

Measure the Effects of Cognitive Ergonomics on Industrial Employee Wellbeing in Kathmandu Valley

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Abstract

Ergonomics serves as a strategic approach aimed at diminishing occupational disease rates and enhancing overall working conditions to boost employee productivity. Acknowledging the pivotal role of employee participation in fostering positive organizational relations, this study delves into the impact of cognitive ergonomics on employee performance within Nepalese industrial settings. Employing an explanatory research design anchored in the Theory of Ergonomics, the investigation aims to unveil the correlations between work stress, workload, decision-making, and communication, and their collective influence on employee well-being. Focusing on industry employees in the Kathmandu Valley through probability sampling, a purposive sampling technique was employed, utilizing structured questionnaires administered to 161 respondents from Balaju, Patan, and Bhaktapur industries via the KOBO toolbox. Structural Equation Modeling (SEM) was utilized to analyze the effects of cognitive ergonomics practices, employing SPSS and AMOS applications to scrutinize relationships between dependent and independent variables. Findings shows that among four components of cognitive ergonomic such as work stress, workload, decision making and communication examine the significant impact on employee wellbeing which gives theoretical relevance in terms of theory of ergonomics. In conclusion, the adoption of ergonomics in the workplace is crucial for improving productivity by addressing health-related issues and fostering an employee-friendly environment, ultimately enhancing overall employee performance.

Keywords: Cognitive Ergonomics, Industrial Estate, Nepal, SEM

1. Introduction

A more welcoming and varied workforce has emerged in recent years as a consequence of globalization's facilitation of freer movement of money, people, technology, information, and opportunity (Koirala & Nepal, 2022). Cognitive functioning, or the mental processes involved in information processing including attention, working memory, decision making, and learning in the workplace, is crucial in the execution of professional duties in today's digitalized, globalized work settings (Kalakoski et al., 2020). In the contemporary workplace, firms have adopted a more flexible work arrangement, allowing workers to work from home or the office (Koirala & Maharjan, 2022). This has resulted in a shift in work habits and the entire culture of the workplace, which is essential for recruiting and keeping a high-performing staff (Smite et al., 2023). However, this change has also led to an increase in employee stress, which has a

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negative impact on their health and work happiness (Jiang et al., 2023). Good working circumstances, excellent job performance, and employee well-being are interrelated, and companies must manage cognitively taxing environments to minimize their negative effects on people, teams, and society. Cognitively taxing situations, such as disturbances, interruptions, and information overload, might result in diminished work performance and lowered happiness (Johnson et al., 2020).

Modern workplace stresses include project-based work, time restrictions, expectations, role ambiguity, talent variety, role conflict, strained relationships, organizational responsibility, the need to keep up with technology advances, job insecurity, and an unjust incentive structure (Skinner et al., 2021; Devkota et al., 2022). As Organização (2022) 40% of workers worldwide suffer from physical and mental weariness, resulting in high rates of employee turnover. Stress is a physiological and psychological element that impacts all labor segments (Caplan, 1975). It may have both beneficial and bad consequences for workers and the company. The strain to keep up with the newest trends and technology may contribute to occupational stress, resulting in poor work performance, burnout, job mobility, and inadequate interpersonal interactions at work (Danna & Griffin, 1999). Effective rules and techniques for stress management are essential for preventing negative feedback loops and enhancing employee performance. Ergonomics studies, from a scientific standpoint, how persons interact with their environment, including how they use different objects, pieces of equipment, and technologies (Koirala & Nepal, 2022; Koirala & Maharjan, 2022). When humans are using technology, carrying out tasks, or functioning in their surroundings, cognitive ergonomics mainly focuses on how people think, learn, and absorb information during these activities (Karwowski & Zhang, 2021; Reiman et al., 2021).

Regarding ergonomics related research in Nepal, so far, some literatures available for physical ergonomics such as Koirala and Nepal (2022). But, still there are no any literatures available for cognitive ergonomics. In our previous paper we show the literature review of cognitive ergonomics on economic wellbeing (Koirala & Maharjan, 2022). Due to a lack of resources, specialist expertise, and public awareness, the development and implementation of ergonomics principles and practices are yet infantile in many developing countries, including Nepal.

