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PSYCHOSOCIAL WORK ENVIRONMENTS AND WELL-BEING AMONG EMPLOYEES: FINDINGS FROM SYSTEMATIC REVIEW

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Abstract

The well-being of employees is a major issue these days due to personal and work factors. One of the factors affecting employees' well-being is their psychosocial work environment. Therefore, this systematic review aimed to summarize the research knowledge about the relationship between psychosocial work environments and well-being among employees from various contexts. Following the PRISMA checklist, relevant quantitative studies published from year 2000 to 2023 were retrieved from Web of Science (WoS), Scopus and Google Scholar electronic databases and then systematically reviewed. From a total of 25 initial titles, eight cross-sectional studies were selected and evaluated with the Appraisal tool for Cross-Sectional Studies (AXIS tool). The extracted data from the included studies were summarized narratively. Well-being was mainly examined in terms of psychological well-being and job satisfaction. Meanwhile, the core measures for psychosocial work environment inclusive of job demands and job control. Based on the findings from these studies, there is significant influence of psychosocial work environments on employees' well-being from different settings. Therefore, policymakers and managers across various organizational settings need to acknowledge that the psychosocial work environments are crucial to foster positive well-being among employees at the workplace..

Keywords: systematic literature review, psychosocial work environments, well-being, PRISMA flowchart, quality appraisal, AXIS tool

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INTRODUCTION

The concept of psychosocial refers to how in which individuals experience development and shape themselves through interactions with their surroundings (Thylefors, 2009). Interactions with other humans play a pivotal role in the development of cognitive and emotional growth, as well as

overall well-being. In the context of workplace, psychosocial work environment refers to individual's interaction with all components of the entire work environment (Thylefors, 2009). The components involve design and content of tasks, interpersonal relationships at work, organizational culture and work roles (Rugulies, 2019). There are numerous research studies investigating the psychosocial work environments with various components comprise of effort-reward imbalance (Darboe et al., 2016; Siegrist et al., 2019; Wang et al., 2008), job demand, job control, and social support (Fleischmann et al., 2020; Vassos et al., 2019), flexibility (Ray & Pana-Cryan, 2021; Robelski et al., 2019), leave (Cardenas et al., 2021; Philpott et al., 2022), organizational justice (De Fátima Nery et al., 2016; Kobayashi & Kondo, 2019; Mert et al., 2022; Ozel & Bayraktar, 2018), and working hours (Choi et al., 2021; Huang et al., 2020; Kamerāde et al., 2019). Exposure to negative psychosocial work environments have been found to decrease the level of overall well-being (Meirun et al., 2020), psychological well-being (Miller et al., 2018; Schéle et al., 2012; Wang et al., 2008), job satisfaction (Miller et al., 2018; Schéle et al., 2012; Wang et al., 2008), physical health (Wang et al., 2008), and emotional health (Ibrahim et al., 2021; Wang et al., 2008).

In addition, several reviews have reported that adverse psychosocial work environments can lead to cardiovascular diseases and mental health impairment (Niedhammer et al., 2021; Rugulies et al., 2017; Siegrist & Wege, 2020). However, the relationship is poorly studied because the primary focus of interventions is on mental health outcomes. Depressive symptom is the area that has been extensively examined, although the concept of well-being is widely interpreted in broader terms. As emphasized by Hilary and Assistant (2022), well-being of employees refers to the overall mental, emotional, physical and financial well-being, which each of these components are multidimensional. According to Deci and Ryan (2008), well-being can be understood as a composite construct encompassing positive affect, from a hedonic perspective (subjective well-being), as well as optimal performance and social functioning, from a eudaimonic perspective (psychological well-being). For instance, subjective well-being encompasses happiness and life satisfaction, meanwhile psychological well-being encompasses autonomy, environmental mastery, personal growth, positive relationships, purpose in life and self-acceptance.

