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Determinants associated with the practice of physical activity in workers: an integrative review

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ABSTRACT: Background: Physical activity (PA) is essential for the prevention of chronic diseases and improving workers' quality of life; however, adherence to recommended levels remains low worldwide. **Aims:** This study aimed to identify and analyze the determinants influencing PA practice among workers. **Methods:** An integrative review was conducted following the PRISMA guidelines. Searches were performed in Scopus, Web of Science, and PubMed databases for articles published between 2014 and 2024, using keywords related to occupational health and physical activity. **Results:** Eighty observational studies were analyzed. The determinants of PA were categorized into five dimensions: organizational, sociodemographic, psychological, social, and environmental. Organizational factors (e.g., working hours, job demand) were the most frequently identified determinants. **Conclusion:** Determinants of PA in workers are multifactorial. Effective workplace interventions must go beyond individual incentives and address organizational barriers and social support to increase engagement in various work settings.

Keywords: Physical Activity; Occupational Health; Workers; Social Support; Workplace Interventions.

Determinantes associados à prática de atividade física em trabalhadores: uma revisão integrativa

RESUMO: Contexto: A atividade física (AF) é essencial para a prevenção de doenças crônicas e melhoria da qualidade de vida dos trabalhadores; no entanto, a adesão aos níveis recomendados permanece baixa mundialmente. **Objetivos:** Este estudo buscou identificar e analisar os determinantes que influenciam a prática de AF entre trabalhadores. **Métodos:** Foi realizada uma revisão integrativa seguindo as diretrizes do PRISMA. As buscas foram conduzidas nas bases de dados Scopus, Web of Science e PubMed por artigos publicados entre 2014 e 2024, utilizando palavras-chave relacionadas à saúde ocupacional e atividade física. **Resultados:** Foram analisados 80 estudos observacionais. Os determinantes da AF foram categorizados em cinco dimensões: organizacional, sociodemográfica, psicológica, social e ambiental. Os fatores organizacionais (ex: jornada de trabalho, demanda laboral) foram os determinantes mais frequentemente identificados. **Conclusão:** Os determinantes da AF em trabalhadores são multifatoriais. Intervenções eficazes no local de trabalho devem ir além de incentivos individuais e abordar barreiras organizacionais e o apoio social para aumentar o engajamento em diversos ambientes laborais.

Palavras-chave: Atividade Física; Saúde Ocupacional; Trabalhadores; Apoio Social; Intervenções no Local de Trabalho.

Determinantes asociados a la práctica de actividad física en trabajadores: una revisión integrativa

RESUMEN: Antecedentes: La actividad física (AF) es fundamental para prevenir enfermedades crónicas y mejorar la calidad de vida de los trabajadores; sin embargo, la adherencia a los niveles recomendados sigue siendo baja a nivel mundial. **Objetivos:** Este estudio buscó identificar y analizar los determinantes que influyen en la práctica de AF entre los trabajadores. **Métodos:** Se realizó una revisión integrativa siguiendo las directrices PRISMA. Las búsquedas se llevaron a cabo en las bases de datos Scopus, Web of Science y PubMed para artículos publicados entre 2014 y 2024, utilizando palabras clave relacionadas con la salud ocupacional y la actividad física. **Resultados:** Se analizaron 80 estudios observacionales. Los determinantes de la AF se categorizaron en cinco dimensiones: organizacional, sociodemográfica, psicológica, social y ambiental. Los factores organizacionales (ej. jornada laboral, demanda de trabajo) fueron los determinantes identificados con mayor frecuencia. **Conclusión:** Los determinantes de la AF en trabajadores son multifactoriales. Las intervenciones efectivas en el lugar de trabajo deben ir más allá de los incentivos individuales y abordar las barreras organizacionales y el apoyo social para aumentar la participación en diversos entornos laborales.

Palabras clave: Actividad física; Salud ocupacional; Trabajadores; Apoyo social; Intervenciones en el lugar de trabajo.

INTRODUCTION

Physical activity (PA) is defined as any bodily movement produced by skeletal muscles that results in energy expenditure above resting levels. It encompasses activities performed across various life domains, including work, transportation, household chores, and leisure (Cunha, 2020; WHO, 2020). Regular engagement in PA is crucial for the prevention and management of noncommunicable diseases such as cardiovascular, respiratory, and metabolic disorders, as well as for mental health and cancer prevention (Paula et al., 2021). Given these benefits, PA is widely recognized as a fundamental determinant of quality of life and is strongly endorsed by major global health organizations (Bayles, 2023; Brasil, 2021; WHO, 2020).

The World Health Organization (WHO) recommends that adults engage in at least 150 to 300 minutes of moderate-intensity or 75 to 150 minutes of vigorous-intensity physical activity per week to maintain health (Bayles, 2023; Brasil, 2021; WHO, 2020). Despite these well-established guidelines, a substantial portion of the global adult population fails to achieve these minimum levels (Nikitara et al., 2021; Strain et al., 2024). Among workers, participation in PA is influenced by a complex interplay of factors that extends beyond individual choices. These determinants encompass a variety of biological, demographic, psychological, social, and behavioral dimensions which shape their living and working conditions (Choi et al., 2017; Santos et al., 2018).

Workplace constraints, such as limited time availability and high productivity demands, often act as significant barriers to PA. These barriers are frequently associated with negative health behaviors, including sedentary lifestyles, poor diet, and substance abuse (Garcia et al.,

2022; Macedo et al., 2024; Santos et al., 2018). The work environment, in turn, interacts with sociodemographic and psychosocial factors, directly impacting workers' quality of life and professional performance (Morgado et al., 2020; Santos et al., 2018). Sociodemographic variables include age, gender, marital status, income, and number of children (Lopes et al., 2021; L. B. P. da Silva, 2020). Psychosocial factors encompass occupational stress and the psychological burden generated by high job demands (Barbosa et al., 2020).

Understanding these determinants is essential for planning and implementing effective public policies aimed at workers' health (Santos et al., 2018). Previous systematic reviews have highlighted that barriers to physical activity are multifactorial and vary significantly across different life domains, such as leisure and transportation (Christofoletti et al., 2022). However, considering that adults spend a large portion of their waking hours at work, specific determinants within the occupational setting require distinct attention. Therefore, the objective of this integrative review is to investigate the relationship between these determinants and the practice of PA among workers, aiming to improve health promotion interventions.

