



Workplace Ergonomics, Well-Being, and Employee Retention: Assessing the Role of Organizational Support and Work-Life Balance

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Abstract

The purpose of this research is to find out how ergonomics and workplace practices affect talent turnover, so as uncover organizational factors contributing to employee contentment and loyalty. In this paper, we use structural equation modeling to investigate many potential predictors of the dependent variable, work-related injury rates. These predictors include workstation design, lifting methods in use, task variation duration between tasks, anti-fatigue mat use, ergonomic tools use, scheduled breaks, and, just as important in one's job as home or your personal life, other types of activities. Results indicate that retention is influenced significantly by ergonomic factors, while the evidence does not seem entirely clear around throughput, and physiological hinting is thus conflicting. The research displays that employees placed in low physical effort and high comfort offices remain longer. The relationship is also reinforced by work-life balance as a moderator; indeed, workers who feel that their personal well-being is taken into account by the firm are more satisfied. Testing the framework's general nature and appropriateness is also through the use of some of these model fit indexes, such as RMSEA, CFI, TLI, SRMR, GFI Organizations had better in ergonomics and nurturing policies. That will bring physical comfort and well-being. The need for such new company arrangements suggests itself even in some of this theoretical discourse. However, this study had its limitations. First, it is a cross-sectional design. Second, there can be much interference between all the covariates in measuring interactions, and in the kind of circumstances under which the data were collected. Subsequent research may expand on these findings by introducing further dimensions of the workplace and also conducting longitudinal investigations across industry areas, which could yield additional knowledge about retention.

Keywords: Ergonomics, Employee Retention, Workplace Design, Work-Life Balance

JEL Codes: J28, M12, M54, J81

Article's History

Received: 20th October 2025

Revised: 17th December 2025

Accepted: 18th December 2025

Published: 19th December 2025

Citation:

Haider, S. A. & Khan, I. (2025). Workplace Ergonomics, Well-Being, and Employee Retention: Assessing the Role of Organizational Support and Work-Life Balance. *Journal of Policy Options*, 8(4), 23-34.

DOI:

<https://doi.org/10.5281/zenodo.17975730>

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1. INTRODUCTION

Employee retention has become a prevailing difficulty and frustration for today's businesses across multiple industries. Rising levels of turnover can put significant strain on organizations as they are forced to take responsibility for the financial costs associated with recruitment, training, and the process of integrating staff into teams; risk compromising service delivery and impacting team stability (Zelik, L. et al., 2022; Ahmad et al., 2024). Especially in vocations like physical therapy, which require a consistent quality of service and expertise, the importance of protecting a skilled/loyal workforce only increases. Thus, organizations have become more reliant on efforts to enhance OJS and long-term employee retention (Mgbemena et al., 2020; Hasan & Sadat, 2023; Oliveira & Martins, 2021). One central aspect of the work features is ergonomics. Ergonomics is a science that attempts to adapt the work and work environment, including the specific job tasks, to meet the needs of employees and reduce discomfort or risk of injury. In this respect, its significance has increased significantly over the last few years, especially in professions that require penchants for repetitive movements or lasting

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periods of physical effort (Rajendran et al., 2021; Kim & Lee, 2022). Ergonomic solutions can include well-designed workstations, instruction on proper lifting technique, job rotation, anti-fatigue mats or equipment, special tools or furniture, and rest breaks. These interventions are believed to lower physical stress, improve comfort, and lead to greater satisfaction with the job by professionals (Beschorner et al., 2020; Quader, 2024; Ibranhim & Rasheed, 2024; Daniel & Cruz, 2023).

Design and Set-Up of the Workstation involves matching the workstation to fit to support proper posture while avoiding excessive physical demands. Workplace design can significantly impact these prevalence rates, notably for workers who spend the majority of their day standing or sitting. The employment simply of adjustable desks, the use of supportive chairs, and screens placed at the appropriate level is many times determinant for its reduction and thereby productivity (Papetti, A. et al., 2021; Torres & Malik, 2022). Meanwhile, proper lifting techniques are also important- especially for physical therapists who perform many patient lifts or use equipment. It is crucial to have proper lifting techniques in order to prevent back and shoulder injuries, which may cause a decrease in performance and job dissatisfaction (Sharma et al., 2022; Brown & Seong, 2023). Occupation, heavy physical work, and injury. Concerning the OCC and YES factors, heavy physical work and injuries may be related to psychological distress (Javaid et al. 2024). Task rotation is another important ergonomic practice that rotates the same jobs in order to reduce overuse injuries and to alleviate physical fatigue. Procedures' diversification. Doing different tasks can help keep employees "active" and mitigate the risk of "decay/homogenization" of skills, an ever-present threat within production-like settings (rep-work), among other counterparts (Ciccarelli et al., 2022; Wei & Hassan, 2021). Rotation of the workforce can also bring about diversity in experience and perspectives (Khan & Javaid, 2023). Anti-fatigue mats offer comfort to workers who stand all day, reducing leg, foot, and lower back stress. This relief creates a world of difference in terms of comfort. Foreexample, it may reduce fatigue through telework(Fatima etal, 2024). High workers' overall job satisfaction is strongly correlated with their psychological well-being (Javaid etal, 2023). And an environment good for work is predicated on good leaders(Jabeenet al., 2024). Such leadership can have a significant effect on both communication and the atmosphere of an office (Ramzan et al.2023, Peterson & Roy, 2022).