Although previous reviews are beneficial for specifically examining the depression and health outcomes (Niedhammer et al., 2021; Rugulies et al., 2017; Siegrist & Wege, 2020), but only a few have related the psychosocial work environments to their effects on employees' well-being. Therefore, systematic literature review is essential to be performed in order to identify the various employees' well-being that are affected by psychosocial work environments. This review is based on the high-quality paper, allowing the formulation of evidence-based recommendations aimed at fostering more positive and effective health and safety working environments and policies. Therefore, this article presents a systematic literature review that focuses specifically on the psychosocial work environments of employees and its influence on the well-being. The objective of this study is to provide a concise overview of empirical research studies examining the relationship between psychosocial work environments and employees' well-being, by addressing three research questions: (1) What is the component of psychosocial work environments have been studied in relation to employees' well-being? (2) How was well-being examined in those studies? and (3) How did the studies psychosocial work environments reportedly influence employees' well-being?

METHODOLOGY

Design

This systematic review of quantitative studies was performed in adherence to the PRISMA statement (Moher et al., 2009).

Search Strategy and Inclusion Criteria

An extensive search was performed in WoS, Scopus and Google Scholar databases to identify the relevant studies. The search string consisting of Boolean operators and keywords were tailored for each database as shown in Table 1. The searched were performed by combining keywords through the utilization of Boolean operators such as AND, OR, and NOT. The search was limited to peer-reviewed articles published in English between year 2000 to 2023. The strategy was used to obtain a broader information on the research topic. The other inclusion criteria of this review encompassed quantitative research studies to examine the relationship between psychosocial work environments and well-being among employees from various context. The list of inclusion criteria is outlined in Table 2.

Table 1. Search string from electronic databases

Electronic databases	**Search string**
WoS	(TI=("psychosocial work* environment*" OR "psychosocial work* factor*")) AND TI=("well*being" OR "satisfaction" OR "happiness" OR "positive affect" OR "positive emotion*")
Scopus	(TITLE ("psychosocial work environment*" OR "psychosocial work* factor*") AND TITLE ("well*being" OR "satisfaction" OR "happiness" OR "positive affect" OR "positive emotion*"))
Google Scholar	("psychosocial work* environment*" OR "psychosocial work* factor*") AND ("well*being" OR "satisfaction" OR "happiness" OR "positive affect" OR "positive emotion*")

Search Outcome and Exclusion Criteria

The search resulted in a total of 43 results, with 14, 12, and 17 hits obtained from the WoS, Scopus and Google Scholar databases, respectively. Following the removal of duplicates results (n = 18), a total of 25 articles were retained for the purpose of title and abstract screening. Based on the titles and abstracts, the retrieved articles that were not written in English and were irrelevant to the research topic were removed from further review. Additionally, non-peer reviewed articles were not included in the review. Following the removal of results from titles and abstracts (n = 8), a total of 17 articles were retained for further review. Next, the researcher thoroughly reviewed the full texts of the articles to assess their eligibility to be included in this study. As a result of the reviews of full-text articles independently by the researcher, an additional seven articles were considered ineligible and therefore, excluded. Articles were excluded from the study due to fail to access the full-text article, not classified as research article, fail to address the research objective, and the sample was among non-employees. Thus, eight articles were chosen to be included in the qualitative synthesis as shown in Figure 1. The list of exclusion criteria is outlined in Table 2.