METHODS

This study was conducted as an integrative review of the literature. This methodological approach was selected to allow for the synthesis of evidence from diverse study designs, including quantitative, qualitative, and mixed-methods research, providing a comprehensive understanding of the topic. The review process and reporting were guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.

Search strategy and study selection

Electronic searches were performed in the Scopus, Web of Science, and PubMed databases. The search strategy utilized descriptors and keywords applied to [Article title, Abstract, Keywords] fields. Based on the PICOS strategy, the following search string was constructed: ("Occupational Groups" OR "Employees" OR "Personnel" OR "Workers" OR "Group, Occupational" OR "Groups, Occupational" OR "Occupational Group" OR "Employee" OR "Worker") AND ("Occupational Health" OR "Worker's Health" OR "Employee Health" OR "Workers' Health" OR "Industrial Health") AND ("Physical Activity" OR "Motor Activity" OR "Exercise" OR "Physical Education" OR "Sedentary" OR "Active Transport" OR "Physical Inactivity" OR "Bicycle" OR "Bicycling" OR "Bike"). No language filters were applied during the search phase. However, a time filter was established to include only studies published between January 2014 and December 2024, aiming to capture recent societal changes and trends in occupational health.

To be included, studies were required to assess physical activity (PA) using validated questionnaires or accelerometers (Maes et al., 2020). The eligibility criteria were: (a) observational (cross-sectional, longitudinal) and qualitative studies investigating determinants related to PA among adult workers; (b) articles published in English, Portuguese, or Spanish; and (c) studies analyzing PA in any of its domains (leisure, commuting, or occupational). The exclusion criteria were: (a) literature reviews, editorials, and conference abstracts; and (b) studies focused exclusively on professional athletes, due to the distinct nature of PA in this population.

To facilitate the screening and organization of studies, the Rayyan web application (available at https://www.rayyan.ai/) was utilized.

Data extraction and data analysis

The selection process was conducted by two independent reviewers in three stages: (1) title screening; (2) abstract screening; and (3) full-text review. Any disagreements regarding inclusion were resolved by a third evaluator. Corresponding authors were contacted to provide full texts when necessary.

The extracted data included methodological and geographical characteristics, study design, and objectives. Sample details consisted of sample size, age, and sex distribution. Regarding the occupational context, the sector and specific job type were recorded. Finally, physical activity variables included measurement instruments, specific domains assessed (leisure, occupational, commuting), PA levels, and the identified determinants.

For the analysis, determinants were extracted and classified as barriers (any factor negatively associated with physical activity or cited as an impediment) or facilitators (any factor positively associated with physical activity or cited as a motivator).

To ensure consistency, the factors were categorized into five dimensions: (1) Organizational: work shifts, type of occupation, company infrastructure, organizational culture, and workload; (2) Sociodemographic: age, sex, marital status, education, income, and number of children; (3) Psychological: perceived stress, self-efficacy, intrinsic motivation, life satisfaction, and depressive symptoms; (4) Social: social support from colleagues, supervisors, and family; and (5) Environmental: access to practice locations, safety during commute, and the built environment. Notably, "lack of time" was classified under the Organizational or Domestic dimensions, rather than Psychological, to reflect the structural nature of this barrier.

RESULTS

A total of 4538 records were identified through database searching. Following the screening process (removal of duplicates and application of eligibility criteria), 80 studies were selected for the final analysis (Figure 1).