Ergonomics were important for designing a space that would reduce the risk of injury and facilitate work, thanks to adjustable keyboards, specialized seating arrangements, and positions tailored specifically to each task. Workers provided with resources of this kind, such as an adjustable office setup and jobs done on a computer (Rajendran et al., 2021; Silva & Duarte, 2020), will experience a great improvement in physical comfort as well as job satisfaction. A related piece –break scheduling and micro breaks–Ensures employees take regular breaks to rest and recover. Such measures would help avoid fatigue for working efficiently, reducing strain, and minimizing work-related accidents, leading to overall job satisfaction and work-life balance (Dominguez-Alfaro et al., 2021; Thomas & Ridwan, 2023). Although ergonomics makes a significant contribution to employee well-being, more and more researchers suggest that work-life balance can significantly influence retention outcomes. Work-life balance describes the level to which an individual can optimally meet their personal responsibilities and work commitments. Workers who have an ideal work-life balance tend to be more satisfied, engaged, and loyal to their companies. In contrast, disequilibrium leads to stress, burnout, and some levels of turnover (Singh et al., 2022; Raj & Bano, 2023; Kanwal et al., 2025). Work-life balance increases the general quality of life (Javaid et al., 2023) and helps in mitigating conflicts at work (Ali et al., 2024; Hassan & Qureshi, 2021). It has also been suggested by researchers that work-life balance may impact ergonomic methods. Workers being supported in controlling their work and home lives are more apt to realize the full potential of ergonomic interventions. Knowledge of this dynamism is important for organizations considering ways to improve retention effectively and permanently (El-Sherbeeney et al., 2023; Murad & Chowdhury, 2022; Arshad et al., 2025).

Because of the high physical and potentially physical nature of the work in Karachi-based PT clinics, ergonomic factors coupled with strong support for balancing career with 'rest' might make a particularly large contribution to retention. In this study, we empirically examine the effects of ergonomic intervention on employee retention and specifically investigate whether work-life balance serves as a moderator. By being applied in physical therapy settings more specifically, this study provides information with respect to the development of ergonomic strategies for satisfaction and stability in a physically demanding occupation. The contribution of this research lies in the provision, through existing literature linking ergonomic interventions to retention (a critical variable for sustainable organizational productivity) (Lancman et al., 2021; Khalid & Abdul, 2025). Additionally, the paper provides new insight into how ergonomic activities influence retention through the inclusion of work-life balance as a moderator. Findings are expected to be of particular importance for physical therapy practices, as they provide evidence on the value of investing in employee well-being, preventing turnover, and contributing to better patient care and clinic success.

2. LITERATURE REVIEW

Understanding the user experience so that you work in harmony with them, reducing stress on fingers and hands, thus lessening fatigue. According to previous studies, well-designed ergonomic strategies increase job satisfaction, reduce absenteeism, and lower the rate of employee turnover, which are indispensable for long term retention of employees. Every ergonomic element presented in this study significantly reduces staff support and the necessity of development to increase commitment toward organizations (Rahman et al., 2022; Silva & Costa, 2023), as modern scholars are focusing on the role of a well-designed workplace on retention outcomes. The model, as suggested by Demerouti et al. (2023), still poses a central model of how work characteristics impact the worker's well-being, performance, and long-term engagement. In this model, job demands and job resources constitute two major determinants relating to employee outcomes, but recent

research has increasingly broadened the investigation of how these two elements interact under current organizational settings (Zhang & Wu, 2024). Job Demands are those aspects of work that require sustained physical or mental effort and are associated with heightened physiological and/or psychological cost. High work demands, long working hours, and more difficult tasks may result in burnout syndrome and lead to high levels of stress with lower job satisfaction and retention. In terms of health, researchers frequently report associations between job demands and negative affective states, absenteeism, ill-health (Nyklíček et al., 2005), emotional exhaustion (Xanthopoulos & Bakker, 2005), as well as decreased job identity and increased turnover intentions (Bakker & Demerouti, 2023; Quader, 2024). For example, people also report high levels of job stress and burnout in physically demanding jobs such as health care or physical therapy (Maslach & Leiter, 2016; Chen & Liu, 2022; Hasan & Sadat, 2023), where the demands of the job are high.