Table 2. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion	Reason
Population	Employees	Non-employees or mixed with non-employees	To answer research question
Publication year	Published 2000 - 2023	Published before 2000	Limited publication for the recent evidence
Study design	Quantitative	Qualitative or mixed-methods	To answer research question
Publication language	English	Non-English	To ensure no existence of translation error
Peer review	Peer-reviewed articles	Non-peer reviewed articles	To retrieve high quality publications

Data Synthesis

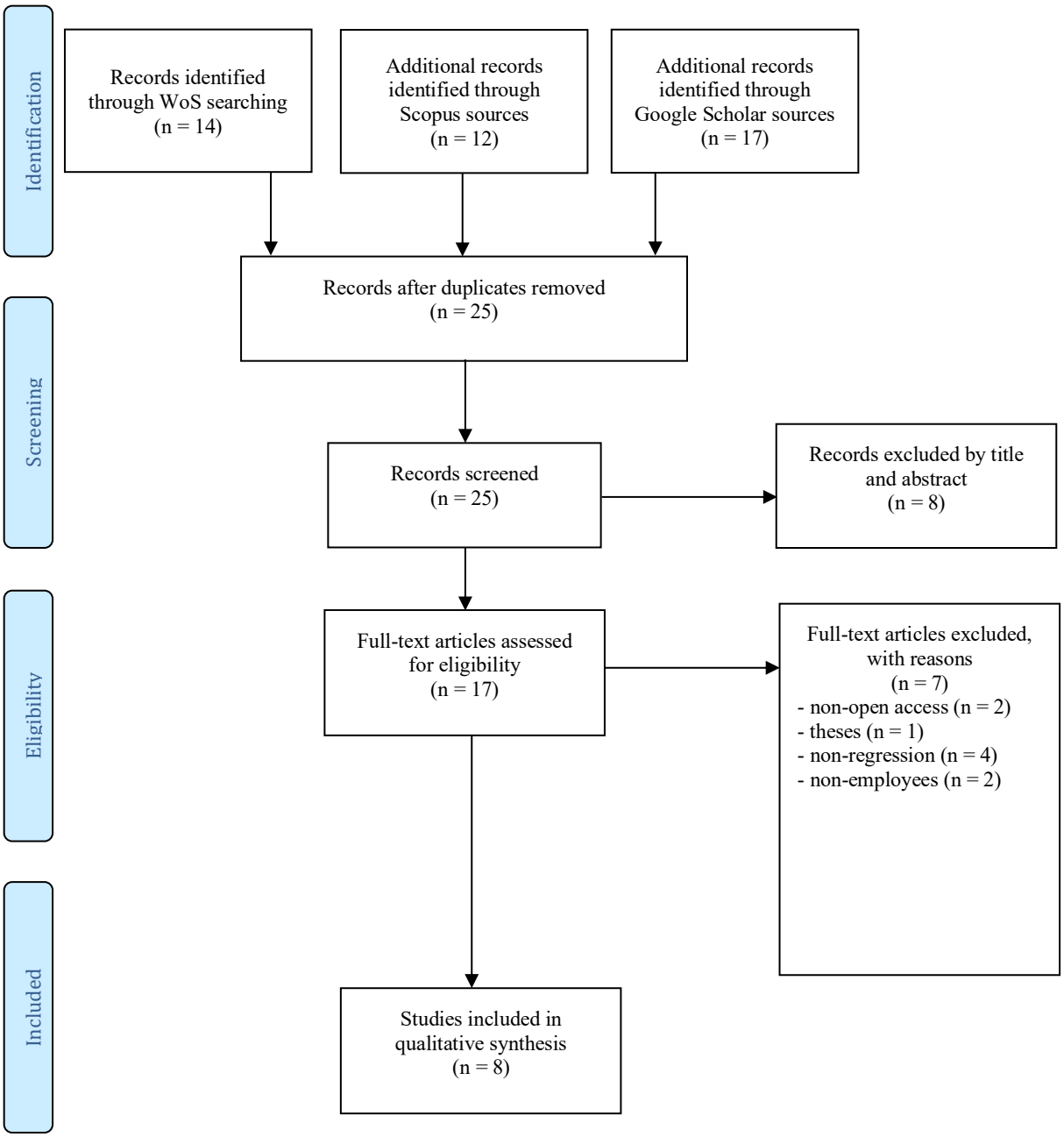
The data was entered into a spreadsheet using Microsoft Excel and organized into a table, as presented in Table 3. This table included the overview of the included studies for each article including authors, year of publication, country, variables, study design, sampling, measures, data analysis and results obtained from the study.