Ergonomics is expected to grow as more organizations and enterprises in Nepal become interested in boosting the safety, effectiveness, and productivity of their various workplaces. Therefore, it is crucial for practitioners of ergonomics in Nepal to maintain a level of familiarity with the most recent findings of relevant research and the industry's most effective methods, as well as to collaborate with government agencies, non-profit organizations, and private businesses to raise public awareness of the importance of ergonomics and to develop and implement ergonomic principles and procedures in the workplace. Therefore, this study aims to fill the gap of literature, conceptual and methodological aspects in context to cognitive ergonomics by measuring the effects of it on industrial employee wellbeing in Kathmandu valley.

2. Literature Review

2.1 Theoretical Framework

This study is based on the theory of ergonomics, offers a good foundation for the study of cognitive ergonomics in the context of Nepalese industrial estates. Ergonomics is "the scientific field concerned with the knowledge of interactions among people and other parts of a system and the profession that

applies theory, concepts, data, and methodologies to design in order to enhance human well-being and overall system performance," as defined by the International Ergonomics Association (International Ergonomics Association, 2021). This concept emphasizes the significance of addressing both the individual and the system in ergonomics. In the field of cognitive ergonomics, this means taking into account the person's mental processes, like attention, working memory, making decisions, and learning, as well as the things in the environment that may affect these mental processes.

In the context of industrial estates in Nepal, cognitive ergonomics plays a vital role in maximizing employee health and productivity. With globalization allowing the flow of people, technology, information, and opportunity, the Nepalese industrial estate has witnessed a surge in the use of technology and a trend towards more flexible work arrangements (Kalakoski et al., 2020). Nonetheless, this transition has led to an increase in stress and detrimental effects on employee health and well-being (Buliska-Stangrecka & Bagieska, 2021).

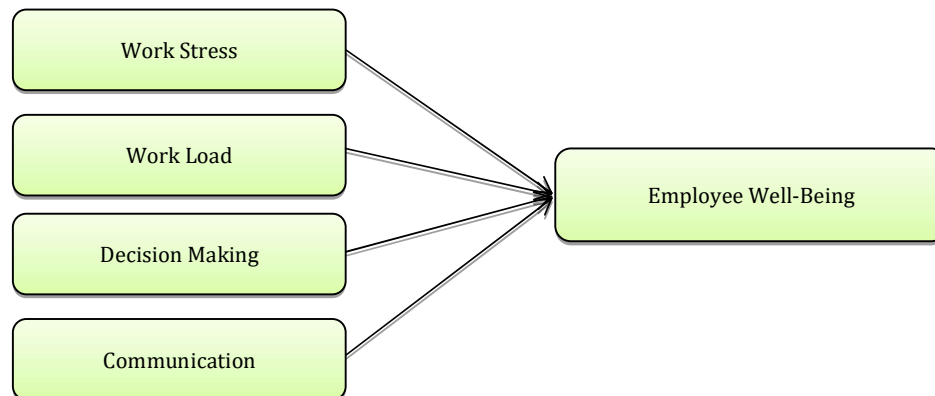
Cognitive ergonomics can address these challenges by analyzing the ways in which the work environment and technology use impact the mental processes of employees and finding ways to minimize the negative effects of cognitively taxing situations, such as disturbances, interruptions, and information overload (Johnson et al., 2020). In addition, it can aid in the management of modern workplace stresses, such as project-based work, time constraints, expectations, role ambiguity, talent diversity, role conflict, strained relationships, organizational responsibility, the need to keep up with technological advancements, job insecurity, and an unfair incentive structure (Skinner et al., 2021).

Therefore, by addressing both the individual and the system, the theory of ergonomics offers a good theoretical framework for the research of cognitive ergonomics in the Nepalese industrial estate environment. This could help make the workplace safer, more effective, and more productive, which could improve employee health and system performance in the long run.

