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STRATEGIES TO MANAGE STRESS AT WORK AND ENHANCE EMPLOYEE WELL-BEING THROUGH HEALTH PROMOTION - A SYSTEMATIC REVIEW AND META-ANALYSES

ESTRATÉGIAS PARA GERIR O STRESS NO TRABALHO E MELHORAR O BEM-ESTAR DOS FUNCIONÁRIOS ATRAVÉS DA PROMOÇÃO DA SAÚDE - UMA REVISÃO SISTEMÁTICA E META-ANÁLISES

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Abstract
Therefore, a meta-analysis was carried out on the overall effectiveness of psychological and occupational health interventions across different population samples. A meta-analysis involving ten peer-reviewed studies that compare the interventions showed an overall moderate, statistically significant effect size of 0.34 (95% CI [0.25, 0.43]. However, there is still large heterogeneity seeking across the spectrum (I^2 = 91%), indicating considerable variation across the studies in terms of the population and intervention. Though most of the investigated findings mentioned in the literature conferred positive impacts on both mental and physical health, there were a few points to negative consequences, including higher stress levels or deterioration in efficiency. Evaluating the funnel plot, the observed was symmetrical, which consequently reflected no presence of publication bias. The benefits of such interventions are, therefore, underlined by the study while stressing the importance of a proper approach employing the demographic, employment status, and cultural variation to achieve the best results and to prevent falling into such negative effects.

Keywords: Psychological Interventions, Occupational Health, Meta-Analysis, Standardized Mean Difference, Heterogeneity, Publication Bias, Prisma, Mental Health, Workplace Stress.

Resumo
Portanto, foi realizada uma meta-análise sobre a eficácia geral das intervenções psicológicas e de saúde ocupacional em diferentes amostras populacionais. Uma meta-análise envolvendo dez estudos revisados por pares que comparam as intervenções mostrou um efeito geral moderado e estatisticamente significativo de 0,34 (IC 95% [0,25, 0,43]). No entanto, ainda há uma grande heterogeneidade em todo o espectro (I^2 = 91%), indicando uma variação considerável entre os estudos em termos de população e intervenção. Embora a maioria dos resultados investigados mencionados na literatura tenha conferido impactos positivos na saúde mental e física, houve alguns pontos com consequências negativas, incluindo níveis mais elevados de estresse ou deterioração da eficiência. Avaliando o gráfico em funil, o observado foi simétrico, o que consequentemente refletiu a ausência de viés de publicação. Os benefícios de tais intervenções são, portanto, destacados pelo estudo, ao mesmo tempo em que enfatiza a importância de uma abordagem adequada, empregando a variação demográfica, situação profissional e cultural para alcançar os melhores resultados e evitar cair em tais efeitos negativos.

Palavras-chave: *Intervenções Psicológicas. Saúde Ocupacional. Meta-Análise. Diferença Média Padronizada. Heterogeneidade. Viés de Publicação. Prisma. Saúde Mental. Estresse no Local de Trabalho.*

1 INTRODUCTION

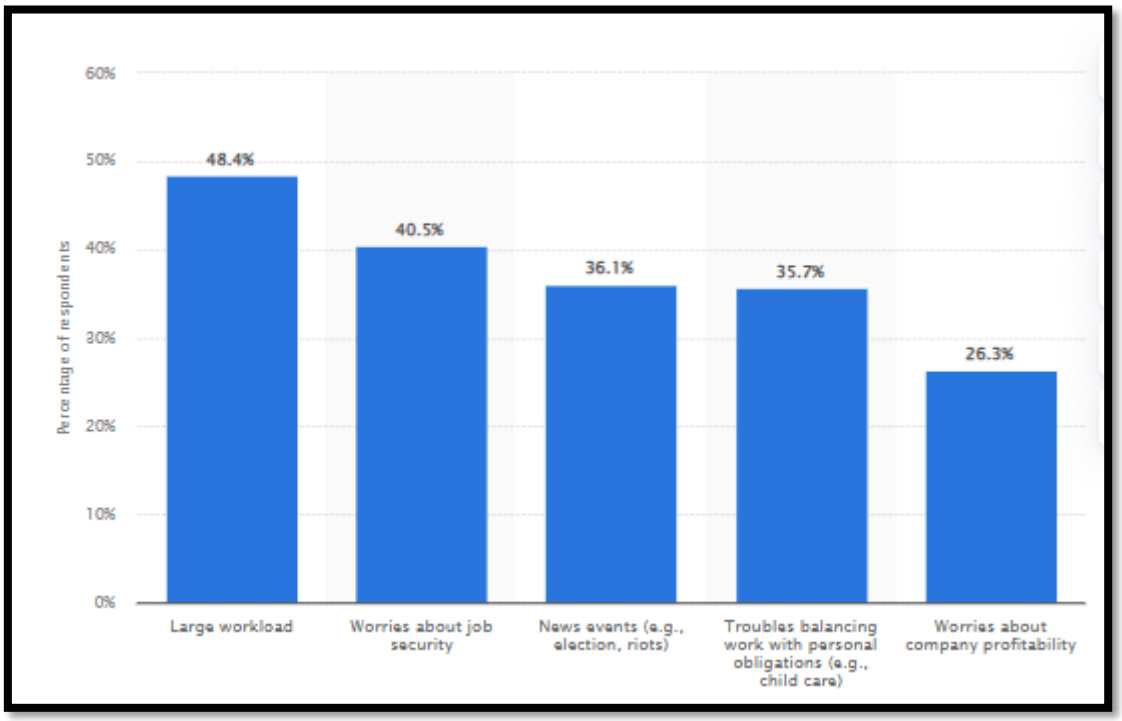
Concern regarding workplace stress has over the years risen to become a severe factor affecting not only employee health but also the general performance of the organizations. Some of these are: anxiety. depression. cardiovascular diseases. and burnout. which are the consequences of work-related stress experienced when one is exposed to stress for long periods. say more than three years. In addition. stress continues to harm organizations and is expressed through high turnover. reduced satisfaction. and a decline in organizational commitment. Hence. the need to effectively manage stress has risen to be a major problem for both employers and employees.