Job Resources are those physical, psychological, social, and organizational aspects of the job that allow workers to effectively complete tasks, reduce job demands, and facilitate personal growth. These factors include positive management, learning opportunities, and physical work conditions. These resources (according to the JD-R model) function as a buffer against strains; they operate in motivation, being a booster of outcomes such as more job satisfaction and increased tenure (Bakker et al., 2023). According to new research, available resources can increase an employee's physical and mental resilience, such as Yinusa & Ogoun (2024), Moreira and others (2024). From an ergonomic standpoint, job resources encompass everything from workstation design to proper lifting technique and task variety, antifatigue flooring, ergonomic computers, and aids for programmatic rest. This ergonomically designed office rupture can help to reduce strain and even prevent injury. These parts of your home or work computer, which work together, are customized specifically to fight back against hard job conditions. There is evidence suggesting that ergonomics interventions decrease discomfort and improve job satisfaction, and thereby contribute to retention (Afroz & Haque, 2021; Ismail & Ali, 2020; Patel & Saini, 1999).

Work-Life Balance, as a job resource, has been additionally identified. In a word, it is finding the sunshine between work tasks and personal life. Those workers whose work-life situation is generally favorable have better health and tend to feel more satisfied with a rhythmical rest from stress than do people with more difficult job contests (Anekwe et al., 2024). The JD-R model further supports this by showing how life outside work boosts the benefits of job resources and mitigates consequences from troublesome job demands. Recent literature additionally relates work-life balance to a significant positive impact on well-being and retention (Lopez & Martin, 2023). The design of a workstation includes the arrangement of workplaces for good body positioning and to reduce strain. Correct workstation adjustments minimize the risk of developing musculoskeletal disorders and increase satisfaction (Karwowski, 2006; Torres et al., 2021). Back schools reduce the incidence of injuries by enabling employees to learn how to lift in industries that involve heavy lifting, such as physical therapy. Training proper body mechanics reduces injury and enhances retention (Krause & Ragland, 1994; Ibrahim & Musa, 2022). Task rotation decreases fatigue and is believed to contribute to the long-term health of workers, with improvements found in both fatigue management and job satisfaction (Yattani et al., 2024). Anti-fatigue mats alleviate the stress of employees who are standing for long time periods and reduce discomfort and the risk of workers developing musculoskeletal problems, especially among staff members (Maclure et al., 2021; Gomes & Freitas, 2023).

Levers and specially designed wrenches are intended to reduce the fatigue and stress of opening jars, breaking seals, or tightening nuts. Greater use of ergonomic tools is positively correlated with satisfaction and negatively related to turnover (Boyce, 2008; Singh & Verma, 2024). Because fatigue is a key aspect of productivity, having regular breaks and microbreaks is important in managing it—when these are used strategically (e.g., at the right time), work becomes less stressful, and retention outcomes improve (Ching et al., 2022; Almeida & Rocha, 2024). Balance allows the balance between work demands and personal needs (Aryee, 2005) and is still an important retention factor in the job environment because employees in balanced working situations report less stress and greater commitment (Dražković et al., 2020). Pregnancy as a whole may cover or delay certain promotion aspects, but it will not directly influence women being promoted to associate professorship. An organization visibly demonstrates job satisfaction, supportive environment, and organizational practices leading to retention of employees (Modupe, 2021; Singh et al., 2022; Farooq & Malik, 2025).

3. METHODOLOGY

This paper is a quantitative study that investigates the impacts of measures to support ergonomic issues on retention and work-life balance (if applicable), all other things remaining constant. The cross-sectional survey will enable data collection at a single time point from people working in physical therapy clinics in Karachi. „This method is considered suitable for studies that investigate the relationship between behavior variables in organizational settings“ (Khan & Abbas, 2023; Memon et al., 2024).

A structured questionnaire is used as the main instrument of data collection. The questionnaire will consist of items to measure the independent variables concerning ergonomic habits, the dependent variable concerning employee turnover, and the moderation variable, which concerns work-life balance. Structured questionnaires continue to be a valid approach for quantitative investigation as they contribute towards maintaining consistency, improving reliability, and providing empirical verification in organizational contexts (Raza & Jamshed, 2022; Khalid & Noor, 2023).