2.2 Conceptual Framework and Hypotheses Formulation

In the research done by Kwon et al.(2021), a holistic conception of teacher well-being was examined in conjunction with a workplace demands and resources framework based on the theory of ergonomics. The study investigated relationships between different job needs, available resources, and overall teacher well-being. These findings highlight the significance of understanding the problems of the early childhood profession and its consequences for policies and efforts intended to enhance the working environment and welfare of teachers. Similarly, Ajmal et al.(2021)'s study on safety management paradigms: Covid-19 employee well-being impact on occupational health and safety performance focuses on the conceptual model for the safety management paradigms to improve occupational health and safety performance with the mediating role of employee well-being in Malaysia's oil and gas industry. It investigates methods for enhancing workplace health and safety performance. The oil and gas sector contributes significantly to the nation's economic growth and job possibilities. In the research done by Rasool et al.(2021) on the impact of a toxic working environment on employee engagement, organizational support and employee wellness had a moderating role. Based on this study model, a toxic working environment has a detrimental impact on employee engagement, both directly and indirectly, through organizational support and employee well-being. After conducting the reviews of different journals, this study proposes following framework.

Figure 1: Conceptual Framework



Sources: Adapted and modify from Ajmal et al.(2021)

The impacts of cognitive ergonomics on the well-being of industrial employees are shown in Figure 1. It is comprised of the following variables: stress, workload, decision making, communication, and employee well-being. In this approach, stress, workload, decision making, and communication are independent factors, whereas employee well-being is dependent. The relationship between independent and dependent variables may be described as follows:

Stress and Employee Well-being

Multiple studies indicate that stress impacts employee health both directly and indirectly through affecting employee job stress (Rasool et al., 2021; Mensah, 2021). The World Health Organisation (2013) defines employee well-being as the condition in which each person understands his or her own capabilities, is able to cope with the regular stressors of life, works successfully, and is able to contribute to the community. In affluent countries, occupational stress has been recognized for a long time as a major predictor impacting employees' health and well-being. However, in developing nations, it has been researched seldom as a factor for employees' well-being (Lawn, 2020). In western developed nations, work stress has often been identified as one of the most important occupational risks of the twenty-first century (Liu et. al., 2019). In addition, work-related stress contributes to organizational issues like job discontent, burnout, excessive absenteeism, poor organizational commitment, and subpar job performance (Jamal, 1999; Sapkota et al., 2020). Employers should place a high priority on mitigating unproductive work-related stress and enhancing employee health (Schwepker et al., 2021). Therefore, this study proposes following hypotheses:

H1: There is significant impact of work stress on employee well-being in industrial estates of Kathmandu valley

Workload and Employee Wellbeing

The health and happiness of workers increases both individual and organizational productivity; conversely, when employee well-being is absent, a corporation risks incurring cumulative financial and non-financial loss (Pradhan et. al., 2022; Sabir et al., 2019). There is evidence that an employee's well-

being is impacted by their workload, which may influence their decision on whether or not to stay with their current employer (Holland et al., 2019). Because an individual's health and happiness are crucial to their own success, a company's profitability is highly reliant on the condition of its employees. It has been observed that companies that emphasize the health and happiness of their employees are better able to build a competitive advantage over time (Wright, 2006). Thus, following hypothesis is developed:

H2: There is significant impact of work load on employee well-being in industrial estates of Kathmandu valley

Decision Making and Employee Wellbeing

The word "employee wellness" refers to a worker's mental, physical, emotional, and financial health in its whole (Swift et al., 2014). It is impacted by a multitude of circumstances, including their relationships with coworkers, the choices they make, and the resources and tools they have at their disposal. The capacity to make judgments is one of the most crucial life skills that has a direct effect on cognitive health. Decision-making is described as the capacity to assume responsibility for one's choices while also taking into account ethical, social, and safety factors (Pohling et al., 2016). The development of this talent is evaluated based on criteria such as the accurate use of problem-solving techniques, the capacity for critical self-reflection, and the capacity to make logical conclusions (Tachie, 2019).