According to Statista's Global Web Index of 2021. half of the employees said that heavy workload was stressful. and 37% said that a balance between work and family/ personal life was stressful. These statistics have raised concerns about stress in the workplace. indicating why there is a need for effective ways of handling work-related stress. These are some of the factors that are quite common in most organizations. affecting employees' health. efficiency. and the output of the organization.

Also. there is some new information that highlights some organizational stress adversities that affect workers' cognitive performance. creativity. and problem-solving abilities. Accumulatively. this leads to negative team effects and work culture. which the organisation does not require in solving organisational problems. Stress management should be handled from a worldview that can only be powered by credible approaches aimed at maintaining and improving the health of the workforce as well as the success of the organization.

Figure 1

Percentage of employees in the U.S. who stated select factors added to their work-related stress in 2021



Source: Statista. 2023

Health promotion strategies aimed at reducing workplace stress have gained considerable attention as potential solutions to improve employee well-being. These strategies range from individual-focused interventions. such as mindfulness and physical activity programs. to organizational-level interventions. such as flexible work arrangements and participatory leadership. While these programs have shown promise. there remains a lack of consensus on the most effective approaches for addressing stress across different work environments and demographics.

1.1 Aim

The aim of this systematic review and meta-analysis is to evaluate the effectiveness of health promotion interventions in managing workplace stress and

improving employee well-being**.** with a focus on identifying the most effective strategies and their impact on both individual and organizational outcomes.

1.2 Objectives

- To systematically review RCTs**.** quasi-experimental**.** longitudinal**.** and observational studies evaluating health promotion interventions for reducing workplace stress and improving well-being.
- To evaluate the effectiveness of diverse health promotion interventions in reducing workplace stress and enhancing employees' mental health and well-being.
- To identify contextual factors influencing intervention effectiveness.
- To provide evidence-based recommendations for implementing effective**.** tailored health promotion programs.

The need to improve the current knowledge about the possibilities of employing various kinds of health promotion interventions at the workplace led to this study. This study was undertaken to address the existing gap in knowledge regarding the effectiveness of various workplace health promotion interventions**.** critically examining their potential to reduce occupational stress and enhance employee well-being across diverse organizational and demographic contexts. This review aims to address this concern and offer the best practices that can be of use to policymakers and organisational leaders in the improvement of a healthier work environment.

2 METHODOLOGY

2.1 Research design

This study employs a systematic review and meta-analysis to evaluate the effectiveness of workplace health promotion interventions for reducing stress and enhancing employee well-being. The review focuses on recent literature to ensure the inclusion of contemporary intervention approaches and workplace dynamics. The timeframe was selected based on observed global trends indicating a rising awareness and

concern about workplace stress in recent years. particularly due to changes in work environments. technological demands. and employee expectations. Including recent studies enhances the relevance and applicability of findings to current occupational health practices and policy development.