Quality Appraisal

The quality assessment was performed with the Appraisal tool for Cross-Sectional Studies (AXIS tool) (Downes et al., 2016). This appraisal tool systematically evaluated research papers that utilized observational cross-sectional studies and determine the reliability of the study included in the systematic review. The tool consists of 20 questions with three possible answers (yes, no, don't know) reviewing introduction (one question), methods (10 question), results (five question), discussion (two question), and other (two question). Due to the lack of a comprehensive description of the assessment technique provided by the tool, the quality of the studies was assessed by determining the tertiles of the total number of items on the quality scale where the reviewer evaluates the quality of each study as either poor, fair, or good. A study is regarded as poor when there is significant risk of bias, fair when the study is vulnerable to some bias but insufficient to consider the results invalid, and good when the study has minimal risk of bias. The score was determined by counting the number of "yes" answers, and categorized as poor for scores in the lowest tertile (<6.67), fair for scores in the intermediate tertile (6.67 – 13.33), and good for scores in the third tertile (>13.33).

RESULTS

The initial search resulted in 43 records identified on WoS, Scopus and Google Scholar, with 14, 12, and 17 records, respectively. Following the removal of the 18 duplicates records, the total number of remaining records amounted to 25. The process of selecting articles based on their titles and abstracts resulted in a decrease in the number of eligible articles to a total of 17. Subsequently, a further review was performed based on the full-text articles. The objective of the study was to only focus on primary research studies that have examined the relationship between psychosocial work environments and well-being among employees. This focus played an essential part in the



decrease in the quantity of records following the inclusion and exclusion criteria outlined in the research question which resulted in a final selection of eight articles. Thus, these studies were considered as eligible for inclusion in the final qualitative synthesis. The identification, screening, eligibility and inclusion process of the articles is presented in the PRISMA flowchart in Figure 1.

Figure 1. PRISMA flowchart of articles selection

Source: Moher et al. (2009)

The overview of eight studies consisting of authors, year of publication, country, variables, study design, sampling, measures, data analysis and results is shown in Table 3. The included studies encompassed a publication timeline ranging from 2002 to 2021, with only two articles being published within the most recent five-year period. All the studies were of journal articles and categorized as cross-sectional studies. Half of the research included in the review originated from

Europe continent, with two studies conducted in Spain, and one study conducted in Belgium and Sweden, respectively. Additionally, three other studies were conducted in various countries within the Asia continent, including China, Pakistan, and Malaysia. Meanwhile, there has been a limited number of studies conducted in the Europe continent, with a particular emphasis on the United States of America (USA). As indicated by these findings, no investigation has been conducted on the relationship between psychosocial work environments and well-being among employees in the continents of Africa and Oceania.

The range of the sample size varied from 208 (Meirun et al., 2020) to 21419 (Pelfrene et al., 2002) respondents. However, half of the studies had a sample size ranging from 208 to 335 respondents. In terms of measures employed for assessing the psychosocial work environment, the Job Content Questionnaire (JCQ) was employed in five out of eight studies, accounting for 62.50% of the total. Furthermore, the measures employed for assessing the well-being, only two studies have employed the same measures, namely SF-36 Health Survey, but there is one study adopting several dimensions only to be measured, meanwhile other studies employed different sets of measures.

Within the selected studies, 75% of them examined the psychosocial work environment through several dimensions inclusive of job demands, job control, social support, effort and reward. Additionally, 87.5% of the studies examined the well-being of employees through various dimensions inclusive of well-being dimensions, psychological well-being dimensions and mental health dimensions. Based on the findings, two studies (25%) reported a positive and significant influence of psychosocial work environment on satisfaction. The job demands had the greatest positive and significant influence on well-being in six out of eight studies (75%). Also, social support demonstrated positive and significant influence on well-being in three studies (37.5%). On the other hand, two studies (25%) reported positive and significant influence of psychosocial work environment on well-being.