H3: There is significant impact of decision making on employee well-being in industrial estates of Kathmandu valley

Communication and Employee Wellbeing

The strategic internal communications of an organization may be heavily impacted by its unique industrial culture (Men & Sung, 2022). Relationships inside a company are developed and maintained via communication, which is considered a vital activity (Trzeciak et al., 2022). Transparency inside a business is a characteristic of internal communications that may have a variety of positive outcomes. In transparent companies, information will be widely disseminated. The opposite of invisible is see-through. Enhanced visibility necessitates. In this regard, transparency is largely dependent on openness. A transparent organization will actively provide accurate, relevant, and exhaustive information to its internal audience (Buffalari, 2022). Worker engagement is crucial and heavily dependent on the sort of communication that exists in the workplace (Paudel et al., 2018). Since workers can communicate face-to-face, it is simpler to complete tasks on time, leading to a rise in employee engagement (Gerards et al., 2020). Effective communication contributes to the trust and respect felt by workers (Parajuli et al., 2020). Successful workplaces need good connections between coworkers, supervisors, and departments (Shrestha et al., 2020).

H4: There is significant impact of communication on employee well-being in industrial estates of Kathmandu valley

Employee Wellbeing

Numerous theories have been advanced to explain and quantify happiness, including good and negative emotions, mental and emotional health, life and domain satisfaction, dispositional affect, and subjective, psychological, and emotional well-being (Huang et al., 2016). Mental health is one of the most essential factors in an employee's productivity, thus firms should take better care of their employees in this area

(Bickford, 2005). It also covers how a person's mental health may influence not just themselves but also others around them, which can have an impact on the overall productivity of a team or organization (Deci & Ryan, 2008). Therefore, HR experts and organizational psychologists are concentrating more on employee happiness because they recognize the importance of a creative atmosphere (Huang et al., 2016). Job and life satisfaction, together with a general feeling of optimism and happiness in one's professional life, are key markers of a company's effectiveness in building a good work environment for its employees (Afonso et al., 2021; Shrestha et al., 2021). The phrase "employee well-being" refers to the subjective assessment of one's life and the average level of one's experience and functioning at work, such as levels of happiness and optimism, which all have an impact on productivity (Hunsaker, 2019).

3. Research Methodology

This study's core audience consisted of individuals engaged in Kathmandu valley's industrial estates. The Kathmandu Valley is home to three industrial estates: Balaju, Patan, and Bhaktapur. This research utilized a probability sampling strategy and obtained samples using a purposive sampling method. The purpose of using purposive sampling is to focus on respondents with certain qualities who will be able to contribute more to the study at hand (Etikan et al., 2016). A total of 161 people were surveyed.

The primary research tool used for data collection in this study is a structured questionnaire with interview. For the purposes of surveying and collecting primary data for research of the impact of cognitive ergonomics on employee well-being in industrial sectors in the Kathmandu valley, a structured questionnaire has been designed. Following the construction of a study questionnaire, structured questions are delivered utilizing KOBO toolbox forms to gather data. For data collection, the prepared structured questions are delivered using the KOBO toolkit. In order to meet the many objectives of the study, researchers conducted surveys. After entering the questionnaire into the KOBO toolbox, a few sample questions were administered as a pilot survey to check the instrument's consistency and accuracy. The key purpose of the pilot study was to analyze the degree to which the instrument delivers relevant and adequate data and evaluate whether it meets the main objective of the research or not. Data were taken during September and October of 2022. Some respondents were met face-to-face in order to collect data.

The research is founded on descriptive analysis, which includes mean, median, and style analysis, and inferential analysis, which includes structural equation modeling based on a number of latent components. Microsoft Excel was used for data input and research totaling, while KOBO Toolbox, SPSS, and AMOS were applied for data analysis. Data analysis was done using descriptive analysis and inferential analysis. Structural Equation Model (SEM) is used to examine data inferentially. Table 1 described the characteristics of the responders.