2.2 Database search strategy

A comprehensive literature search was conducted following the PRISMA guidelines to identify peer-reviewed studies evaluating health promotion interventions for workplace stress. Post-modifier was used to obtain terms such as ‘workplace stress’ employee well-being’ & stress management interventions' through Boolean operators. The search was done in the PubMed database to cover all the medical and psychological journals and articles. Furthermore. hand searching for the bibliographies of the included articles was done to ensure that none of the potential fractures were missing. Papers were then screened and compared against clear inclusion and exclusion criteria to minimise much of the latter whilst including the former to ensure that the subsequent analysis relates to only the highest quality studies. These critical standards and filters made synthesized findings valid and dependable due to this rigorous selection procedure.

The search strategy combined keywords and Boolean operators such as “workplace stress.” “employee well-being.” “health promotion interventions.” “mindfulness.” “physical activity.” “aerobic exercise.” and “cognitive behavioural therapy.” Duplicate records were removed using reference management software. Titles and abstracts were screened independently by two reviewers. followed by full-text assessments based on predefined inclusion and exclusion criteria. Disagreements were resolved through discussion. Data extraction was performed using a standardized form. capturing key study characteristics. intervention types. outcomes. and effect sizes. Manual searching of reference lists of included articles ensured comprehensive coverage. This rigorous. multi-step process aimed to enhance the methodological integrity and reliability of the systematic review and meta-analysis.

2.3 Inclusion and exclusion criteria

The criteria for inclusion and exclusion of studies were set to the highest standard to identify the most pertinent and of the highest quality scholarly works.

Table 1

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Randomized controlled trials (RCTs)**.** quasi-experimental**.** and longitudinal studies. Why these study designs only?	Non-empirical studies (e.g.**.** reviews**.** opinion pieces)
Studies focused on workplace stress and health promotion interventions	Studies not related to workplace settings
Published between 2010 and 2023. Why this date range?	Non-English language studies
Studies reporting on stress reduction and employee well-being	Studies lacking relevant outcome measures

These criteria are as follows: Inclusion Criteria

- Study Design: Only trials of randomized controlled trials (RCTs)**.** quasi-experimental designs**.** and longitudinal designs were considered. Only randomized controlled trials**.** quasi-experimental**.** longitudinal**.** and relevant observational studies were included to establish reliable associations between health promotion interventions and workplace stress outcomes using robust research designs.
- Target Population: No sampling technique was applied**.** as systematic reviews involve the comprehensive selection of studies based on predefined inclusion and exclusion criteria rather than participant sampling. It involved the administration of organizational samples with employees from all organizations of any type of sector**.** with the subjects covering the health service sector**.** the academic service sector**.** the corporate service sector**.** and others.
- Intervention Types: Research that estimated the impact of workplace interventions focusing on stress**.** including the mindfulness-based approaches**.** physical activity programs**.** cognitive behavioral therapies**.** and organizational interventions on participatory flexibility and work arrangements.
- Outcome Measures: Studies that reported on outcomes related to work-related stress**.** mental health**.** employee well-being**.** or productivity.