In relation to the results of the quality assessment, six studies were found to be of good quality and two studies are categorized as fair quality. Table 4 provides information regarding quality assessment in this review.

Table 3. Overview of the included studies

Symbol	**Authors, date Country**	**Variables**	**Study design**	**Sampling**	**Measures**	**Data analysis**	**Results**
S1	Pelfrene et al. (2002) Belgium	IV: Psychosocial work environment DV: Psychological well-being	cross-sectional study	16 335 male workers and 5084 female workers	- Job Content Questionnaire (JCQ) - - Psychological well-being (feelings of depression, feelings of fatigue, sleep problems and use of	SPSS 10.0	- Psychological job demands and physical job demands are directly associated with indicators of psychological distress; all job control scales and social support scales on the

					psychoactive drugs)		other hand are inversely associated.
S2	Escribà-Agüir & Tenías-Burillo (2004) Spain	IV: Psychosocial work environment DV: Psychological well-being	cross-sectional study	313 hospital professional workers	- Job Content Questionnaire (JCQ) - SF-36 Health Survey (mental health, low vitality, social function limitation, emotional role limitation)	SPSS/PC+and Stata programs	- The psychological demands, social support and job control had significant influence on well-being dimensions.
S3	Escribà-Agüir & Pérez-Hoyos (2007) Spain	IV: Psychosocial work environment DV: Psychological well-being	cross-sectional study	945 emergency doctors and nurses	- Job Content Questionnaire (JCQ) - SF-36 Health Survey (SF-36) (mental health, vitality) and one dimension of Maslach's Burnout Inventory (emotional exhaustion)	NA	- Exposure to high psychological demands increased the probability of low vitality, bad mental health and high emotional exhaustion among doctors and nurses. - Low job control and low co-workers' social support at work were associated with poor psychological well-being only among doctors. Low job supervisors' social support increased the risk of bad mental health among doctors and of high emotional exhaustion among nurses.

S4	Wang et al. (2008) China	IV: Psychosocial work environment (job demand-control model and effort-reward imbalance model) DV: Well-being	cross-sectional study	878 thermal power plant workers	- Psychosocial work environment (job demand-control model and effort-reward imbalance model) - Well-being (job dissatisfaction, psychosomatic complaints and depressive symptoms)	SPSS-11	- High job demands and low job control, or high efforts and low rewards elevated risks of job dissatisfaction, psychosomatic complaints and depressive symptoms.
S5	Schéle et al. (2012) Sweden	IV: Psychosocial work environment DV: Job satisfaction	cross-sectional study	322 dental students	- Dental School Learning Environment Survey (DSLES)16 - Job Content Questionnaire (JCQ) - Quinn and Shepard's27 Facet-Free Job Satisfaction	PASW 18 and AMOS 18	- Psychosocial work environment had a positive and significant influence on satisfaction.
S6	Miller et al. (2018) USA	IV: Psychosocial work factors DV: Job satisfaction	cross-sectional study	1409 hospital patient care workers	- Working factors (job flexibility, break practices, job demands, decision latitude, meal breaks) - - Single item measuring job satisfaction	NA	- The psychosocial work factors are significantly associated with job satisfaction.
S7	Meirun et al. (2020) Pakistan	IV: Psychosocial job demands and resources DV: Psychological health	cross-sectional study	208 female nurses	- Job demands and resources (emotional, organizational justice, climate for conflict management)	Smart-PLS	- The psychosocial job demands and resources had significant influence on well-being ($r = 055$, $p < 0.05$).

