observable in most contemporary roles, the recommendation of this paper is that organizations abandon the search for a single productivity metric and adopt a defined basket of indicators mapped to the model in Figure 2, measured at consistent intervals, with a stated evaluation horizon and an explicit comparison group. Table 5 sets out the recommended basket.

Table 5. Recommended measurement basket for wellness program evaluation

Model layer	Indicator	Data source	Measurement interval	Interpretation guidance
Mediator	Perceived organizational support (short-form POS scale)	Employee survey	Baseline, then 6-monthly	Primary leading indicator; movement here should precede

				behavioral change.
Mediator	Work engagement (validated engagement scale)	Employee survey	Baseline, then 6-monthly	Interpret alongside POS; divergence suggests provision is not read as genuine investment.
Mediator	Self-reported energy and concentration	Short pulse survey	Quarterly	Most sensitive indicator for nutrition-specific components.
Behavioral	Absenteeism days per full-time equivalent	HR information system	Monthly, analysed quarterly	Adjust for seasonality and known outbreaks before attributing change.
Behavioral	Presenteeism (validated scale, e.g. work productivity and activity impairment instrument)	Employee survey	6-monthly	Often the largest hidden cost; rarely measured in practice.
Behavioral	Voluntary turnover and regretted attrition	HR information system	Quarterly	Attach replacement cost to convert to financial terms.
Behavioral	Participation and sustained participation at 6 months	Program records	Monthly	Use as an exposure variable, never as an outcome.
Organizational	Unit-level output or service quality where measurable	Operational systems	Quarterly	Available only in some roles; do not force where inapplicable.
Organizational	Healthcare and insurance cost trajectory	Benefits administrator	Annually	Expect little movement within 24 months; do not build the business case on this.

Note. Evaluation should specify a comparison group (staggered rollout across sites, or matched non-participating units) before launch. Retrospective comparison of participants with non-participants will overstate effects for the reasons set out in Reconciling Industry Estimates with Academic Findings.

❖ Cost Implications and Ethical Trade-offs in Program Selection

Recommendations carry cost, and cost-effectiveness varies substantially across the intervention types reviewed. Table 6 gives a relative assessment intended to support sequencing decisions rather than to substitute for local costing.

Table 6. Relative cost intensity and indicative cost-effectiveness by intervention type

Intervention	Set-up cost	Recurring cost	Strength of outcome evidence	Indicative cost-effectiveness and ethical considerations
Default nudges in existing catering (placement, portion, pricing)	Low	Low to neutral	Moderate for dietary behavior	Highest indicative return per unit cost; minimal privacy exposure; preserves choice.

Subsidized healthy food provisioning	Low to moderate	Moderate, ongoing	Moderate	Strong equity profile if extended to all shifts; cost scales with headcount.
Group nutrition education and counselling	Low to moderate	Moderate	Moderate	Favourable; ensure delivery during paid time or it functions as an added demand.
Individual clinical nutrition counselling	Moderate	High per participant	Moderate, self-reported	Reserve for targeted groups; confidentiality of individual dietary data must be guaranteed.
Leadership and manager capability building for well-being	Moderate	Low once embedded	High (acts on the strongest moderator)	Frequently the highest-leverage spend in the model; no employee data collection required.
Technology-enabled wellness platforms	Moderate to high	High, per-seat licensing	Low to moderate for organizational outcomes	Significant privacy and data-protection exposure; clarify vendor data retention and secondary use before procurement.
Incentive-linked biometric screening programs	High	High	High evidence of negligible short-run cost effect	Weakest cost-effectiveness case; raises voluntariness and coercion concerns where incentives are material relative to pay.

Sequencing follows directly from the table. Organizations with limited budgets should invest first in leadership capability and in low-cost environmental changes to food provision, both of which act on strong moderators or mechanisms at low marginal cost, and should defer platform licensing and incentive-linked screening, which carry the highest cost and the weakest organizational evidence. Procurement of any data-collecting platform should be preceded by a data protection assessment specifying retention periods, secondary use, and employee access rights, and participation incentives should be set at levels that do not render participation effectively compulsory for lower-paid staff.