Table 1: Socio Demographic Analysis

Demographic Indicators	Category	Numbers	Percentage (%)
Gender	Male	140	86.96
	Female	21	13.04
Age	13- 19 years	1	0.62
	20-29 years	37	22.98
	30-39 years	82	50.93

Demographic Indicators	Category	Numbers	Percentage (%)
	40- 49 years	31	19.25
	50 -60years	10	6.21
Education Level	Master	17	10.56
	Bachelor	113	70.19
	Higher Secondary Level	31	19.25
Marital Status	Unmarried	83	94.06
	Married	78	5.69
Location	Balaju Industry	63	39.13
	Patan Industry	60	37.27
	Bhaktapur Industry	38	23.6
Organizational Nature	Large scale	7	4.35
	Medium scale	91	56.52
	Small scale	63	39.13
Organization Type	Dairy & Food industry	19	11.8
	Forest Based Industry	8	4.97
	Textile industry	12	7.45
	Pottery & Jewelry industry	5	3.11
	Chemical Industry	10	6.21
	Manufacturing Industry	92	57.14
	Service Industry	15	9.32
Nature of your job	Part Time	1	0.62
	Full Time	158	98.14
	Contract Basis	2	1.24
Monthly Income (Rs.)	10,000-25,000	6	3.73
	25,001 – 50,000	67	41.61
	50,001- 75000	46	28.57
	75,001-100,000	21	13.04
	1,00,00-150,000	19	11.8
	200,000 above	2	1.24

Source: Field study (2022)

4. Results

General Understanding on Cognitive Ergonomics on Employee Wellbeing

This study also describes the industrial workers' knowledge of the various ergonomics procedures. Employees were surprisingly uninformed with the phrase ergonomics techniques and their application in the workplace. Therefore, this part displays the shared awareness of ergonomics techniques throughout Kathmandu valley companies. Similarly, respondents were questioned about the elements that impact employee health in a company, and the results reveal that job stress (91%) is the most influential factor, followed by workload (87%) and decision making and communication (51% and 44%, respectively). Miah (2018) did a similar survey of private sector workers in Kuching, East Malaysia, and found that 88% of respondents are negatively affected by workload in the workplace, which contradicts the findings

of our study. Table 2 displays the many kinds of activities implemented by Nepalese Industrial Estate to encourage staff wellness practices.

Table 2: Initiatives Undertaken to Promote Employee Wellbeing Practices

Initiatives undertaken by industries to promote employee wellbeing practices	No. of respondents	Percentage
Increases productivity and motivation	95	59.01%
Brings teams together and builds morale	55	34.16%
Encourage balanced workdays	58	36.02%
Flexible work hours	122	75.78%
Mindfulness training	39	24.22%
Mental Wellness programs	39	24.22%
Physical Ergonomic Assessment	32	19.88%
Collaborative workspace	14	8.7%

Source: Field study (2022)

Exploratory Factor Analysis (EFA)

Findings of the descriptive research, the mean value is between 3.5776 and 3.9317, and the standard deviation ranges between 0.63990 and 0.84276, indicating that the answer has a low degree of dispersion. In this research, the skewness and kurtosis values of the data range from -2 to +2, showing that the data is skewed and free of normal issues. Similarly, exploratory factor analysis (EFA) is undertaken to determine the number of common variables that influence a collection of measures and the strength of the relationship between each component and each observed measure. In EFA, Kaiser-Meyer-Olkin (KMO) sample adequacy measure (KMO) is 0.843 > 0.7 and p value (significant threshold) for the Bartlett's test of sphericity is 0.000, which is less than 0.05, suggesting that data dependability and validity are not an issue. Similarly, this research examined typical technique bias concerning using Harman's one-factor test. The result reveals that the total variance for a single element in this research is 28.344%, which is less than 50%, showing the absence of common technique bias in the study.

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was used to examine and confirm the multiple variables and scales uncovered by exploratory factor analysis (EFA) (Yong & Pearce, 2013). In CFA, the goodness of fit was investigated using measures such as CMN/DF, RMR, RMSEA, GFI, IFT, TLI, and CFI. Table 3 displays the CFA results of the investigation, which was conducted using the software SPSS AMOS and has acceptable fit indices.