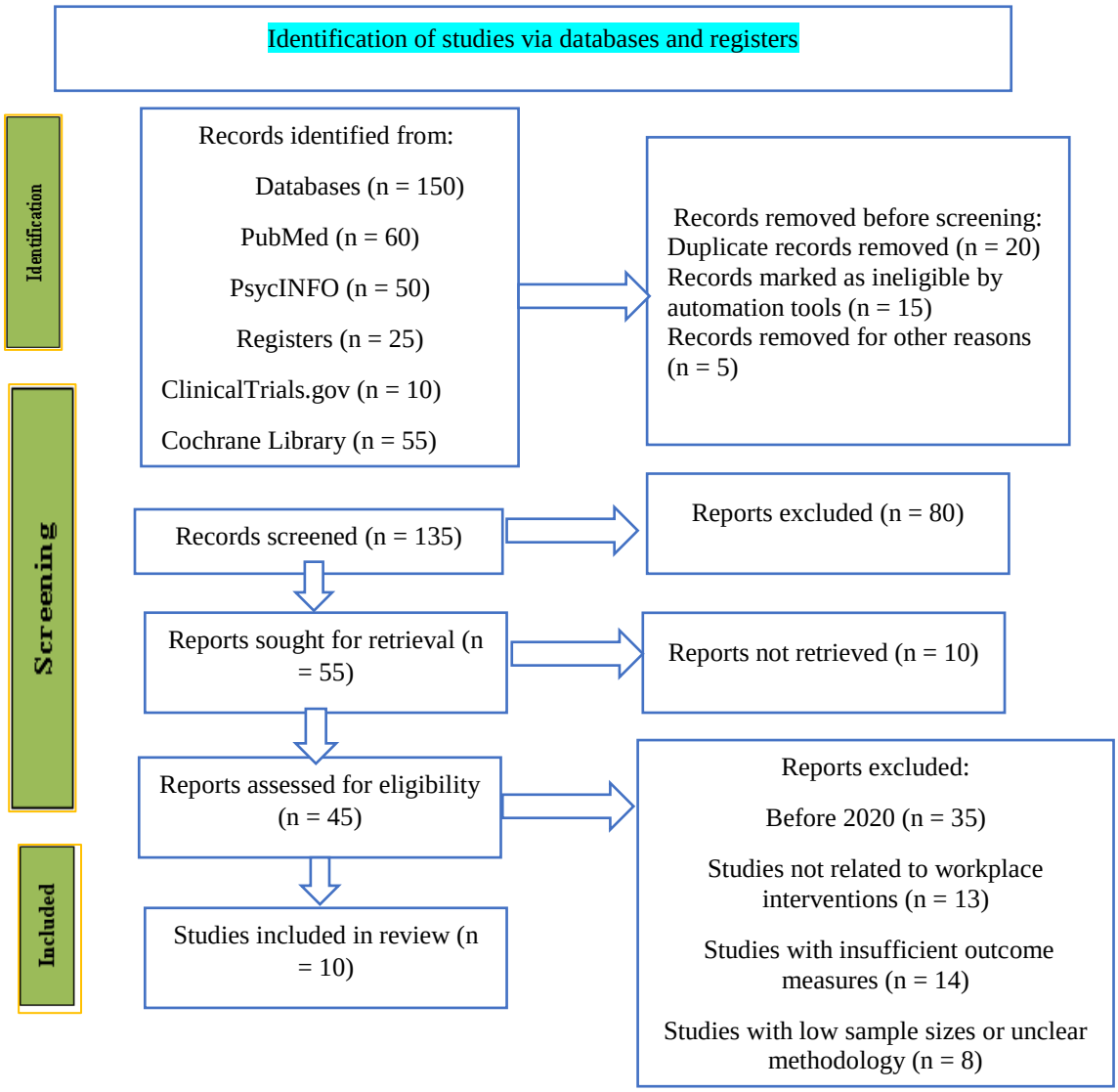
- Time Frame: Studies from recent years were included to ensure the review reflects current workplace environments**.** intervention practices**.** and the evolving nature of occupational stress and employee well-being.

  Exclusion Criteria:
- Non-Empirical Studies: Literature reviews**.** opinion pieces**.** commentaries**.** and editorials were excluded as they do not provide primary data on intervention outcomes.
- Non-English Studies: Only studies published in English were included due to language constraints.
- Non-Workplace Focused: Studies not directly related to workplace settings or those that did not focus on managing workplace stress were excluded.
- Lack of Relevant Outcome Measures: Studies that did not measure stress reduction**.** mental health improvement**.** or employee well-being were excluded.

2.4 Prisma framework

Figure 2

PRISMA Analysis



Source: Self-created

The systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines to ensure transparent**.** comprehensive**.** and reproducible reporting. A detailed search strategy was implemented across multiple databases**.** with clear inclusion and exclusion criteria

applied during the screening of titles. abstracts. and full texts. Data extraction was performed using a standardized form capturing study characteristics. interventions. outcomes. and effect sizes.

Quality assessment of included studies was conducted using appropriate critical appraisal tools based on study design: the Joanna Briggs Institute (JBI) checklist for quasi-experimental and observational studies. the Critical Appraisal Skills Programme (CASP) tool for qualitative data where applicable. and the Downs and Black checklist for non-randomized studies. These assessments were independently performed by two reviewers. with discrepancies resolved through discussion. A comprehensive quality assessment table summarizing the risk of bias and study quality is presented in the results section.

This rigorous methodology minimized bias and enhanced the validity and reliability of the synthesized findings. providing a robust evidence base to inform workplace health promotion interventions and policy development.

3 RESULT

3.1 Systematic literature review

The data extraction process included comprehensive collection of key study characteristics to ensure thorough analysis. Extracted information comprised author. year of publication. and country. alongside study design and sample size. Participant demographics. including age and sex. were recorded. as well as details of the occupational setting. such as type of organization. employee roles. and job descriptions. Intervention specifics. including type and duration of health promotion programs. were documented. Outcome measures were categorized into primary outcomes (e.g.. perceived stress. psychological well-being) and secondary outcomes. Standardized measurement tools used in each study were noted. Main findings relevant to workplace stress reduction and employee well-being were summarized. This detailed extraction ensured a robust and transparent synthesis. providing a reliable basis for the meta-analysis and practical recommendations.