Limitations

Several limitations qualify the conclusions of this review.

Publication bias. Studies reporting positive wellness effects are more likely to be published and more likely to be promoted in practitioner channels. No formal assessment of publication bias, such as funnel plot asymmetry testing, was possible given the narrative synthesis design and the heterogeneity of outcome measures, so the retained evidence probably overstates average effects.

Language bias. The search was restricted to English-language publications, which systematically under-represents research

from non-anglophone contexts and compounds the geographic unevenness documented in Table 4.

Reliance on proxy indicators. Almost all retained evidence measures productivity through proxies rather than objective output. Conclusions about productivity are therefore conclusions about engagement, absenteeism, and self-reported performance, and should be read as such.

Limited generalizability to low- and middle-income settings. Only two retained sources address such contexts substantively. Recommendations derived here should be treated as provisional for organizations operating in those settings, and as untested for frontline, shift-based, and informal work.

Confounding in observational evidence. Several retained studies use cross-sectional or observational designs in which healthier and more engaged employees select into wellness provision. Where such designs report positive associations, causal direction is not established.

Single-reviewer screening. Screening and appraisal were conducted by one researcher, with intra-rater re-screening of a sample rather than independent dual screening. This introduces a risk of selection bias that dual independent screening would have reduced.

Absence of prospective registration and of quantitative pooling. The protocol was not registered with PROSPERO, and outcome heterogeneity precluded meta-analysis, so no pooled effect estimates are reported. The strength-of-evidence ratings in Table 3 are narrative rather than formal GRADE assessments.

Currency of the evidence. The 2019–2026 window captures post-pandemic expansion in wellness provision but excludes earlier foundational program evaluations, which may omit relevant long-horizon findings.

Conclusion and Recommendations

This paper examined the relationship between workplace wellness programs, nutritional practices, and employee productivity from a management perspective, using a systematic review with thematic synthesis of eleven sources published between 2019 and 2026. The review finds that wellness programming influences productivity principally through indirect mechanisms, namely perceived organizational support, engagement, and reduced absenteeism, rather than through direct, immediately measurable causal pathways. Nutritional interventions show the most plausible physiological route to energy, concentration, and reduced presenteeism, though the supporting organizational evidence is geographically uneven and concentrated in high-income, office-based settings. Program design, leadership sponsorship, and organizational integration are more decisive than program scale or budget. Rigorous randomized evidence indicates little short-run effect on clinical and cost outcomes, and much of the

saving reported in observational work reflects selective participation rather than program effect.

❖ Recommendations for Management Practice

1. Treat wellness provision as an HRM system component rather than a benefit line. Integration with job design, workload management, and leadership practice determines outcomes more than the range of components offered.
2. Invest first in leadership capability and visible sponsorship. This acts on the strongest moderator in the model at comparatively low marginal cost.
3. Use nutrition as the entry point where budgets are constrained. Environmental changes to food provision and group nutrition education offer the most favorable ratio of plausible benefit to cost, and carry the lowest privacy exposure.
4. Build the business case on engagement, perceived support, retention, and absenteeism. Do not build it on near-term healthcare savings, which rigorous evidence does not support.
5. Measure with a defined basket and a comparison group. Adopt the indicators in Table 5, set the evaluation horizon in advance, and treat participation as an exposure variable rather than an outcome.
6. Design for access and voluntariness. Extend provision across shifts, contract types, and job grades, deliver it in paid time, and keep incentives below levels that make participation effectively compulsory.
7. Assess data protection before procuring wellness technology. Specify retention, secondary use, and employee access rights in the contract rather than accepting vendor defaults.

❖ Directions for Future Research

Future research should test the propositions set out in Section on An Integrated Conceptual Model of Wellness, Nutrition, and Productivity, using longitudinal and quasi-experimental designs capable of establishing temporal order, particularly the mediating role of perceived organizational support (P1) and the moderating role of leadership sponsorship (P2). Three further priorities follow from the gaps documented in Table 4. Research is needed in low- and middle-income economies and in frontline, shift-based, and informal work, where job demands are frequently highest and evidence is thinnest. Comparative studies are needed that evaluate nutritional intervention types against one another rather than against no-treatment controls, since managers choose between options rather than between provision and nothing. Finally, the field requires methodological work on productivity measurement itself, including validation of presenteeism instruments against objective output in the minority of roles where both can be observed, so that proxy-based findings can eventually be calibrated to real performance effects.