Table 3: Confirmatory Factor Analysis (CFA)

Name	Acceptable Value	Obtained Value
Chi- square/df (CMIN/df)	<5 it can be accepted	1.516
Root Mean Squared Residual (RMR)	<0.08	0.056
Goodness of Fit Index (GFI)	>0.80	0.882
Comparative Fit Index (CFI)	>0.90	0.968

Name	Acceptable Value	Obtained Value
Turker-Lewis Index (TLI)	>0.90	0.963
Incremental Fit Index (IFI)	>0.90	0.968
Root Mean Square Error of Approximately (RMSEA)	<0.08	0.048

Measurement Model

The measurement model quantifies, in the form of a linear mixture, the interactions between hypothetical frameworks that may or may not have measurable components and observable variables that constitute a particular fictitious construct. As noted, convergence validity and discriminant validity were employed to determine the reliability and validity of the data. For convergence validity verification, the data must satisfy the requirements of $CR > 0.70$ and $AVE > 0.50$. To demonstrate discriminant validity, the data must also satisfy the requirements of $AVE > MSE$ and the square root of $AVE > correlation$. Due to the fact that it satisfies the aforementioned criteria, the outcome of this experiment demonstrates both convergence and discriminant validity (Table 4). Internal consistency is evaluated using Cronbach's alpha. The bigger the value of Cronbach's alpha, the stronger the internal consistency. The result indicated that Cronbach's alpha is higher than 0.80, indicating strong internal consistency across variables.

Table 4: Reliability and Validity

Construct	Indicator	Factor loading	Cronbach's Alpha	CR	AVE	MSV
Work Stress	WS_2	.793	0.901	0.902	0.699	0.122
	WS_3	.815				
	WS_4	.734				
	WS_5	.784				
	WS_5	.784				
Work Load	WL_1	.795	0.850	0.851	0.592	0.056
	WL_2	.672				
	WL_4	.684				
	WL_5	.708				
	WL_5	.708				
Decision Making	DM_1	.758	0.899	0.899	0.691	0.375
	DM_3	.791				
	DM_4	.791				
	DM_5	.788				
	DM_5	.788				
Communication	C_1	.698	0.854	0.855	0.596	0.048
	C_2	.693				
	C_3	.697				
	C_5	.742				
	C_5	.742				
Employee Wellbeing	EW_1	.777	0.913	0.914	0.726	0.375
	EW_3	.810				
	EW_4	.797				
	EW_5	.810				
	EW_5	.810				