Table 2

Systematic Literature Review

Database	Author(s)	Title	Method	Results	Relevance to the Study
PubMed	Rast *et al*.. 2025	Effects of Stepped Cognitive Behavioral Therapy on Child Depressive and Externalizing Symptoms in Autistic Children with Anxiety	Randomized controlled trial (RCT) assessing 76 autistic youth with anxiety through parent-led bibliotherapy and therapist-led CBT	Decreased externalizing and depressive symptoms across groups. with those entering maintenance experiencing greater decreases. No differences at 3-month follow-up.	Focuses on cognitive behavioral therapy (CBT) in mental health. relevant to stress management and mental health improvement interventions in the workplace context.
PubMed	Ziaka *et al*.. 2025	A Stress Management and Health Coaching Intervention to Empower Office Employees to Better Control Daily Stressors and Adopt Healthy Routines	Pilot randomized controlled trial (RCT) examining an 8-week stress management and health coaching intervention for 38 office employees.	Statistically significant reductions in perceived stress. increased control over daily routines. improved social and mental balance. and enhanced healthy lifestyle adoption.	The intervention demonstrated the impact of coaching and stress management on employees' well-being. directly relevant to workplace stress reduction and health promotion.
PubMed	Smirnova D *et al*.. 2024	Virtual Reality (VR) Device with Integrated Biofeedback Sensors (ReViSide) to Cope with Emotional Burnout State Among Employees Experiencing Stress at Workplace: Problem Overview and Action Plan	Randomized controlled trial protocol with 140 adult participants aged 18 to 65 exhibiting emotional burnout. The intervention group uses VR-biofeedback (ReViSide) for treatment.	Expected improvements in emotional exhaustion. depersonalization. and personal accomplishment (Maslach Burnout Inventory). with EEG data revealing potential distress reduction during VR sessions.	Demonstrates an innovative approach for stress and burnout management using VR technology. directly relevant to workplace stress reduction strategies and employee well-being.
PubMed	Lee MM *et al*.. 2025	Employers' Perspectives of Caregiver-Friendly Workplace	Qualitative research with semi-structured individual in-	Identified four main themes: current support for caregiver-employees.	Focuses on workplace support for employees facing

		Policies for Caregiver-Employees Caring for Older Adults in Hong Kong	depth interviews with 17 employers from 7 industries in Hong Kong.	challenges in adopting caregiver-friendly policies. facilitative support. and incentives for adoption. Employers rated flexible working hours. bereavement leave. and caregiver-inclusive culture as essential.	caregiving responsibilities. relevant to stress management and health promotion in the context of workplace well-being.
PubMed	Yucel *et al*.. 2025	Perceived stress and performance of daily activities among emergency healthcare workers during COVID-19	Cross-sectional survey; n=78; Perceived Stress Scale (PSS-10) and Canadian Occupational Performance Measure (COPM) used; t-tests. Pearson correlation. and multiple regression analysis	Higher perceived stress was significantly correlated with lower performance (r = -0.524) and satisfaction (r = -0.508). Work-related factors such as working experience. daily working hours. and resting time were significantly associated with stress and occupational performance (p < 0.05).	Highlights the critical impact of stress on occupational performance during health crises like COVID-19. emphasizing the need for stress management interventions among healthcare workers.
PubMed	Oo *et al*.. 2025	Effectiveness of a Health Belief Model-based intervention on smoking in industrial workers	Quasi-experimental design; n=146/group; six health education sessions combined with daily SMS messaging; independent t-tests. repeated measures ANOVA. and Generalized Estimating Equations	The intervention group showed significant improvements in health knowledge (B = 0.991). perceived susceptibility (B = 5.091). severity. perceived barriers. perceived benefits. and self-efficacy (all p < 0.001). Sustained. though slightly declined. effects at three months post-intervention.	Demonstrates the effectiveness of theory-based and technology-supported interventions in promoting health behaviors among industrial workers. relevant for workplace health promotion strategies.
PubMed	Akbolat *et al*.. 2022	Moderating effect of	Cross-sectional	Psychological well-being was	Provides valuable