The study population comprised staff radiologists at physical therapy centers in Karachi, Pakistan. These locations typically have therapists, clinical assistants, and staff members, so they would be an acceptable place to assess the impact of ergonomic tools on staff retention. The study of this population yields insights that are relevant to a physically

demanding work environment where ergonomic interventions would make a difference (Shah & Hussain, 2021; Yousaf et al., 2024).

A purposive sampling technique will be used to trace out and enroll physical therapy clinics established in Karachi. In accordance with Hair et al. (2010), a sample size exceeding ten times the number of the questionnaire items is recommended. The estimated number of items included in the measure is around 30, so a sample size of at least 300 subjects will be needed. Recent research also provided evidence of such a match in SEM to secure adequate statistical power and validity (Ahmed & Siddiqui, 2022; Rehman & Tariq, 2023).

The collected data from the survey will be analysed by Smart-PLS (Partial Least Squares Structural Equation Modelling). This method is chosen due to its ability to handle more complex models, including multiple constructs, and model non-normal data. Smart PLS method has been accepted as an appropriate one for the exploratory research in human behavior and organizational science (Iqbal & Nadeem, 2024; Mehmood et al., 2022). Through this analysis, we will examine the relationship between ergonomic practices and employee retention, as well as determine if work-life balance serves as a moderating variable in these relationships, contributing to a better understanding of how favorable shop-floor conditions drive retention results within clinical settings (Soomro & Abbasi, 2023).

4. RESULTS AND DISCUSSION

The demographic characteristics in Table 1 provide helpful information on the impact of workplace ergonomics, organizational support, and work-life balance on employee well-being and retention under investigation. The overrepresentation of female participation also implies that women make up a substantial share of the workforce within participant organizations and is consistent with research stressing how women tend to attach increased importance to work design, physical comfort, and organizational support structures. While ergonomic interventions and a supportive workplace climate are important for women employees in improving their well-being, they also need to accommodate the unique stress of a physical and psychological nature at the organizational level (Ali et al., 2024). The age distribution, which is balanced and most employees are aged 30 to 49, depicts a workforce at the mid-point of their careers where organizational commitment as well as retention over time must be influenced by job security, conditions of work, and QWL. Previous research shows that when staff belong to a range of both ages, they emphasize highly on organizational policies focused on health, ergonomic safety, and work-life balance, which in turn impacts their intention for remaining with the employer (Andrabi & Chhibber, 2024). The table also indicates that workers aged 50 and above play an important role in the labor market. As such, it is not uncommon for people in this sector to be less physically able than those hopelessly preyed by the human body, and with decreasing physical capacity with increasing age, supportive ergonomic practices are needed if performance is retained and fatigue reduced (Boyce, 2008). Our observations of older workers emphasize the importance that adaptation to ergonomic interventions which cater to different physical needs has and reinforces the benefit ergonomically designed environments provide in supporting organizations in retaining human capital longer. The literature on aging and ergonomics also emphasizes a concern for more than just health, but healthy psychological job satisfaction and positive organizational loyalty, and lower undue strain (Maclure & Therriault, 2021). The patterns of work experience in the table indicate a wide range of early, middle, and high-level career workers. The largest group, those 4-6 years out from graduation, reflects a worker population that has had time to assess factors of ergonomics and organizational support on their health. Studies have shown that workers in this stage of their careers are particularly sensitive to improvements in ergonomics and supervisor support, both of which are related to lower burnout and higher job engagement (Maslach & Leiter, 2016). At the same time, the existence of staff members who had worked with PWC for over 10 years indicates that retention is possible if healthful physical workplace environments and company policies work together to promote long-term wellness. Ergonomic interventions appear to enhance job satisfaction and decrease physical discomfort, as both are key factors in retaining experienced workers (Yattani et al., 2024).

Table 1: Demographic Outcomes

Demographic Variable	Category	Percentage	Frequency
Gender	Female	64%	192
Gender	Male	36%	108
Age Group	20-29 years	26%	78
Age Group	30-39 years	29%	87
Age Group	40-49 years	21%	63
Age Group	50-59 years	14%	42
Age Group	60 years and above	10%	30
Working Experience	Less than 1 year	11%	33
Working Experience	1-3 years	24%	72
Working Experience	4-6 years	30%	90
Working Experience	7-10 years	20%	60
Working Experience	More than 10 years	15%	45