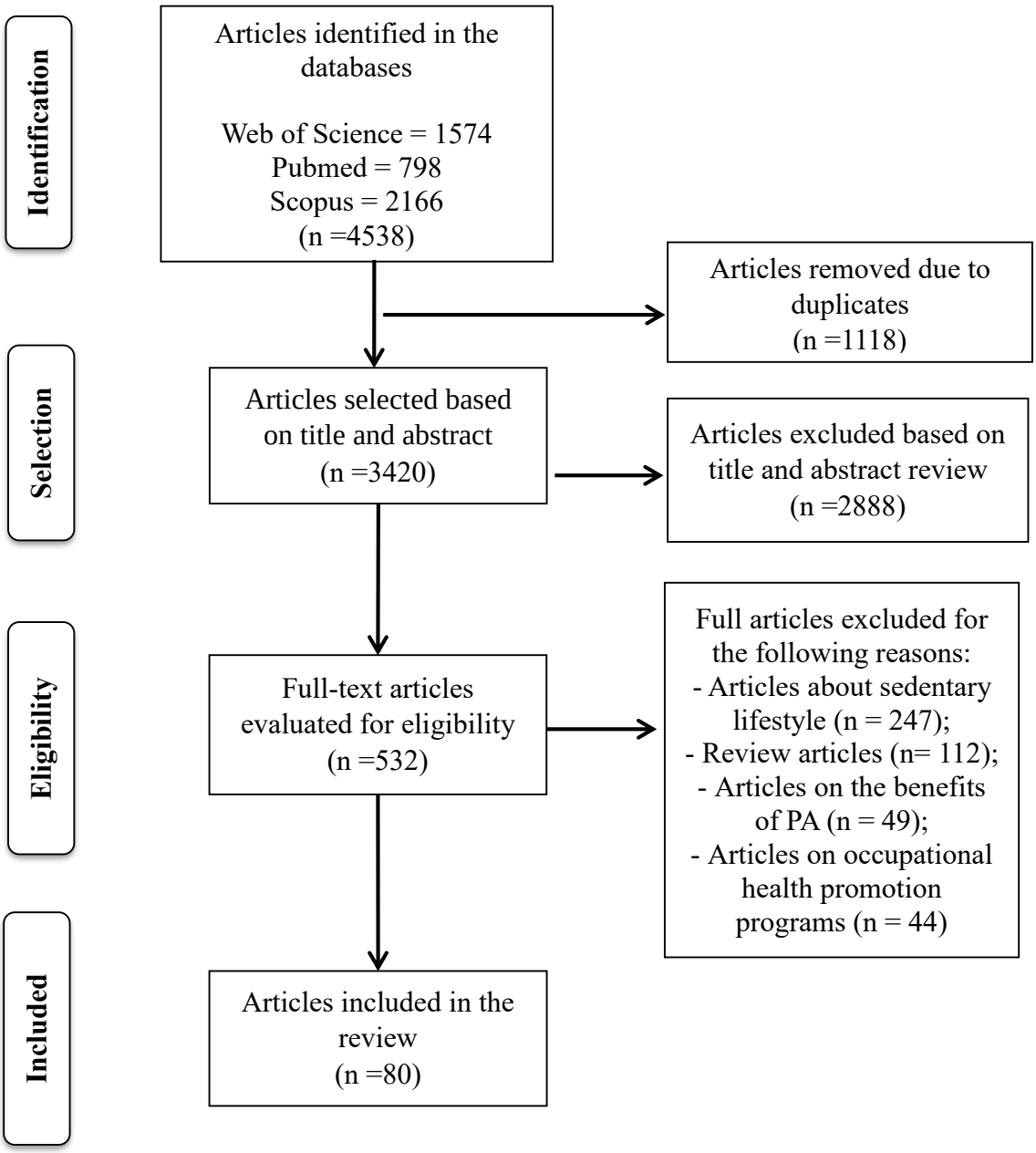

Figure 1. Flow diagram for inclusion of studies in this systematic review

A significant portion of the included studies (33%, n=29) were published within the last three years of the search period. The median sample size across studies was 472 participants. Geographically, research was predominantly conducted in Brazil (n=19) and the USA (n=15), followed by the Netherlands (n=6), Japan (n=5), and Australia (n=4). Regarding study design, the majority were quantitative, frequently utilizing self-reported questionnaires (e.g., IPAQ) or objective measures (e.g., ActiGraph accelerometers).

The reviewed studies covered a diverse range of occupational categories. A significant proportion focused on office-based and administrative roles, including public servants, banking staff, IT professionals, HR managers, and university employees (Halling Ullberg et al., 2023; Smith et al., 2018; Thompson et al., 2018). The healthcare (e.g., nurses, hospital staff) and education sectors (e.g., teachers, researchers) were also well-represented (Mix et al., 2019; M. Silva et al., 2014; Song et al., 2020). Additionally, operational and manual labor roles were analyzed, such as construction workers, cleaners, farmers, firefighters, and professional drivers (e.g., motorcycle taxi drivers and commercial vehicle owners) (Cyma et al., 2018; Koornneef et al., 2017; Teixeira et al., 2020).

Regarding the distribution of studies by dimension, the Organizational dimension was the most investigated, comprising 55% of the analyzed studies (n=45). The Sociodemographic and Psychological dimensions represented 16% each (n=13), while the Social dimension was the least explored, appearing in 13% of the studies (n=10). Among the most investigated determinants associated with PA, we can mention the type of occupation (14%), sex (9%) income (7%). The occupational sectors investigated were education, health, industry, desk, transport, agricultural, construction, manufacturing, security, business, economy and administrative. Regarding the PA domains investigated, most of the studies investigated total PA (n=39, 42%), followed by leisure (n=24, 26%) and occupational (n=23, 25%). For more information, see Table 1.

Table 1 - Information on studies included in the review.

Dimension	Factors	PA Domain	Number of Studies
Organizational	Work Modalities; Jobs; Work shift; Working hours; Working conditions; Type of occupation; Built environment; Lack of time; Job/Labor demand	PA; OPA; LPA; TPA; DPA	45 (55%)
Sociodemographic	Sex; Education; Age; Marital status; Children; Income	PA; LPA; TPA; DPA; OPA	13 (16%)
Psychological	Depressive symptoms; Job demand; Occupational Stress; Fatigue; Job satisfaction; Self-motivation; Life	LPA; TPA; PA; OPA	13 (16%)

	satisfaction; Work capacity;		
Social	Social support; Organizational support; Built environment	LPA; PA; OPA	10 (13%)

Note: PA = Physical Activity; LPA = Leisure Physical Activity; OPA = Occupational Physical Activity; TPA = Transport Physical Activity; DPA = Domestic Physical Activity

DISCUSSION

This integrative review aimed to investigate the determinants associated with physical activity (PA) practice among workers. To provide a structured analysis, the findings are discussed according to the five dimensions identified in the results: organizational, sociodemographic, psychological, social, and environmental.

Organizational determinants

Organizational conditions—including work modalities, shift schedules, occupation type, and the physical environment—were the most frequently identified determinants in this review. These factors play a pivotal role in shaping workers' physical activity behaviors.

Work Modalities and Shifts

Telework presents a dual scenario, often modulated by the specific context of the COVID-19 pandemic in which many of these studies were conducted. While the flexibility of remote work was found to facilitate physical activity (PA) for some groups, particularly men and married individuals (Scoditti et al., 2024), other findings suggest a negative impact. Conflicting domestic demands, lack of space, and blurred boundaries between work and home have been associated with reduced PA (Fukushima et al., 2021; Jenkins et al., 2024; Peña Téllez et al., 2022; Webber et al., 2023). Furthermore, evidence indicates that teleworkers may exhibit higher inactivity levels compared to on-site workers (Tomonaga et al., 2023), largely due to the elimination of active commuting.

Regarding shift work, the relationship with PA is complex. Contrary to the assumption that shift workers are less active, evidence suggests no significant difference in total or leisure-time PA levels compared to day workers (Fenwick et al., 2023; Hulsegge et al., 2017; Loef et al., 2017; Rampisheh et al., 2022). Similarly, Van de Langenberg et al. (2019) observed that while night-shift workers are less exposed to daylight, their total PA levels remain comparable. However, inconsistencies remain, as varied engagement depends on the specific shift type (Peplonska et al., 2014).