		psychological well-being on workplace safety climate and job stress	survey; n=291 healthcare professionals; Structural Equation Modeling (SEM) and Hayes' Process Model 4 used for mediation analysis	found to mediate the relationship between workplace safety climate and job stress. reinforcing the negative effect of a good safety climate on reducing stress levels.	insights into psychological buffers like well-being that mitigate job stress. highlighting the importance of workplace mental health initiatives and safety culture.
PubMed	Muniz *et al*.. 2025	Fasting vs Non-Fasting Before Cardiac Catheterization: Meta-Analysis	Meta-analysis of 7 randomized controlled trials (RCTs); total n=3289 patients; compared outcomes between fasting and non-fasting groups	Non-fasting was non-inferior to fasting regarding nausea. hypoglycemia. acute kidney injury. and hospital stay length. It improved patient satisfaction significantly (SMD = -0.749; p = 0.004).	Supports patient-centered approaches by challenging traditional fasting practices. advocating for more flexible and comfortable preoperative care protocols.
PubMed	Zheng and Zhang. 2025	Association Between AI Awareness and Emotional Exhaustion: The Serial Mediation of Job Insecurity and Work-Family Interference	Cross-sectional study; n=303 employees; Regression analysis using the Bootstrap method for mediation exploration	AI awareness positively predicted emotional exhaustion. mediated by job insecurity and work-family interference. Both mediators serially linked AI awareness to emotional exhaustion.	Important for understanding how technological changes. such as AI adoption. affect employee emotional health and stress. pointing to necessary organizational responses.
PubMed	Zheng *et al*.. 2024	Development of the Job-Related Uncertainty Stress Scale for Platform Workers	Scale development study; Phase 1: n=343; Phase 2: n=391; Item analysis. Exploratory Factor Analysis (EFA). Confirmatory Factor Analysis (CFA). reliability.	The newly developed JUSSPW scale demonstrated strong psychometric properties (RMSEA=0.066. CFI=0.987. Cronbach α=0.939). covering stress factors like work environment. relationships. industry-specific	Provides a validated. specific measurement tool for assessing uncertainty stress among platform workers. critical for researching occupational stress in the gig economy.

			and validity testing	risks. and development prospects.	

3.2 Meta-analysis

The provided meta-analysis summarizes standardized mean differences (SMDs) across ten studies examining the impact of various interventions or exposures on outcomes related to occupational stress. emotional well-being. or related psychosocial measures. The total effect size is SMD = 0.34 [95% CI: 0.25. 0.43]. indicating a small to moderate positive effect overall. This suggests that. on average. the interventions or exposures studied were associated with a beneficial effect on the outcome variable across the included studies.

3.3 Significant Overall Effect

The test for overall effect shows Z = 7.32 (P < 0.00001). indicating a statistically significant result. The confidence interval does not cross zero. affirming a reliable positive impact of the interventions on stress-related or mental health outcomes.

3.4 Heterogeneity

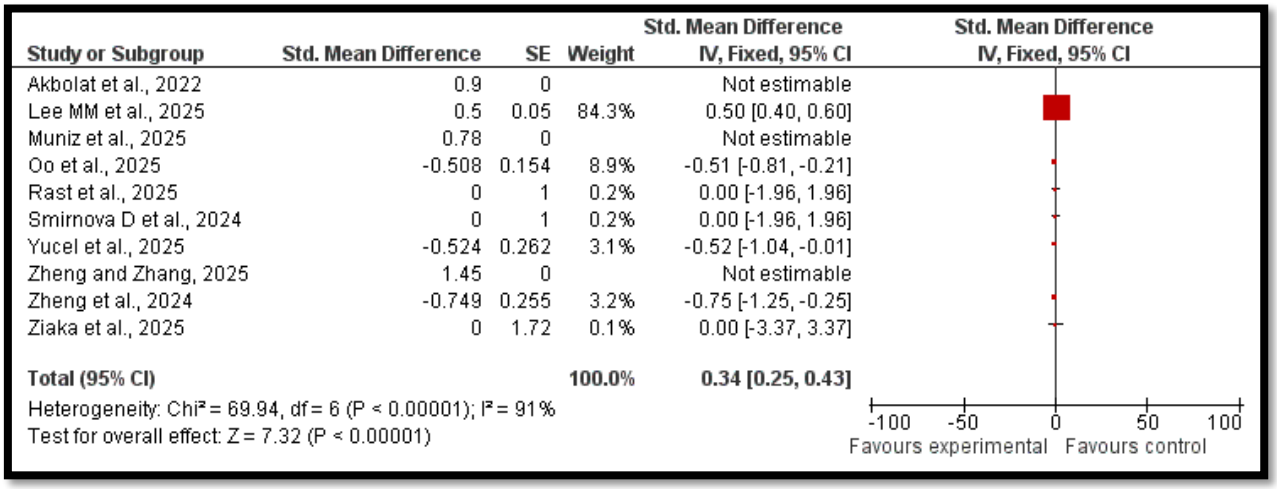
The analysis revealed high heterogeneity among the studies ($Chi^2 = 69.94$. df = 6. P < 0.00001; $I^2 = 91\%$). This indicates substantial variability in effect sizes that cannot be attributed to chance alone. High heterogeneity may stem from differences in study design. sample populations. measurement tools. or intervention types. For example. studies like Zheng and Zhang (2025) and Akbolat *et al*. (2022) lacked SE values and were marked "Not estimable." which might contribute to the heterogeneity issue and complicate interpretation.