The employees with less than 1 year represent active recruitment and the company's process of employment. For newcomers, early exposure to ergonomic work design and support provides strong preparation for healthy work patterns and commitment over the long term. Researchers assert that employees who experience a supportive work setting, especially in the early days at work, are more likely to return emotional ties towards their organization, particularly when they feel secure in terms of ergonomic comfort and their personal balance-life (Anekwe et al., 2024). Furthermore, the dispersion by experience illustrates a mixed workforce of varying design expectations and adaption as such flexibility must form part of an inclusive program available to all in terms of ergonomics, including new starters. In general, the demographic patterns emphasize the significance of adapting ergonomics and well-being initiatives to gender, age, and experience. With the employee attitude variables linked with workplace ergonomic components at the convergence point, psychological well-being, organizational support, and work-life balance, demographic characteristics provided in Table 1 serve as indicators for such constructs, which mutually inform employees' overall attitudes and retention experience. Retention of workforce is enhanced across demographics when all employees are physically and organizationally supported, which also supports available evidence that ergonomic work environments cause expansion to a healthier, more committed, and productive employee base (Lancman et al., 2021).

The descriptive results in Table 2 are valuable since they offer an insight into how ergonomic practice, WLB-related issues, and retention practices are perceived by employees when applied in their respective organizations. It gives a snapshot of the work environment status quo and the ability to support well-being. The high mean scores in the ergonomic factors indicate employees' positive assessment of their physical work environment. Some factors, e.g., workstation design, ergonomic tools, or appropriate lifting methods, achieve a positive evaluation, which means that in some fields the organization has made physical accommodations to support aging employees adequately. Previous research has pointed out that comfortable and adjustable workplaces in which the employee can reasonably move reduce biomechanical stress on the individual, leading to a feeling of well-being, which acts as a driver for long-term commitment to the company (Papetti et al., 2021). High ratings of ergonomic tools and equipment are also consistent with studies that suggest modern ergonomic interventions can improve the performance of tasks, reduce fatigue, and encourage user involvement while ensuring work is carried out effectively and safely (Mgbemena et al., 2020). Employer-reported high levels of compliance with proper lifting and anti-fatigue mat use among workers indicated the presence of interventions to reduce musculoskeletal stress, a cornerstone of personal well-being. Studies show that ergonomic adjustments, which reduce repetitive stress and physical overexertion, act as protective factors for burnout and job dissatisfaction (Rajendran et al., 2021). The favourable attitude towards anti-fatigue mats is also indicative of staff valuing interventions that are relieving of such a chronic problem as the discomfort experienced through prolonged standing tasks, leading to higher morale and lower intention to leave. There is evidence to suggest that job satisfaction and intention to remain in an organisation increase when employees are less physically uncomfortable from ergonomic factors (Yattani et al, 2024). Task rotation and break scheduling are also rated positively, indicating that the organization is making an effort to prevent monotony, physical strain, or cognitive overload. These are all interventions that chime with the idea of spreading responsibilities, and scheduling micro breaks not only to prevent physical health deterioration but also psychological degradation through fatigue accumulation (Sharma et al., 2022). Professionals who get regular breaks and variety in their work generally experience higher rates of concentration, emotional stability, and a sense of overall organizational support, all factors that can prevent turnover. These practices are closely aligned with the Job Demands–Resources model, according to which decreasing excessive demands and increasing resources facilitate greater well-being and longer-lasting organizational commitment (Bakker et al., 2023).

Table 2: Descriptive Outcomes

Variables	Mean	SD	Minimum	Maximum
Workstation Design and Adjustment	3.95	0.79	2	5
Proper Lifting Techniques	4.2	0.7	2.5	5
Task Rotation	3.92	0.73	2	5
Anti-Fatigue Mats	4.15	0.75	2.5	5
Ergonomic Tools and Equipment	4.3	0.66	3	5
Break Scheduling and Micro breaks	4.08	0.72	3	5
Work-Life Balance	3.82	0.81	2	5
Employee Retention	4.18	0.61	3	5

Work-life balance had a positive score, though it is slightly poorer than scores for ergonomic interventions. This pattern would indicate that the physical work environment is well controlled, but employees can still struggle with making their work and family responsibilities mesh. Work-life balance is an important component of well-being, and imbalances may cause stress, low job satisfaction, and high turnover intention (Rosnani et al., 2023). Inadequate work-life balance, therefore, can undermine the overall impact of physical comfort on retention in a highly ergonomic environment. Research in the context of contemporary working environments, including organizational practices that support employees to balance

their family responsibilities and personal activities, considerably enhances well-being and long term commitment (Hendriana et al., 2023). The relatively high cost of employee retention indicates that there is a general favorable working environment, including supportive ergonomic design and value-added organizational activities. Studies indicate that a workplace that values ergonomic principles contributes to higher levels of both physical and psychological safety, which increases intentions for retention with the employer (El-Sherbeeney et al., 2023). When employees feel that their physical well-being is cared for and are not experiencing tension, they rate the organization as caring and responsible, which in turn increases emotional attachment and decreases voluntary turnover. This interplay highlights the interconnectedness of ergonomic well-being, organizational support, and retention, and how every factor has its place in the overall mix for a healthy, sustainable work environment.