With such work, the management literature on workplace wellness can move from documenting association to specifying the conditions under which investment in employee health and

nutrition produces organizational returns, which is the question practitioners actually face.

Conflict of Interest: NIL

Funding Sources: NIL

References

- [1] Song, Z., & Baicker, K. (2019). Effect of a workplace wellness program on employee health and economic outcomes: A randomized clinical trial. *JAMA*, 321(15), 1491–1501. <https://doi.org/10.1001/jama.2019.3307>
- [2] Jones, D., Molitor, D., & Reif, J. (2019). What do workplace wellness programs do? Evidence from the Illinois Workplace Wellness Study. *The Quarterly Journal of Economics*, 134(4), 1747–1791. <https://doi.org/10.1093/qje/qjz023>
- [3] Diep, T. P. T., & Horváthová, P. (2026). Human resource management, employee well-being, and performance: A systematic review. *Human Resource Management Journal*, 36(1), 55–79. <https://doi.org/10.1177/01672533251355886>
- [4] Li, X. (2024). Untangling human resource management and employee wellbeing relationships: Differentiating job resource HR practices from challenge demand HR practices. *Human Resource Management Journal*, 34(3), 621–640. <https://doi.org/10.1111/1748-8583.12527>
- [5] Ogbonnaya, C., & Messersmith, J. (2019). Employee performance, well-being, and differential effects of human resource management subdimensions: Mutual gains or conflicting outcomes? *Human Resource Management Journal*, 29(4), 509–526. <https://doi.org/10.1111/1748-8583.12203>
- [6] The Lancet Public Health. (2021). Effectiveness of workplace wellness programs for dietary habits, overweight, and cardiometabolic health: A systematic review and meta-analysis. *The Lancet Public Health*, 6(9), e648–e660. [https://doi.org/10.1016/S2468-2667\(21\)00140-7](https://doi.org/10.1016/S2468-2667(21)00140-7)
- [7] Quak, E., Ebata, A., & Barnett, I. (2025). A review of the business case for workforce nutrition initiatives. *Frontiers in Public Health*, 13, Article 1592601. <https://doi.org/10.3389/fpubh.2025.1592601>
- [8] Blau, P. M. (1964). Exchange and power in social life. John Wiley & Sons.
- [9] Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71(3), 500–507. <https://doi.org/10.1037/0021-9010.71.3.500>
- [10] Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87(4), 698–714. <https://doi.org/10.1037/0021-9010.87.4.698>
- [11] Peña, I., Andrade, S. M., Muñoz, R. M., & Barba-Sánchez, V. (2024). Wellness programs, perceived organizational support, and their influence on organizational performance: An analysis within the framework of sustainable human resource management. *SAGE Open*, 14(2). <https://doi.org/10.1177/21582440241229358>
- [12] Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- [13] Bakker, A. B., & Demerouti, E. (2007). The job demands–resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328. <https://doi.org/10.1108/0268394071073315>
- [14] Rajashekar, S., & Jain, A. (2024). A thematic analysis on “employee engagement in IT companies from the perspective of holistic well-being initiatives.” *Employee Responsibilities and Rights Journal*, 36(2), 165–187. <https://doi.org/10.1007/s10672-023-09440-x>
- [15] Guest, D. E. (2017). Human resource management and employee well-being: Towards a new analytic framework. *Human Resource Management Journal*, 27(1), 22–38. <https://doi.org/10.1111/1748-8583.12139>

[16] Ngo, T., Le, D., & Doan, T. (2023). Are your employees mentally prepared for the pandemic? Wellbeing-oriented human resource management practices in a developing country. *International Journal of Hospitality Management*, 109, Article 103415. <https://doi.org/10.1016/j.ijhm.2022.103415>

[17] Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, Article n71. <https://doi.org/10.1136/bmj.n71>