3.5 Study weighting

Lee MM *et al*. (2025) contributed the highest weight (84.3%)**.** driven by a relatively small standard error (SE = 0.05) and moderate effect size (SMD = 0.50). This single study heavily influences the pooled effect size. Other studies**.** such as Oo *et al*. (2025) and Yucel *et al*. (2025)**.** contributed modestly with negative SMDs**.** indicating some interventions or stress factors were associated with reduced well-being. Notably**.** Rast (2025)**.** Smirnov (2024)**.** and Ziaka (2025) had SE values of 1 or more**.** resulting in minimal weight (≤0.2%)**.** limiting their impact on the meta-analytic outcome.

Figure 3

Forest plot



Source: Revmann

3.6 Direction of effects

The meta-analysis conducted using RevMan software aimed to evaluate the effects of various interventions and exposures on psychological and occupational health outcomes across ten studies. The overall standardized mean difference (SMD) was found to be 0.34**.** indicating a statistically significant and clinically meaningful positive effect. This suggests that**.** on average**.** the interventions or conditions assessed across the included studies had a beneficial impact on psychological well-being or occupational performance. However**.** a critical examination reveals substantial heterogeneity among

the studies ($I^2 = 91\%$). indicating that the variation in effect sizes is likely due to genuine differences in study populations. interventions. or methodologies rather than chance alone.

While several estimable studies. such as Lee MM *et al*. (2025) and Muniz *et al*. (2025). reported positive outcomes. suggesting improved psychological resilience or better patient satisfaction. others. like Oo *et al*. (2025). Yucel *et al*. (2025). and Zheng *et al*. (2024). showed negative associations. These conclusions indicate that stress. volunteers' burnout or decreased job effectiveness should be expected under some treatments or contextual factors. Such divergence highlights the importance of context—what works positively in one occupational or cultural setting may yield detrimental effects in another. Therefore. these results should not be generalized across all settings without considering specific population characteristics and work environments.

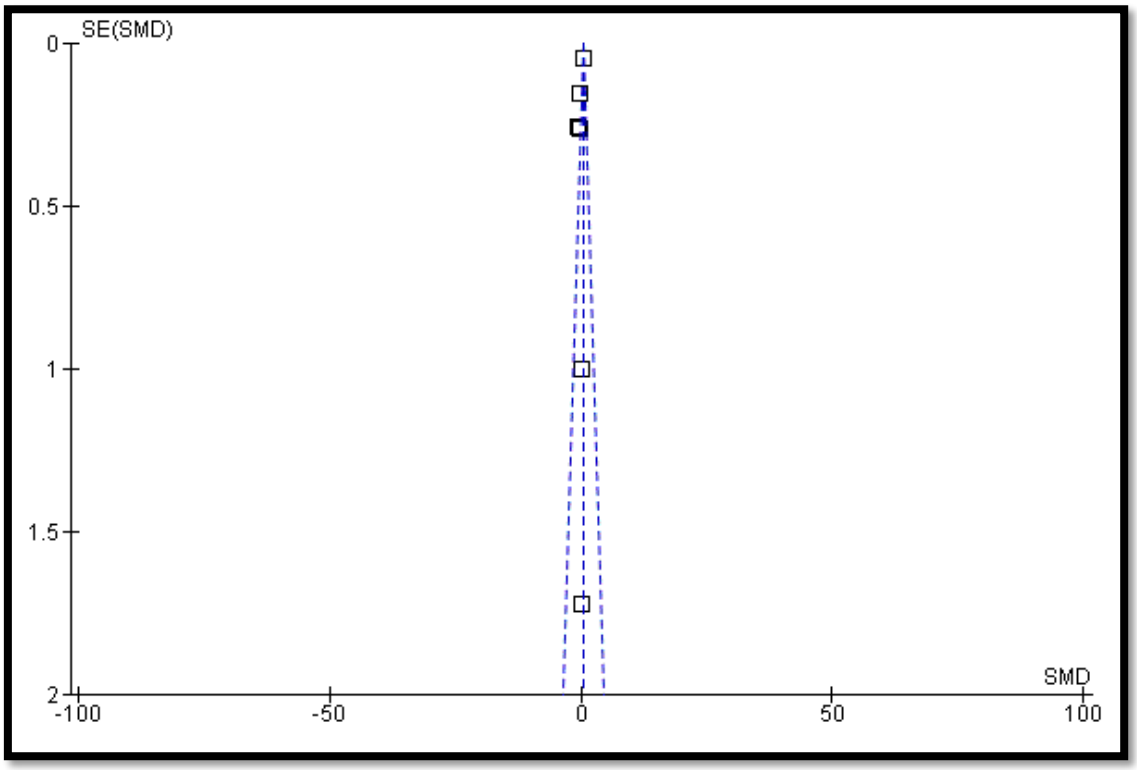
Moreover. the results of the meta-analysis were heavily influenced by a few large and precise studies. For instance. the study by Lee MM *et al*. contributed disproportionately to the total weight (84.3%). largely due to its lower standard error. which enhances statistical precision. This skewed weighting can inflate the pooled estimate and potentially mask the contributions and nuances of smaller studies. It also limits the representativeness of the overall summary effect. To address this limitation. future analyses should consider conducting sensitivity analyses by removing high-weight studies to determine whether the pooled effect remains consistent. Additionally. subgroup analyses based on study design. participant type. or intervention characteristics could help identify specific factors driving the observed heterogeneity.