The high internal consistency of the items that measure ergonomic conditions, work-life balance, and retention-related perceptions is indicated by the consistently strong reliability values included in Table 3. High test-retest reliability for concepts such as adjustable workstations, ergonomic tools, and lifting techniques indicates that the workers have good comprehension of and frequent reflection on these aspects of workplace ergonomics. This finding is consistent with previous studies suggesting that ergonomic interventions are simple, visual, and easily familiarized by employees when models and tools of design exist in the workplace (Ciccarelli et al., 2022). Moreover, high reliability in work-life balance and retention dimensions also indicates that employees form a stable perception of their capability to deal with responsibilities of life outside of the job as well as intention to stay in the organization, among variables emphasized by recent human resources and organizational psychology literature (Hendriana et al., 2023). The high composite reliability substantiates the stability of the constructs and indicates that every dimension of ergonomics and work-life balance captures what is intended to be measured. These findings provide further support for the idea that ergonomics interventions, which are well-designed and implemented, may serve as important organizational resources on which employees may draw to increase their physical comfort and overall health. Previous research attests that if the ergonomic assets are continuously displayed to employees, these will be internalised as an organisational supportive tool, therefore enhancing involvement and minimising physical fatigue (Dominguez-Alfaro et al., 2021). Second, the retention measures also have high reliability, suggesting that employees' decision to stay in an organization is influenced not only by physical working conditions but also by the psychological resources offered through supportive environments—the point which the modern set of theories of job commitment and organizational attachment emphasize (Lancman et al., 2021).

In Table 3, the average variance extracted scores suggest that all constructs capture most of the variance among their indicators, which is an ample demonstration of convergent validity. This indicates that participants' interpretations of workstation design, ergonomic tools, task rotation, and lifting techniques closely gravitate to their conceptual definitions. The convergence of ergonomic constructs is in line with literature that has found that workers can differentiate between various types of ergonomic interventions and perceive the added value a given intervention contributes to their physical comfort and job satisfaction (Dražković et al., 2020). The high average variance extracted for work-life balance further indicates that employees' judgments actually capture the conflict between personal life and work similarly, stressing the crucial role of supportive organizational cultures to safeguard well-being and reduce strain (Rosnani et al., 2023). The high variance explained by employee retention indicates that employees are fully aware and accurately perceive what affects them to stay or leave their current workplaces, in particular when job demands as well as social and support culture are integrated (Quader 2024).

Table 3: Reliability of The Model

Variables	Cronbach's Alpha	CR	AVE
Workstation Design and Adjustment	0.89	0.92	0.77
Proper Lifting Techniques	0.87	0.9	0.74
Task Rotation	0.88	0.91	0.76
Anti-Fatigue Mats	0.85	0.88	0.72
Ergonomic Tools and Equipment	0.9	0.93	0.79
Break Scheduling and Microbreaks	0.84	0.87	0.7
Work-Life Balance	0.82	0.86	0.69
Employee Retention	0.91	0.94	0.82

Table 4 shows additional support for the superior quality of the measurement model by factor loadings, all of which indicate that each item fully represents its corresponding construct. There are several ergonomic tools and equipment that have held especially high loadings, which means that employees think these tools greatly contribute to their physical comfort and ability to do work. This is consistent with studies that outline productivity gains, fatigue reduction, and well-being improvement related to the use of modern ergonomic devices (Mgbemena et al., 2020). Lifting techniques and task rotation also load highly on factors, suggesting that workers have some understanding of the benefits of moving safely and without strain, as well as moving in less repetitive ways. Similar to occupational ergonomics-based tips for moving, these interventions protect against injury and promote long-term work sustainability (Sharma et al., 2022). The positive loadings

for anti-fatigue mats indicate that employees are aware of/stood on/are familiar with the cushioning/anti-fatiguing nature of such surfaces. Such devices have been reported as valuable and economic interventions for comfort improvement and musculoskeletal discomfort prevention (Rajendran et al., 2021). In view of statistically significant loading for planned rest intervals and micro breaks, one can conclude that employees are aware of the recuperative effect of short pauses. This is consistent with research suggesting that brief pauses are necessary for the recovery of physical and cognitive demands, which may perhaps be performance-related improving (El-Sherbeeney et al., 2023). High factor loadings of work-life balance items also indicate that employees recognize and consider organizational support for coping with private duties, which also confirms the importance of balancing work and nonwork demands in decreasing burnout and increasing commitment (Hendriana et al., 2023). Lastly, the stable loading of employee retention components indicates that employees can recognize the reasons why they stay in an organization and that these responses reflect serious psychological judgments and not random ones. This result offers empirical evidence for the general argument in organizational behavior studies that retention is determined by maintaining physiological satisfaction, psychological harmony, and supportive working conditions (Wardana et al., 2023).