Occupation Type and Work Environment

Occupation type is a critical determinant of PA domains. Workers in operational and manual roles exhibit high levels of Occupational Physical Activity (OPA) (Arca et al., 2023; Barrera et al., 2019; Biernat, 2015). However, high OPA is often associated with lower Leisure-Time Physical Activity (LTPA), a phenomenon known as the "physical activity paradox," where workers feel sufficiently active during the day and lack energy for leisure exercise (Azevedo et al., 2021; Bláfoss et al., 2019). Conversely, administrative and office-based workers are predominantly sedentary during working hours (Biernat, 2015; Petarli et al., 2015) but may have higher engagement in LTPA depending on socioeconomic factors. Within the healthcare sector, disparities exist; for instance, nurses often record higher step counts than physicians due to the nature of their rounds (Jun et al., 2019; Reed et al., 2018).

Regarding the physical environment, infrastructure plays a facilitative role. Open office layouts have been linked to increased movement (Jenkins et al., 2024; Lindberg et al., 2018), while the availability of facilities such as showers and on-site exercise programs significantly encourages active commuting and workout breaks (B. Da Silva et al., 2024; Dodson et al., 2018; Kolbe-Alexander et al., 2014; Nehme et al., 2017).

Work Hours and Employment Policies

Working hours represent a significant barrier to physical activity. Long workdays, often compounded by family responsibilities, lead to severe time constraints, which are consistently reported as a primary impediment to exercise (Leininger et al., 2015; Santos et al., 2018; A. M. R. da Silva et al., 2018; R. R. V. Silva et al., 2021; Zaranza Monteiro et al., 2018). However, the context of the COVID-19 pandemic revealed nuances; for instance, some essential workers maintained or increased their activity levels despite long hours, suggesting that external motivators or altered routines can influence behavior (Maier et al., 2023; Martin et al., 2022). Regarding employment status, self-employed workers have been observed to be less active than formally employed workers, a disparity potentially linked to financial insecurity and the lack of structured time off (Dias et al., 2017; Nemoto et al., 2022).

In summary, workplace policies must account for these organizational conditions to effectively promote health and PA among workers.

Psychological determinants

Although often perceived subjectively, lack of time was reported as a major barrier linked to organizational factors (Jun et al., 2019). Furthermore, psychological barriers such as depressive symptoms significantly impact PA adherence, particularly among administrative

staff (Beck Filho et al., 2023). This constraint is particularly pronounced among women facing the "double burden" (Zaranza Monteiro et al., 2018).

Stress and Fatigue

The relationship between occupational stress and physical activity is bidirectional and complex. Among workers with physically demanding jobs, engagement in Leisure-Time Physical Activity (LTPA) has been shown to mitigate stress levels (Soteriades et al., 2022). Conversely, Occupational Physical Activity (OPA) often shows a positive association with job stress; higher physical work demands typically correlate with increased stress levels. Regarding job satisfaction, lower levels of physical exertion at work are generally associated with higher satisfaction (de-Pedro-Jiménez et al., 2021).

High job demands and psychological strain are inversely related to LTPA: as work strain increases, participation in leisure-time exercise tends to decrease (Fukai et al., 2020; Griep et al., 2015; Zaranza Monteiro et al., 2018). This workload-induced fatigue acts as a significant barrier to engaging in PA after work (Dias et al., 2017; van der Put & Ellwardt, 2022; Zaranza Monteiro et al., 2018). However, a reciprocal effect exists, where regular PA participation can ultimately reduce the perception of fatigue (Zalewska et al., 2024).

Motivation and Satisfaction

Beyond stress, intrinsic motivation stands out as a critical predictor positively related to physical activity (PA) adherence (Vancampfort et al., 2023). Similarly, overall life and job satisfaction are associated with a greater tendency toward Leisure-Time Physical Activity (LTPA) (Alsulaimi et al., 2023; Dallmeyer et al., 2023; Harada et al., 2024). This relationship is likely bidirectional: PA serves as a mechanism to alleviate job stress, thereby enhancing overall satisfaction (Dallmeyer et al., 2023). Furthermore, regular PA improves mood states and reduces symptoms of depression and anxiety, contributing to higher life satisfaction (Alsulaimi et al., 2023).

Finally, perceived work ability—the physical and mental capacity to meet job demands—influences behavior. Higher work ability is associated with a greater frequency of LTPA, particularly vigorous-intensity exercise, a trend observed even among workers in physically demanding roles compared to those with lower work capacity (Nawrocka et al., 2018; Päivärinne et al., 2019).

Social determinants

Social support, defined as the exchange of information and resources to achieve goals, is vital for consolidating healthy habits (Heaney & Israel, 2008). Evidence suggests that

individual motivation alone is often insufficient to sustain active behaviors over the long term (Safi et al., 2024; Treiber et al., 1991).

Support and Incentives

Workers who receive support from supervisors, colleagues, friends, or family tend to maintain higher levels of Leisure-Time Physical Activity (LTPA) (Almeida et al., 2023). Participating in group exercises, for instance, demonstrates higher adherence rates compared to individual activities (Howie et al., 2021). Informal support from coworkers is particularly effective, fostering a sense of belonging and mutual motivation (van der Put & Ellwardt, 2022). Furthermore, the mere observation of active colleagues or the perception that the organization values employee health can positively influence behavior (Hipp et al., 2017).

Gender differences exist regarding this determinant; women are particularly more likely to engage in PA when social support is present (Griep et al., 2015). However, nuance is required, as specific evidence suggests that very high levels of support might paradoxically be associated with a reduced frequency of moderate-to-vigorous PA in some female cohorts (Alves et al., 2022).

Beyond social dynamics, formal incentives such as workplace competitions, prizes, and financial rewards have been shown to increase participation in exercise programs (Safi et al., 2024). Technology also plays a facilitative role; interventions utilizing software to send reminders and provide personalized feedback significantly improve PA adherence (Buffey et al., 2023; Monnaatsie et al., 2023).

Sociodemographic and economic determinants

Gender and Physical Activity

Gender differences significantly shape physical activity (PA) patterns. Generally, men engage in higher levels of vigorous-intensity PA across most life domains, including leisure, work, and transportation (Choi et al., 2017; Mutikainen et al., 2014; Rampisheh et al., 2022; Rovo et al., 2020). This increased activity level has been positively linked to fewer work absences and better overall quality of life (Rampisheh et al., 2022). However, socioeconomic nuances exist; specifically, men from higher socioeconomic strata have been observed to engage in less PA, indicating a need for targeted health promotion interventions (Khoramrooz et al., 2023).