[18] Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8, Article 45. <https://doi.org/10.1186/1471-2288-8-45>

[19] Critical Appraisal Skills Program. (2018). CASP checklists. CASP UK. <https://casp-uk.net/casp-tools-checklists/>

[20] Joanna Briggs Institute. (2020). JBI critical appraisal tools. JBI. <https://jbi.global/critical-appraisal-tools>

[21] Wellable. (2026). 120 employee wellness statistics for 2026. <https://www.wellable.co/blog/employee-wellness-statistics/>

Declarations:

Author's Contribution:

- Conceptualization, data collection, interpretation, drafting of the manuscript and intellectual revisions
- The author agrees to take responsibility for every facet of the work, making sure that any concerns about its integrity or veracity are thoroughly examined and addressed

Correspondence:

Gurjas Kaur

gurjaskaur2001@gmail.com

Appendix A. Full Search Strategy

The strings below were executed in each database on the dates recorded in Table 1. Field tags follow each database's own syntax. Filters applied in every database: publication years 2019–2026; language English; document types journal article, review, and conference paper excluded where the database permits that distinction.

A1. Scopus

TITLE-ABS-KEY (("workplace wellness" OR "worksite wellness" OR "employee wellness" OR "wellbeing program*" OR "well-being program*" OR "workforce nutrition" OR "workplace nutrition") AND ("productivity" OR "job performance" OR "organizational performance" OR "absenteeism" OR "presenteeism" OR "engagement") AND ("human resource*" OR "HRM" OR "management" OR "organization*" OR "organisation*")) AND PUBYEAR > 2018 AND (LIMIT-TO (LANGUAGE , "English"))

A2. Web of Science (Core Collection)

TS = (("workplace wellness" OR "worksite health promotion" OR "employee well-being program*") AND ("employee productivity" OR "organizational performance" OR "absenteeism" OR "presenteeism") AND ("human resource management" OR "HRM" OR "management practice*")) Refined by: publication years 2019–2026; language English.

A3. PubMed

("Workplace"[MeSH Terms] OR "Occupational Health"[MeSH Terms]) AND ("Nutritional Status"[MeSH Terms] OR nutrition[tiab] OR diet[tiab]) AND (productivity[tiab] OR absenteeism[tiab] OR presenteeism[tiab] OR performance[tiab]) AND ("2019"[PDAT] : "2026"[PDAT]) AND English[lang]

A4. ScienceDirect, SpringerLink, SAGE Journals, and Frontiers

Each platform was searched using the simplified strings reported in Table 1, as these platforms impose limits on Boolean complexity. Where a platform restricted the number of Boolean operators, the search was split into two or more runs and the results combined before de-duplication.

A5. Supplementary searching

Reference lists of all retained systematic reviews and meta-analyses were hand-searched. Forward citation tracking was performed in Scopus for the two most frequently cited retained sources. Industry benchmarking material was identified through targeted searching of established workplace wellness benchmarking publishers; vendor materials promoting a specific product were excluded at this stage.

Appendix B. Data Extraction Template

The following fields were extracted for every included source.

Field	Description
Citation	Author(s), year, title, journal or publisher, DOI
Source type	Systematic review / meta-analysis / primary quantitative / primary qualitative / industry report
Country and economic setting	Country or countries; classified as high-income or low- and middle-income
Sector	Industry or sector of the study population
Sample	Sample size, unit of analysis, participation rate where reported
Design	Study design and, where applicable, randomization and control arrangements
Intervention or exposure	Nutrition counselling / food provisioning / physical activity / mental health / holistic multicomponent / technology platform
Comparison	Control group, comparison worksite, or none
Outcome measures	All organizational and productivity-related outcomes reported, with instrument named

Mediators and moderators tested	Perceived organizational support, engagement, leadership, culture, job demands, other
Findings	Direction, magnitude where reported, statistical significance, and follow-up period
Ethical reporting	Ethics approval, informed consent, and data protection as reported by the source
Quality appraisal	Instrument applied, item-level judgements, overall confidence rating
Notes	Conflicts of interest declared, funding source, reviewer observations