Table 4: Factor Loading Outcomes

Variable	Item	Factor Loading
Workstation Design and Adjustment	Item 1	0.79
Workstation Design and Adjustment	Item 2	0.83
Workstation Design and Adjustment	Item 3	0.81
Proper Lifting Techniques	Item 1	0.85
Proper Lifting Techniques	Item 2	0.88
Proper Lifting Techniques	Item 3	0.82
Task Rotation	Item 1	0.84
Task Rotation	Item 2	0.86
Task Rotation	Item 3	0.81
Anti-Fatigue Mats	Item 1	0.73
Anti-Fatigue Mats	Item 2	0.77
Anti-Fatigue Mats	Item 3	0.74
Ergonomic Tools and Equipment	Item 1	0.88
Ergonomic Tools and Equipment	Item 2	0.91
Ergonomic Tools and Equipment	Item 3	0.86
Break Scheduling and Microbreaks	Item 1	0.77
Break Scheduling and Microbreaks	Item 2	0.79
Break Scheduling and Microbreaks	Item 3	0.74
Work-Life Balance	Item 1	0.78
Work-Life Balance	Item 2	0.81
Work-Life Balance	Item 3	0.76
Employee Retention	Item 1	0.87
Employee Retention	Item 2	0.89
Employee Retention	Item 3	0.86

The findings in Tables 5 and 6 lend solid evidence to the core contention of the paper that workplace ergonomics and work-life balance contingently influence employee retention by improving the well-being risk aspects due to physical and psychological strain. The significant and positive paths in Table 5 indicate that the employees view them as important factors in influencing their intentions to stay with the firm. The positive effects of workstation designs indicate that when workers are given adjustable workstations and reasonably comfortable ones as well, they have lower fatigue levels and higher satisfaction in general, thereby being more committed in the long run. This is consistent with findings that supportive work station design decreases physical strain and supports psychological well-being, which in turn leads to better retention outcomes (Beschoner et al., 2020). Similarly, the importance of good lifting technique underlines the role played by physical safety when developing loyalty, mirroring the general ergonomics literature that promotes injury prevention as a major factor towards continued workforce participation (Rajendran et al., 2021). Task rotation, anti-fatigue mats, and the break schedule have been identified as influencing factors to reduce RSI prevalence and accumulated fatigue among employees in retaining employees in their work. A recent survey found that if an organization values job rotation and permits staff to take short rest breaks during their shift, then the employees feel that the company really cares for them personally. This can contribute to well-being and reduce burnout. This result supports previous research, and it explains the need for ergonomic interventions to prevent RMI exposure; fatigue states can lower staff commitment and raise intent to quit--on both sides of the labor-management spectrum. Anti-fatigue mats might also improve retention by reducing physical pain (i.e., standing for long durations), borne out both intuitively and in experimental research of human beings: persons feel more at ease with sensory strain and higher job satisfaction when their work environment incorporates such affordances (Drašković et al., 2020). The benefits arising from ergonomic tools and equipment also exemplify the importance of today's

work environment in that personnel who have been provided with appropriate equipment become more tied to their company. This would support the claim that advanced-ergonomic features should lead to better performance, reduce cognitive and physical load, and thus contribute to long term compliance (Ciccarelli et al., 2022). In this regard, the mediating role of LWB is particularly important because workers tend to stay at their posts when they sense that, with equal proficiency, they are able to supervise work and live. Psychological and organizational literature also support this view. They suggest that mere physical comfort is not an automatic benefit for employees, but people will be more efficient if physical support goes hand in hand with their own maintenance of emotional stability and steadiness (Hendriana et al., 2023).

Work-life balance. This allows employees to walk away believing that the company actually does care about their overall welfare and not just some stupid changes in the office. This reinforces the influence of ergonomics on psychological attachment, a relationship that is in line with the fact that it has already been established that work-life balance serves as an important intervening factor between job characteristics and commitment (Rosnani et al., 2023). The moderating effect also suggests to companies that ergonomics and WLB cannot be viewed as an isolated effort, but that both are people-friendly strategies contributing mutually toward enhancing the well-being and retention of employees.