Conversely, women report a higher prevalence of barriers to PA, primarily attributed to time constraints resulting from the burden of household chores and childcare responsibilities (Duman & Yurtseven, 2021). Consequently, married women and those with lower incomes are

identified as priority groups for PA programs (Khoramrooz et al., 2023). Despite these barriers, women often demonstrate higher engagement in specific domains, such as active commuting—influenced by health and body image concerns—and consistently perform a greater volume of domestic physical activity (Choi et al., 2017; R. R. V. Silva et al., 2021).

Age and Marital Status

Age and Marital Status Age presents conflicting patterns regarding physical activity (PA). While some evidence suggests that PA levels generally decline with advancing age (Mutikainen et al., 2014), other studies indicate that workers over 35 may engage in higher levels of moderate-to-vigorous activity compared to their younger counterparts (Rampisheh et al., 2022). Specifically, older workers have been observed to be more active during commuting (A. M. R. da Silva et al., 2018; R. R. V. Silva et al., 2021). However, the perception of barriers, particularly those related to family responsibilities, tends to intensify with age (Duman & Yurtseven, 2021).

Marital status serves as a distinct determinant. Unmarried individuals generally exhibit higher levels of PA (Andrade et al., 2019; Santos et al., 2018; A. M. R. da Silva et al., 2018). In contrast, married workers report a higher prevalence of barriers, primarily attributed to the significant time allocated to family obligations (Duman & Yurtseven, 2021; K. S. Silva et al., 2016). While the majority of the literature supports this trend, exceptions exist; for instance, some findings suggest higher activity levels among married individuals with children in specific industrial contexts (Kolaç et al., 2018).

Income and Education

Socioeconomic status, specifically income and education, plays a pivotal role in determining physical activity (PA) behaviors. Regarding income, disparities are evident across domains. Evidence suggests that low-income individuals may engage in less PA during transportation, a trend partly attributed to limited access to resources or specific commuting constraints (de-Pedro-Jiménez et al., 2021; Khoramrooz et al., 2023). In contrast, high-income individuals consistently demonstrate higher engagement in Leisure-Time Physical Activity (LTPA) (K. S. Silva et al., 2016; R. R. V. Silva et al., 2019).

Finally, education level exerts a strong influence on the type of occupation and, consequently, on Occupational Physical Activity (OPA). Individuals with lower educational attainment are more likely to hold physically demanding jobs, resulting in higher OPA. Conversely, higher educational levels are strongly correlated with sedentary occupations, typically in administrative or office-based roles (Gonçalves et al., 2017).

In summary, this integrative review synthesized the relationship between various determinants and physical activity (PA), highlighting the complexity of these interactions across five distinct dimensions. The analysis reveals a scarcity of research comprehensively investigating these factors simultaneously, underscoring the need for future studies that integrate multiple dimensions rather than analyzing them in isolation.

A significant limitation of this review, however, concerns the inclusion of studies conducted during the COVID-19 pandemic. While these studies offer data on worker behavior in crisis situations, it is recognized that health restrictions and social isolation acted as significant confounding factors. The reduction in physical activity and the abrupt transition to telework observed in these studies were predominantly responses to external health impositions and not reflections of standard organizational policies or individual choices. Therefore, the findings regarding barriers to physical activity from these specific studies should be interpreted with caution, as they may reflect the mobility limitations imposed by confinement, and not necessarily the usual dynamics of work relationships under normal conditions.

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CONFLICTS OF INTEREST

None to declare.

REFERENCES

ALMEIDA, Letícia Yamawaka de *et al.* Social support in workers' physical activity. **Acta Paulista de Enfermagem**, v. 37, p. eAPE01521, 25 out. 2023.

ALSULAIMI, Maya *et al.* The Relationship between Physical Activity and Life Satisfaction among Omani Teachers. **International Journal of Human Movement and Sports Sciences**, v. 11, n. 1, p. 152-161, 2023.

ALVES, Roberta Arruda *et al.* Association between occupational stress, social support at work, and physical activity in outsourced workers. **Revista Brasileira de Medicina do Trabalho**, v. 20, n. 04, p. 615–623, 2022.

ANDRADE, Rubian Diego *et al.* Constraints to leisure-time physical activity among Brazilian workers. **Annals of Leisure Research**, v. 22, n. 2, p. 202–214, 15 mar. 2019.

ARCA, Muhammed; DURMAZ, Elif Dilara; TÜRKEN, Askeri. Comparison of physical activity, fatigue, and dynamic balance levels of health workers according to their working positions1. **Work**, v. 76, n. 3, p. 1105–1111, 10 nov. 2023.

AZEVEDO, Leonardo Malta *et al.* Are blue-collar workers more physically active than white-collar at work? **Archives of Environmental & Occupational Health**, v. 76, n. 6, p. 338–347, 18 ago. 2021.

BARBOSA, Thaizi Campos *et al.* Estresse percebido e nível de atividade física em docentes de um Instituto Federal. **Saúde em Revista**, v. 20, n. 52, p. 47–56, 9 nov. 2020.