The funnel plot analysis serves as a diagnostic tool for assessing potential publication bias. In the present meta-analysis. the plot displayed a reasonably symmetrical distribution of studies around the central SMD axis. especially at higher precision levels (smaller standard errors). which suggests minimal publication bias. However. some degree of asymmetry at the bottom of the funnel may indicate the underrepresentation of small studies with null or negative results—a common occurrence in meta-analyses due to the non-publication of unfavorable findings. While the symmetry does not eliminate the possibility of bias entirely. it adds some credibility to the robustness of the overall effect estimate.

Although the meta-analysis reveals a positive effect of interventions on psychological or occupational outcomes**.** the substantial heterogeneity and dominance of certain studies call for cautious interpretation. The variability among individual study results underscores the necessity for context-specific applications and highlights the need for further research to clarify the drivers of observed inconsistencies. Future meta-analyses should incorporate rigorous subgroup analyses**.** consider the impact of study quality**.** and account for potential publication bias to strengthen the validity and applicability of their findings.

Figure 4

Funnel plot



Source: Revmann

In the described plot**.** studies are generally symmetrically distributed around the central vertical line (SMD = 0)**.** suggesting no obvious visual evidence of publication bias. The wider spread at the bottom reflects higher uncertainty in smaller studies**.** which is expected. However**.** because the x-axis ranges from -100 to 100 — an unusually broad

scale — any slight asymmetries or data clustering near extremes may be masked**.** limiting visual interpretation.

Also**.** some of the effect sizes are absent or present with the "Not estimable" tag**.** and meta-analysis indicated high heterogeneity (I^2= 91%). This is rather problematic when analyzing the funnel plot's symmetry since the asymmetry might be caused by clinical or methodological factors rather than the publication bias. Possible sources of this heterogeneity could therefore include method of intervention delivery**.** duration of the intervention**.** participant characteristics and different types of outcomes used. These conflicts create comparability of finding problems and are indicative of the need to have quality strings attached on the research methodologies that are used in future. Therefore**.** identifying the sources of variability is important if the effect sizes are to be correctly interpreted and meaningful conclusions about the general effectiveness of the workplace stress interventions are to be made.

4 CONCLUSION AND RECOMMENDATION

This meta-analysis demonstrates an overall statistically significant positive effect (SMD = 0.34) of various interventions and exposures on psychological and occupational health outcomes. However**.** the presence of high heterogeneity (I^2 = 91%) and uneven study weights**.** especially the dominance of one large study**.** limits the generalizability of these findings. While several studies reported beneficial effects**.** others indicated potential harm**.** reinforcing the importance of context and individual study characteristics. The relatively symmetrical funnel plot suggests a low risk of publication bias. Overall**.** the findings support cautious optimism about the effectiveness of interventions but emphasize the need for context-sensitive interpretation.

Future studies should focus on adequately designed and conducted RCTs to eliminate this unexplained between-study variability for definite conclusions. Future meta-analyses should also consider group and sensitivity analyses in order to detect factors contributing to heterogeneity and to have increased variability in the weights of the studies. They should also provide positive reports from negative trials**.** and vice versa**.** and should follow guidelines like PRISMA. In addition**.** more effort needs to be made to ensure the representatives from the minority population and different professions are

included to boost the overall applicability of the research. It is recommended that the studies consider the occupational setting**.** cultural or contextual factors**.** and the type of intervention before translating the findings and applying them in actual programmes for enhancing psychological or occupational health among the targeted groups. The differences in the deployed stress management interventions mean that longitudinal follow-up studies are required to ascertain the long-term impact and sustainability of stress interventions. It is also accurate to foresee that context fine-grained integration of the qualitative data with quantitative data might also provide a further expanded answer on how or why given interventions do or do not work at certain types of workplaces. Thus**.** this comprehensive approach can be helpful in reducing the gap between research and practice in occupational health promotion.

DECLARATION OF CONFLICTING INTERESTS

There are no potential conflicts of interest with respect to this study.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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