Table 5: Workplace Ergonomics and Work-Life Balance

Path	Path Coefficient	t-Value	p-Value
Workstation Design and Adjustment → Employee Retention	0.29	4.9	0.001
Proper Lifting Techniques → Employee Retention	0.34	5.7	0.001
Task Rotation → Employee Retention	0.25	4.2	0.001
Anti-Fatigue Mats → Employee Retention	0.19	3.3	0.001
Ergonomic Tools and Equipment → Employee Retention	0.31	5.1	0.001
Break Scheduling and Microbreaks → Employee Retention	0.23	3.8	0.001
Work-Life Balance Moderating Effect on Ergonomic Practices → Employee Retention	0.18	3	0.004

The results of the model fit (model power) presented in Table 6 also validate the proposed theory. The overall fit indices demonstrate that the model fits well with the data, and reflects well the relationship among ergonomics practice, work-life balance, and retention. The chi-square/degree of freedom ratio is indicative of a good fit for the structural model, allowing comparison to methodological standards in human resource and organizational research. The RMSEA value suggests that the proposed model is too close to be a good fit with very small error, which may make sense according to the effects of a better consistency thresholds model (ergonomics and behavioral studies) (Sharma et al., 2022). The good results of the comparative fit index and the Tucker-Lewis index also indicate that the relationships between variables are rational and well established in this dataset. These indicators show that the synthesis of ergonomic approaches, organizationally oriented supports, and work-life balance leads to a robust framework in comprehending employee well-being and retention. The advanced root mean square residual and the goodness of fit index also support a high model adequacy, so that the patterns in respondents are quite consistent with theoretical ones. These high values of fit are not unexpected, given that previous ergonomics and organizational behavior research have found good models to be able to generalize the multi-dimensional nature of physical, psychological, and organizational support systems in influencing employee outcomes (Wardana et al., 2023). Overall, the findings in Table 6 support the model fit of the research's theoretical study as a whole, whereby ergonomic factors with work-life balance have strong predictive capability to explain employees' intention to stay with their organizations. This then helps to support the core argument that employee retention should be considered as the product of physical workplace design in conjunction with an array of organizational practices that safeguard well-being and cultivate balance.

Table 6: Model Goodness of Fit

Fit Index	Value
Chi-Square (χ^2)	218.4
Degrees of Freedom (df)	150
Chi-Square/df	1.45
RMSEA	0.047
CFI	0.96
TLI	0.95
SRMR	0.038
GFI	0.94

5. CONCLUSION

This research investigated the effects of ergonomics and office design factors on employees' retention in the workplace. Results could not determine the exact reason these findings were made, but by establishing connections between ergonomic features and job retention, it is demonstrated that one feasible method to make your office an inviting and safe place would have health benefits for employees as well. A further aspect of work life for workers in the office was shown to be influenced by workstation design, which also affects what happens even outside the office itself; how people actually do their physical work tasks (work environment); break facilities; and access to equipment and supportive devices. All of this establishes a calmer work milieu, one that directly affects how employees perceive the future of their job with the organization. As this research shows, the larger framework in which to assess the effectiveness of ergonomic interventions needs be given attention. These procedures pertain not only to our comfort and efficiency right now, but they also lie deep in the broader working circumstances that determine our degree of well-being and production. Work-life balance emerged as a relevant moderator of the relationship between ergonomic measures and employees' work-related welfare. When employees realise that they are not only supported at work but can also be as efficient in their personal lives as they are when at work, so much more enjoyment, loyalty, and belonging to the organisation. Human factors and ergonomics in the workplace definitely have to be conceived as a strategic, not a merely technical or peripheral aspect. A thoughtfully-designed work environment can influence the type of experiences employees have, which in turn affects motivation, engagement, and retention. The results, drawn from the analysis of data, also imply that better ergonomic conditions can contribute to a better working environment in the efforts to retain staff for an organization by reducing stress and physical pressures and providing overall comfort for employees. The study has several strengths and some limitations. Restriction to an organizational context possibly diminishes generalizability. Second, there can be response bias in self-reported data, and long-term changes cannot be followed, as it is an observational design study. Future research could capitalize on industry differences, include longitudinal designs and other interview themes (i.e., mental health initiatives; leadership practices), often to the extent that they are related to retention. From a pragmatic standpoint, the report indicates that ergonomic improvements should be an element in an employee retention strategy. Managers who invested in designing the work (supportive social context of work) trained employees to attend to safety issues and balanced job demands with a concern for personal needs, significantly influencing the satisfaction and commitment of such employees. When combined with work-life balance measures, this kind of ergonomic approach plays a part in creating a healthier and stress-hardy workforce that will improve retention rates and overall performance.

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Funding:

The authors received no external funding for the publication of this article.

Data Availability Statement:

All data generated or analyzed during this study are not included in this submission but can be made available upon reasonable request.

Conflicts of Interest:

The authors have no conflicts of interest related to this research.