BARRERA, E. A. V *et al.* Sociodemographic, occupational profile and physical activity among workers from a physical activity community program. **Revista Andaluza de Medicina del Deporte**, v. 12, n. 2, p. 71-75, 2019.
BAYLES, Madeline Paternostro. Teste de exercício e prescrição do ACSM. Lippincott Williams & Wilkins, 2023.
BECK FILHO, Jorge Augusto *et al.* Associação entre sintomas depressivos e inatividade física em trabalhadores técnico-administrativos de uma universidade pública do Nordeste do Brasil: estudo transversal. **Revista Brasileira de Saúde Ocupacional**, v. 48, 2023.
BIERNAT, Elżbieta. Factors increasing the risk of inactivity among administrative, technical, and manual workers in Warszawa public institutions. **International Journal of Occupational Medicine and Environmental Health**, v. 28, n. 2, p. 283–294, 2015.
BLÁFOSS, Rúni *et al.* Is fatigue after work a barrier for leisure-time physical activity? Cross-sectional study among 10,000 adults from the general working population. Scandinavian **Journal of Public Health**, v. 47, n. 3, p. 383–391, 2 maio 2019.
BRASIL. GUIA DE ATIVIDADE FÍSICA PARA A POPULAÇÃO BRASILEIRA. **Ministério da Saúde**, v. 1, p. 54, 2021.
BUFFEY, Aidan J. *et al.* The Effect of an Electronic Passive Prompt Intervention on Prolonged Occupational Sitting and Light-Intensity Physical Activity in Desk-Based Adults Working from Home during COVID-19 in Ireland. **International Journal of Environmental Research and Public Health**, v. 20, n. 13, p. 6294, 4 jul. 2023.
CHOI, Jaesung *et al.* Correlates associated with participation in physical activity among adults: a systematic review of reviews and update. **BMC Public Health**, v. 17, n. 1, p. 356, 24 dez. 2017.
CHRISTOFOLETTI, Marina *et al.* Barreiras e facilitadores para a prática de atividade física em diferentes domínios no Brasil: uma revisão sistemática. **Ciência & Saúde Coletiva**, v. 27, n. 9, p. 3487–3502, set. 2022.
CUNHA, Cláudio L. Pereira da. Influência da Atividade Física na Hipertensão Arterial em Trabalhadores. **Arquivos Brasileiros de Cardiologia**, v. 114, n. 5, p. 762–763, 22 maio 2020.
CYMA, Magdalena *et al.* Postural Stability and Physical Activity of Workers Working at Height. **American Journal of Men's Health**, v. 12, n. 4, p. 1068–1073, 23 jul. 2018.
DA SILVA, Baptiste *et al.* Commuting and Acceptance of Worksite Physical Activity Opportunities: Insights From a French University Hospital. **Workplace Health & Safety**, v. 72, n. 4, p. 153–160, 24 abr. 2024.
DALLMEYER, Sören; WICKER, Pamela; BREUER, Christoph. The relationship between leisure-time physical activity and job satisfaction: A dynamic panel data approach. **Journal of Occupational Health**, v. 65, n. 1, 4 jan. 2023.
DE-PEDRO-JIMÉNEZ, Domingo *et al.* Occupational and Leisure-Time Physical Activity Related to Job Stress and Job Satisfaction: Correspondence Analysis on a Population-Based Study. **International Journal of Environmental Research and Public Health**, v. 18, n. 21, p. 11220, 26 out. 2021.
DIAS, Douglas Fernando *et al.* Insufficient free-time physical activity and occupational factors in Brazilian public school teachers. **Revista de Saúde Pública**, v. 51, n. 0, 20 jul. 2017.
DODSON, Elizabeth A. *et al.* Does Availability of Worksite Supports for Physical Activity Differ by Industry and Occupation? **American Journal of Health Promotion**, v. 32, n. 3, p. 517–526, 3 mar. 2018.
DUMAN, FERAY KÜÇÜKBAŞ; YURTSEVEN, Cemile Nihal. Determining Physical Activity Barriers for White Collar Workers. **Age**, v. 18, n. 25, p. 45, 2021.
FENWICK, Matthew J. *et al.* Comparison of adult shift and non-shift workers' physical activity and sleep behaviours: cross-sectional analysis from the Household Income and Labour

Dynamics of Australia (HILDA) cohort. **Journal of Public Health**, v. 31, n. 10, p. 1621–1629, 15 out. 2023.
FUKAI, Kota *et al.* The association of leisure-time physical activity and walking during commuting to work with depressive symptoms among Japanese workers: A cross-sectional study. **Journal of Occupational Health**, v. 62, n. 1, 17 jan. 2020.
FUKUSHIMA, Noritoshi *et al.* Associations of working from home with occupational physical activity and sedentary behavior under the COVID-19 pandemic. **Journal of Occupational Health**, v. 63, n. 1, 10 jan. 2021.
GARCIA, Leandro *et al.* Barriers and facilitators of domain-specific physical activity: a systematic review of reviews. **BMC Public Health**, v. 22, n. 1, p. 1964, 26 out. 2022.
GONÇALVES, E. C. A. *et al.* Baixos níveis de atividade física em servidores públicos do sul do Brasil: associação com fatores sociodemográficos, hipercolesterolemia e diabetes. **Revista Andaluza de Medicina del Deporte**, v. 10, n. 2, p. 54–59, jun. 2017.
GRIEP, Rosane Härter *et al.* Job strain and unhealthy lifestyle: results from the baseline cohort study, Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). **BMC Public Health**, v. 15, n. 1, p. 309, 31 dez. 2015.
HALLING ULLBERG, Oskar *et al.* Workplace health promotion to facilitate physical activity among office workers in Sweden. **Frontiers in Public Health**, v. 11, 13 abr. 2023.
HARADA, Kazuhiro *et al.* Cross-sectional associations of weekly time, social context, and motivation of exercise with mental health among workers. **International Archives of Occupational and Environmental Health**, v. 97, n. 1, p. 23–33, 10 jan. 2024.
HEANEY, Catherine A.; ISRAEL, Barbara A. Social networks and social support. **Health behavior and health education: Theory, research, and practice**, v. 4, n. 1, p. 189–210, 2008.
HIPP, J. Aaron *et al.* Mixed methods analysis of eighteen worksite policies, programs, and environments for physical activity. **International Journal of Behavioral Nutrition and Physical Activity**, v. 14, n. 1, p. 79, 14 dez. 2017.
HOWIE, Erin K. *et al.* Effectiveness and implementation of a virtual versus in-person walking program among employees on physical activity, fitness, and cognition. **Health and Technology**, v. 11, n. 4, p. 909–917, 13 jul. 2021.
HULSEGGE, Gerben *et al.* Shift workers have similar leisure-time physical activity levels as day workers but are more sedentary at work. **Scandinavian journal of work, environment & health**, p. 127–135, 2017.
JENKINS, Kailas *et al.* Exploring environmental cues to instigate physical movement in the workplace. **Health Psychology and Behavioral Medicine**, v. 12, n. 1, 31 dez. 2024.
JUN, So Yeon *et al.* Physical Activity of Workers in a Hospital. **International Journal of Environmental Research and Public Health**, v. 16, n. 4, p. 532, 13 fev. 2019.
KHORAMROOZ, Maryam *et al.* Socioeconomic inequalities in employees' health-enhancing physical activity: Evidence from the SHAHWAR cohort study in Iran. **PLOS ONE**, v. 18, n. 5, p. e0285620, 15 maio 2023.
KOLAÇ, Nurcan *et al.* Health perception and healthy lifestyle behaviors in factory workers. **Bakirkoy Tip Dergisi / Medical Journal of Bakirkoy**, p. 267–74, 24 set. 2018.
KOLBE-ALEXANDER, Tracy *et al.* The Relationship Between Workplace Environment and Employee Health Behaviors in a South African Workforce. **Journal of Occupational & Environmental Medicine**, v. 56, n. 10, p. 1094–1099, out. 2014.
KOORNNEEF, Maarten *et al.* Business car owners are less physically active than other adults: A cross-sectional study. **Journal of Transport & Health**, v. 6, p. 272–281, set. 2017.
LEININGER, Lisa Janzen; ADAMS, Kent J.; DEBELISO, Mark. Differences in health promotion program participation, barriers and physical activity among faculty, staff and administration at a university worksite. **International Journal of Workplace Health Management**, v. 8, n. 4, p. 246–255, 9 nov. 2015.