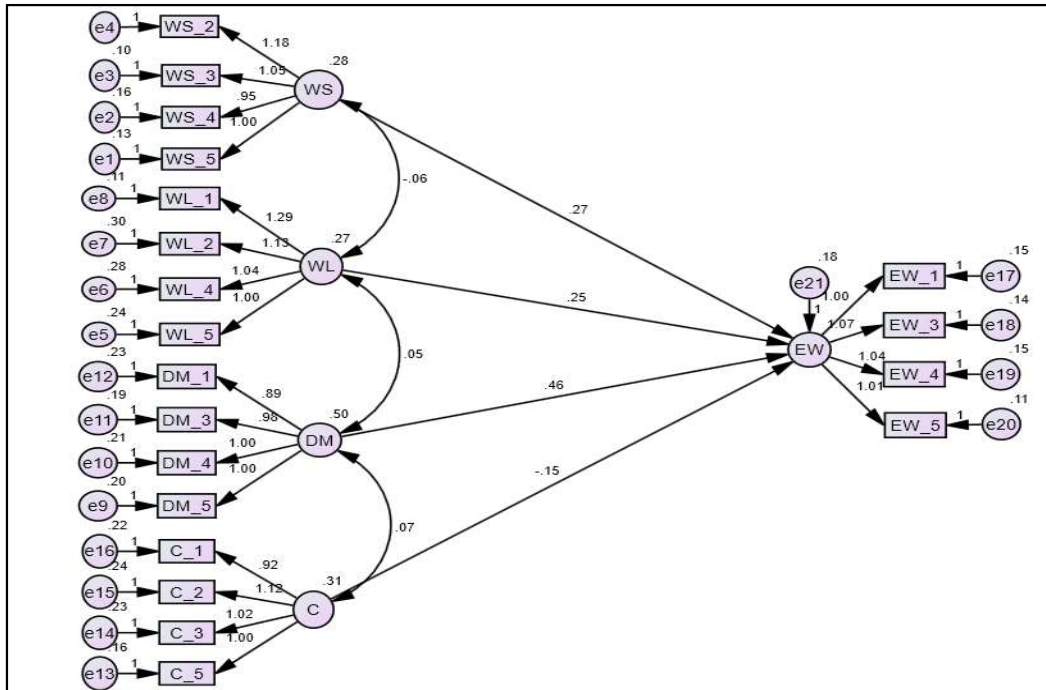
Test of Hypothesis and Path Analysis

Based on the replies of 161 workers, this research evaluates four constructs and twenty factors using a trial-and-error methodology. The AMOS Software is employed to do the path analysis, and the calculations and interpretation are based on the AMOS findings that were used to perform the route

analysis. As illustrated in Figure 2, this model has three variables: latent variables, observable variables, and error variables.

Each of the five latent variables has several observable variables. By testing the model fit for each observed variable, the final observable variables for each latent variable were allocated. The error terms e1 through e21 reflected additional effects that might affect the endogenous variables in addition to those provided in the model. To establish a measuring scale, the error components were previously given values of 1 as the unstandardized path coefficients. As a consequence of analyzing the route analysis, it may be possible to discover error factors and eliminate them, so enabling the matching of latent and observable variables. According to the model, the independent variables WS, WL, DM, and C explain the dependent variable EW by 27%, 25%, 46%, and 15%, respectively, while the remaining variance is explained by other variables. Similarly, the error terms e1 through e21 reflected additional factors that may affect the endogenous variables in addition to those provided in the model. To establish a measuring scale, the error components were previously given values of 1 as the unstandardized path coefficients. As a consequence of analyzing the route analysis, it may be possible to discover error factors and eliminate them, so enabling the matching of latent and observable variables.

Figure 2: Path analysis



This study also looked at the hypothesis statements to evaluate if the study’s findings are statistically significant. Table 4 shows that only four hypotheses i.e., H1 (Work Stress), H2 (Workload) and H3 (Decision Making) are significant because p-value is less than 0.05. This means that there is a significant relationship between dependent and independent variables. Remaining one hypothesis i.e. H5 (Communication) has the p value greater than 0.05 therefore, this one hypothesis is insignificant.

Table 5: Hypotheses Testing

Hypothesis	Estimate	S.E.	C.R.	P	Hypothesis Result
H1: Work Stress→ Employee Wellbeing	0.262	0.077	3.412	***	Significant
H2: Work Load→ Employee Wellbeing	0.254	0.082	3.111	0.002	Significant
H3: Decision Making→ Employee Wellbeing	0.459	0.066	7.001	***	Significant
H4: Communication → Employee Wellbeing	-0.141	0.074	-1.895	0.058	Insignificant

5. Discussion

The purpose of this study is to determine the effects that cognitive ergonomics have on the wellbeing of industrial employees in the Kathmandu valley. In this study, the reliability test and multiple linear correlations were used to investigate and determine the nature of the relationships between the variables. At the level of significance represented by a p-value of less than 0.01, the study reveals that three of the four hypotheses may be accepted.