					- Five items measuring well-being		
S8	Ibrahim et al. (2021) Malaysia	IV: psychosocial work environment (job control, job demands and social support) DV: psychological well-being (depression, anxiety and stress)	cross-sectional study	335 high school teachers	- Job Content Questionnaire (JCQ) - Depression, Anxiety and Stress Scale (DASS)	SPSS-23	- Job demands had a positive and significant correlation with psychological well-being, i.e., depression ($r = 0.22$), anxiety ($r = 0.20$) and stress ($r = 0.21$) at the level of $p < 0.01$. - Job control had a negative and significant correlation with psychological well-being, i.e., depression ($r = -0.21$), anxiety ($r = -0.23$) and stress ($r = -0.24$) at the level of $p < 0.01$. - Social support had a negative and significant correlation with psychological well-being, i.e., depression ($r = -0.07$), anxiety ($r = -0.07$) and stress ($r = -0.07$) at the

							level of p < 0.05.

Note: IV – Independent variable; DV – Dependent variable

Table 4. Quality assessment using AXIS tool

Appraisal questions	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**
Introduction								
1. Were the aims/objectives of the study clear?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Method								
2. Was the study design appropriate for the stated aim(s)?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Was the sample size justified?	No	No	No	No	No	Yes	Yes	No
4. Was the target/reference population clearly defined? (Is it clear who the research was about?)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7. Were measures undertaken to address and categorise non-responders?	No	No	No	No	No	No	No	No
8. Were the risk factor and outcome variables measured appropriate to the aims of the study?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted or published previously?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10. Is it clear what was used to determined statistical significance and/or precision estimates? (eg, p values, CIs)	Yes	Yes	No	Yes	Yes	No	Yes	Yes
11. Were the methods (including statistical methods) sufficiently described to enable them to be repeated?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Results								
12. Were the basic data adequately described?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

13. Does the response rate raise concerns about non-response bias?	No	No	No	No	No	No	No	No
14. 4 If appropriate, was information about non-responders described?	No	No	No	No	No	No	No	No
15. Were the results internally consistent?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16. Were the results for the analyses described in the methods, presented?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Discussion								
17. Were the authors' discussions and conclusions justified by the results?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18. Were the limitations of the study discussed?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other								
19. Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?	No	No	No	No	No	No	No	No
20. Was ethical approval or consent of participants attained?	No	No	No	Yes	Yes	No	Yes	No
Evaluation	Good	Fair	Fair	Good	Good	Good	Good	Good

DISCUSSION

Psychosocial Work Environments and Well-being

This systematic review of quantitative studies demonstrated that overall psychosocial work environments significantly influenced employees' well-being. The results were consistent despite the fact that the research studies were performed in nations with different cultures. The review encompassed articles that discussed four components of psychosocial work environments comprising job demand and control, effort-reward imbalance, working factors, and job demands and resources. In addition, four instruments were adopted for the purpose of measuring various aspects of well-being. The variety of instruments demonstrates the richness of the concept of well-being. The most frequently studied psychosocial work environment's component is job demand and control, all of which were found to be significantly influenced well-being of employees. This review also included eight cross-sectional studies that Rugulies et al. (2017) did not consider, and utilization of Scopus and Google Scholar databases that Rugulies et al. (2017) did not screen. Moreover, this review also had a narrow scope than a recent review by Niedhammer et al. (2021) who concentrated on health outcomes, and had a two-year longer timeframe, covering article publications up to December 2023 rather than 1st October 2016.

The thorough studies of psychosocial work environments and its influence on well-being have revealed consistent findings across different professional settings. For instance, in healthcare settings, psychological demands, job control, social support and working factors inclusive of break practices, decision latitude, job demands, job flexibility, and meal breaks reportedly had significant influence on employees' overall well-being, or specifically mental health, social function