LINDBERG, Casey M. *et al.* Effects of office workstation type on physical activity and stress. **Occupational and Environmental Medicine**, v. 75, n. 10, p. 689–695, out. 2018.
LOEF, Bette *et al.* Non-occupational physical activity levels of shift workers compared with non-shift workers. **Occupational and Environmental Medicine**, v. 74, n. 5, p. 328–335, maio 2017.
LOPES, João Marcos de Paula *et al.* Nível de atividade física e fatores associados em colaboradores. **Biológicas & Saúde**, v. 11, n. 37, p. 50–61, 30 jun. 2021.
MACEDO, Mônica Thaís Soares *et al.* Fatores associados ao comportamento sedentário em trabalhadores: uma revisão integrativa da literatura. **CONTRIBUCIONES A LAS CIENCIAS SOCIALES**, v. 17, n. 3, p. e5446, 12 mar. 2024.
MAES, Iris *et al.* The occupational sitting and physical activity questionnaire (OSPAQ): a validation study with accelerometer-assessed measures. **BMC Public Health**, v. 20, n. 1, p. 1072, 6 dez. 2020.
MAIER, Philipp *et al.* Einfluss der Kontaktbeschränkungen gegen SARS-CoV-2 auf die körperliche Aktivität von Beschäftigten des öffentlichen Dienstes. **Zentralblatt für Arbeitsmedizin, Arbeitsschutz und Ergonomie**, v. 73, n. 1, p. 32–38, 23 jan. 2023.
MARTIN, Molly A. *et al.* Essential and non-essential US workers' health behaviors during the COVID-19 pandemic. **Preventive Medicine Reports**, v. 29, p. 101889, out. 2022.
MIX, Jacqueline M. *et al.* Physical activity and work activities in Florida agricultural workers. **American Journal of Industrial Medicine**, v. 62, n. 12, p. 1058–1067, 16 dez. 2019.
MONNAATSIE, Malebogo; BIDDLE, Stuart J. H.; KOLBE-ALEXANDER, Tracy. The Feasibility of a Text-Messaging Intervention Promoting Physical Activity in Shift Workers: A Process Evaluation. **International Journal of Environmental Research and Public Health**, v. 20, n. 4, p. 3260, 13 fev. 2023.
MORGADO, Fabiane Frota da Rocha *et al.* Psychosocial determinants of physical activity among workers: an integrative review. **Revista Brasileira de Medicina do Trabalho**, v. 18, n. 04, p. 472–487, 2020.
MUTIKAINEN, Sara *et al.* Objectively measured physical activity in Finnish employees: a cross-sectional study. **BMJ Open**, v. 4, n. 12, p. e005927, 10 dez. 2014.
NAWROCKA, Agnieszka *et al.* The relationship between meeting of recommendations on physical activity for health and perceived work ability among white-collar workers. **European Journal of Sport Science**, v. 18, n. 3, p. 415–422, 20 abr. 2018.
NEHME, Eileen K. *et al.* The Effect of New Shower Facilities on Physical Activity Behaviors of Employees: A Quasi-experiment. **Journal of Physical Activity and Health**, v. 14, n. 2, p. 98–107, fev. 2017.
NEMOTO, Yuta *et al.* Examining health risk behaviors of self-employed and employed workers in Japan: a cross-sectional study. **Public Health**, v. 211, p. 149–156, out. 2022.
NIKITARA, Katerina *et al.* Prevalence and correlates of physical inactivity in adults across 28 European countries. **European Journal of Public Health**, v. 31, n. 4, p. 840–845, 11 out. 2021.
PÄIVÄRINNE, Ville *et al.* Relationships of leisure-time physical activity and work ability between different occupational physical demands in adult working men. **International Archives of Occupational and Environmental Health**, v. 92, n. 5, p. 739–746, 31 jul. 2019.
PAULA, Caico Bruno Curcio Oliva de *et al.* Múltiplos benefícios da atividade física: precisamos oferecer mais tempo de formação a estudantes de medicina e médicos. **Revista Brasileira de Atividade Física & Saúde**, v. 26, p. 1–2, 27 mar. 2021.
PEÑA TÉLLEZ, María Elizabeth *et al.* Impact in the integral health of the workers the area technology of the information who make home office during Covid-19. **Población y Salud en Mesoamérica**, v. 19, n. 2, p. 43–58, 2022.