Work-related stress has a substantial impact on employee health. It demonstrates that workplace stress influences employee well-being since it contributes to problems such as job discontent, burnout, excessive absenteeism, a lack of organizational commitment, and subpar job performance. Rasoon et al. (2021) performed research that demonstrates that workplace stress has a detrimental effect on employee well-being, which is in contrast to the present findings. Similarly, the findings of this research are consistent with those of Holman (2004), which demonstrate that workplace stress has a major influence on employee health. Likewise, Workload influences Employee Wellbeing in a good manner and demonstrates that heavy workloads lead to lower performance and mental strain on employees. The greater an employee's workload, particularly if it is difficult to accomplish, the more probable it is that their performance will suffer, which in turn impacts the employee's well-being inside the firm. Similarly, the research done by Kokoroko and Sanda (2019) revealed the same finding, namely that employee workload has a major influence on their health. Lastly, Decision Making, Employee Wellbeing is favorably influenced. It implies that decision making has a direct impact on cognitive health, as it enhances productivity and employee engagement, and, most significantly, fosters and maintains employee faith in the firm. This study's result is consistent with Rodrigues et al. (2022)'s finding that decision-making has a substantial effect on employee well-being.

In brief, the concept of cognitive ergonomics practices has not yet been created and utilized in Nepalese enterprises in the same manner that it has matured and is done in certain industrialized nations. Due to a lack of awareness among top-level management, the absence of effective people management patterns in the nation, and a centralized organizational structure, cognitive ergonomics efforts for the enhancement of employee well-being in Nepalese organizations are still in their infancy. The study investigated the effects of cognitive ergonomics on employee performance by determining the level of cognitive ergonomics practices in Nepalese industrial organizations, identifying the factors impeding cognitive ergonomics practices, and identifying the best practices and methods adopted by various organizations across industries. The evaluations of research indicate that the degree of cognitive ergonomics knowledge in the nation is poor, and this may be related to the fact that Nepalese employers are unaware of the advantages of using cognitive ergonomics in their workers' daily activities.

6. Conclusion

The study investigated the effects of cognitive ergonomics on industrial employee wellbeing in Kathmandu valley. Employees in industries status of cognitive ergonomics must be handle the work stress, load of work can make good decision making and communication in work era in order to increase employee wellbeing. In addition, this study aimed to examine cognitive ergonomics on employee wellbeing in industrial estates by analyzing factors that effect of cognitive ergonomics on employee wellbeing and identifying cognitive ergonomics related challenges among employee as well as recommend managerial solution on cognitive ergonomics related wellbeing in industrial estates of Kathmandu valley.

Employee wellbeing is significantly impacted by work stress. Because it causes problems like job frustration, stress, significant tardiness, a lack of organizational commitment, and poor job performance which demonstrates that workplace stress has an effect on employees' well-being. Workload significantly affects employee wellbeing. It shows that heavy workloads have a negative impact on performance and put an employee under mental strain. An employee's performance will likely decline the more work they are assigned, especially if it is challenging for them to do it. This also has an impact on the employee wellbeing in an organization. Similarly, decision making positively influences on employee wellbeing which indicates that, decision making directly effects the cognitive well-being as it increases output, involvement and most importantly it encourages and upholds employee confidence within the organization.

Based on the findings of cognitive ergonomics-related challenges encountered by employees in Kathmandu Valley industrial estates, the balance between work and personal life is found to be major challenge which is followed by inflexible working hours, interpersonal relationships, leadership, unclear tasks or organizational objectives, deficient health and safety policies, low levels of employee support, and reliance only on intergenerational cooperation.

Management tactics can be used to tackle challenges that develop in the workplace to keep employees engaged. The results demonstrate that breaking up the monotony is one of the key strategies for better solving problems and maintaining employee well-being, which is followed by encouraging open communication, bringing some diversion into the office, bringing mediation classes, and offering mental and physical benefits as other managerial strategies that help to facilitate in solving problems and maintaining employee well-being in the industry workplace in Kathmandu valley. Furthermore, employees have offered suggestions for improving employee well-being at the industrial estate workplace. The recommendations include promoting employee health practices and flexible working hours; government policies on cognitive awareness programs; and According to the findings, improvements in job performance, proper human talent development and upgradation, recognition, and involvement are some ideas for enhancing employee wellbeing at work.

In nutshell, employee's mental health problems have become one of the leading causes for absenteeism from their work and early retirement in other countries but in Nepal employees are more focus on due to lack of job opportunities. In a positive work environment, better or suitable lighting boosts productivity, less absenteeism, improved safety, lower insurance rates, and better morale.

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