limitation, emotional role limitation, vitality, emotional exhaustion, job satisfaction, stress, anxiety, and depression (Escribà-Agüir & Pérez-Hoyos, 2007; Escribà-Agüir & Tenías-Burillo, 2004; Meirun et al., 2020; Miller et al., 2018; Schéle et al., 2012). In addition, both educational and industrial settings are found in the review, demonstrating consistent findings that increased job demands are significantly associated to high levels of depressive symptoms, job dissatisfaction and psychosomatic complaints (Ibrahim et al., 2021; Wang et al., 2008). Even though there are only three professional settings are found in the review, there is an extensive study conducted by Pelfrene et al. (2002) that involved 25 large companies and public administrations across Belgium, reported that psychological job demands, physical job demands, job control and social support are significantly influenced the psychological well-being components inclusive of feelings of depression, feelings of fatigue, sleep problems, and use of psychoactive drugs. Based on the findings from this review, the examination on the various components of psychosocial work environments and well-being of different professional settings is important.

Well-being of employees has been mainly measured in terms of mental health outcomes, consistent with prior findings of review by Niedhammer et al. (2021). The instruments adopted in the studies included in the review are varied because the findings of this review are based on general definition of well-being. Moreover, this could be due to the concept of well-being that has been defined through different interpretations (Tov, 2018). However, how well-being is defined and measured in a study will influence its indicators, correlates, and outcomes. Therefore, utilizing a more comprehensive measurement approach would enhance our knowledge of the association between psychosocial work environments and the promotion of positive well-being among employees.

The reviewed papers mainly focus on specific settings. In order to obtain comprehensive knowledge on the association between psychosocial work environments and well-being, future studies should integrate a wider range of settings, such as government, private, social and cultural, business, corporate, agriculture, and other settings. Different settings provide unique working environments that can have significant impacts on employees' well-being. Evidently, positive psychosocial work environments are crucial to foster positive well-being, avoiding high turnover intention as reported by Malaysia studies (Hou Hong Ng et al., 2019; Murad Miah & IntanAdhaHafit, 2020) and international studies (Kurniawaty et al., 2019; Nanda et al., 2020; Wan et al., 2018). In addition, establishing healthy and positive working environment also will significantly enhance employees' work performances (Davidescu et al., 2020; Luedech & Chutikarn, 2020; Sugiarti, 2021). Thus, more research studies across different settings would make a valuable contribution to improve the understanding of the association between psychosocial work environments and the well-being of employees, and provide useful information that can be used to develop effective strategies to foster a more positive and healthier workplace in various settings.

Limitations

There are several limitations in this study that need to be taken into consideration. Firstly, although a thorough search was performed across three electronic databases, WoS, Scopus and Google Scholar, there is possibility that an article has been overlooked if it was not indexed in any of these databases. However, the possibility is minimal due to the extensive search of each individual

database. Next, the inclusion criteria limited to English language may have resulted in the removal of relevant research articles. Nevertheless, the included research articles in the review were sourced from both European and Asian regions should be acknowledged as these publications indicate that scholars from non-English speaking countries are contributing to English language publications. Additionally, other inclusion criteria comprising of restriction to peer-reviewed English articles may have led to bias towards interventions that proved beneficial.

CONCLUSION

The systematic review of quantitative studies indicate that psychosocial work environment significantly influenced employees' well-being, as reported by all studies. However, there appears to be a lack of scholarly attention towards the possible influence of psychosocial work environments on the overall well-being of employees on a global scale. Therefore, there are certain gaps that have not yet been addressed. The areas of research studies include determining potential differences across various contexts, examining the influence of organizational system and culture on psychosocial work environments and well-being, and developing methods to measure the level of well-being that is enhanced by positive psychosocial work environments. The strength of evidence of this systematic review appears to be relatively weak. In order to enhance the strength of the evidence, intervention studies are highly recommended to be conducted that specifically examine the psychosocial work environments and their direct and indirect effects on the well-being of employees. The results of indirect effects and the mediating effects of the intervention studies should be acknowledged. This will provide valuable information to the health and safety policy makers, organizations, mental health practitioners and researchers to implement positive and healthier psychosocial work environment and fostering well-being of employees.

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