PEPLONSKA, Beata; BUKOWSKA, Agnieszka; SOBALA, Wojciech. Rotating night shift work and physical activity of nurses and midwives in the cross-sectional study in Ł ódź, Poland. **Chronobiology International**, v. 31, n. 10, p. 1152–1159, 12 dez. 2014.
PETARLI, Glenda Blaser *et al.* Autoavaliação do estado de saúde e fatores associados: um estudo em trabalhadores bancários. **Cadernos de Saúde Pública**, v. 31, n. 4, p. 787–799, abr. 2015.
RAMPISHEH, Zahra *et al.* Physical Activity and Well-being Status among Employees of University of Medical Sciences. **Medical Journal of the Islamic Republic of Iran**, 30 jun. 2022.
REED, Valerie *et al.* Employee Physical Activity in an Outpatient Oncology Clinic: A Baseline Pilot Study. **Cureus**, 31 dez. 2018.
ROVO, Gyongyver *et al.* PREVALENCE AND CORRELATES OF PHYSICAL ACTIVITY AMONG PUBLIC HEALTHCARE WORKERS IN HUNGARY. **Health Problems of Civilization**, v. 14, n. 3, p. 221–227, 2020.
SAFI, Ayazullah *et al.* Incentivised physical activity intervention promoting daily steps among university employees in the workplace through a team-based competition. **Frontiers in Public Health**, v. 11, 22 jan. 2024.
SANTOS, Tiago Silva dos *et al.* Atividade física e fatores associados em técnico-administrativos de uma universidade pública do sul do Brasil. **Revista Brasileira de Atividade Física & Saúde**, v. 23, p. 1–9, 27 out. 2018.
SILVA, Ana Marcia Rodrigues da *et al.* Fatores associados à prática de atividade física entre trabalhadores brasileiros. **Saúde em Debate**, v. 42, n. 119, p. 952–964, out. 2018.
SILVA, Léa Barbetta Pereira da. Fatores associados à atividade física de trabalhadores da indústria do petróleo. 2020.
SILVA, K. S. *et al.* Barriers associated with frequency of leisure-time physical activity among <scp>B</scp> razilian adults of different income strata. **Scandinavian Journal of Medicine & Science in Sports**, v. 26, n. 2, p. 206–213, 3 fev. 2016.
SILVA, Marcelo; SILVA, Luciane; SPIEKER, Christine. Atividade física no lazer e fatores associados em professores pré-escolares de Pelotas, RS, Brasil. **Revista Brasileira de Atividade Física & Saúde**, v. 19, n. 4, p. 417, 2014.
SILVA, Rosângela Ramos Veloso *et al.* Fatores associados à prática de atividade física entre professores do nível básico de ensino. **Journal of Physical Education**, v. 30, p. e3037, 2019.
SILVA, Rosângela Ramos Veloso *et al.* Active commuting to work among teachers of public basic education of the state of Minas Gerais. **Revista Brasileira de Cineantropometria & Desempenho Humano**, v. 23, 2021.
SMITH, Lee *et al.* Occupational Physical Activity Habits of UK Office Workers: Cross-Sectional Data from the Active Buildings Study. **International Journal of Environmental Research and Public Health**, v. 15, n. 6, p. 1214, 9 jun. 2018.
SONG, MinKyoung *et al.* Assessing the prevalence of meeting physical activity recommendations among U.S. healthcare workers: Data from the 2015 National Health Interview Survey. **Archives of Environmental & Occupational Health**, v. 75, n. 7, p. 422–430, 2 out. 2020.
SOTERIADES, Elpidoforos S. *et al.* Exercise and Occupational Stress among Firefighters. **International Journal of Environmental Research and Public Health**, v. 19, n. 9, p. 4986, 20 abr. 2022.
STRAIN, Tessa *et al.* National, regional, and global trends in insufficient physical activity among adults from 2000 to 2022: a pooled analysis of 507 population-based surveys with 5·7 million participants. **The Lancet Global Health**, v. 12, n. 8, p. e1232–e1243, ago. 2024.

TEIXEIRA, Jules Ramon Brito *et al.* Psychosocial risk factors at work associated with the level of physical activity among motorcycle taxi drivers. **Archives of Environmental & Occupational Health**, v. 75, n. 5, p. 307–316, 3 jul. 2020.
THOMPSON, Janalee F.; SEVERSON, Rachel L.; ROSECRANCE, John C. Occupational physical activity in brewery and office workers. **Journal of Occupational and Environmental Hygiene**, v. 15, n. 9, p. 686–699, 2 set. 2018.
TOMONAGA, Ryo *et al.* Comparison of physical activity and sedentary behavior between work-in-office and work-from-home: a self-controlled study. **Journal of Occupational and Environmental Medicine**, p. 10–1097, 2023.
TREIBER, Frank A. *et al.* Social support for exercise: Relationship to physical activity in young adults. **Preventive Medicine**, v. 20, n. 6, p. 737–750, nov. 1991.
VAN DE LANGENBERG, Daniella *et al.* Diet, Physical Activity, and Daylight Exposure Patterns in Night-Shift Workers and Day Workers. **Annals of Work Exposures and Health**, v. 63, n. 1, p. 9–21, 7 jan. 2019.
VAN DER PUT, Anne; ELLWARDT, Lea. Employees' healthy eating and physical activity: the role of colleague encouragement and behaviour. **BMC Public Health**, v. 22, n. 1, p. 2004, 1 nov. 2022.
VANCAMPFORT, Davy *et al.* Autonomous Motivation for Exercise Is Key to an Active Lifestyle in Firefighters. **Workplace Health & Safety**, v. 71, n. 5, p. 238–244, 25 maio 2023.
WEBBER, Bryant J. *et al.* Changes in Teleworking and Physical Activity Behaviors in the United States Before and After Emergence of COVID-19. **Journal of Occupational and Environmental Medicine**, v. 65, n. 10, p. 826–831, 2023.
WHO. WHO GUIDELINES ON PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR. 25 nov. 2020.
ZALEWSKA, Anna; GAŁCZYK, Monika; SOBOLEWSKI, Marek. The levels of physical activity and fatigue among teachers in Poland and the United Kingdom in the first year after the COVID-19 pandemic. **Medycyna Pracy. Workers' Health and Safety**, v. 75, n. 2, p. 103–112, 2024.
ZARANZA MONTEIRO, Luciana *et al.* Barreiras Percebidas para a Prática de Atividade Física entre Servidores do Setor Administrativo de uma Faculdade do Distrito Federal. **Ciencia & trabajo**, v. 20, n. 62, p. 97–102, ago. 2018.