



Research Article

Navigating the Effect of Workplace Environment on Employee Performance: The Mediating Role of Employee Health in Manufacturing Shop Floor

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ABSTRACT

This research aims to determine the effect of physical and behavioral environmental factors on employee performance and determine if employee health mediates these relationships. This investigation is based on a manual survey questionnaire that uses quantitative research methods. The study used descriptive-causal research to evaluate the cause-and-effect relationship among variables. The survey was conducted among employees of Company ABC, specifically focusing on the technicians who work on the manufacturing shop floor using a purposive sampling design. 107 respondents participated in the survey, and the collected information was examined using the Jamovi software application to perform reliability, simple linear regression, and, multiple linear regression analyses. The Results revealed that physical environmental factors do not have a significant effect on employee performance. However, behavioral environmental factors do have a significant direct effect on employee performance, with a p-value of 0.020. We did not perform a meditation test since there was no indirect significance on physical and behavioral environments to employees' health, which affects employee performance. In a behavioral environment, it's crucial to maintain positive working relationships between co-workers and leaders to achieve organizational goals. The researcher recommended having annual behavioral training for all employees to maintain it's a healthy atmosphere with mutual respect to each and everyone in the organization. Previous studies have primarily focused on the office facility and used a qualitative approach, whereas this study concentrates on the manufacturing shop floor and employs a quantitative research method.

INTRODUCTION

A. Background of the Study

One element that helps to support employee performance is the work environment. While the work environment itself does not perform the production process within a company, it does have a direct effect on the personnel that do so (Pahlevi, H. N.). Designing, Organizing, and Planning the workplace is important when starting a business. It optimizes employee performance, performance, safety, and health. A comfortable working environment helps to create a more positive atmosphere, which, in turn, leads to im-

proved motivation and a greater will to produce good results (B. Johnson et, al 2021). For instance, high levels of natural light in the workplace can increase exposure to vitamin D, which helps to improve mood, and when people are happy, they tend to work hard, which has a positive effect on employee performance and employee well-being. The work environment is an attitude or behavior that demonstrates a readiness to adhere to and uphold the applicable requirements, rules, regulations, values, and rules (V. Ginoga et, al 2023). This research focuses on the relationship between the working environment and employee per-





formance mediating the employees' health. The two main factors of the working environment involved in this study are: first, the physical environment factor second is the behavioral environment factor. The physical working environment, which includes the lighting, temperature, noise level, office design, and availability of fresh air, can have an effect on employees' performance. All those disruptions may result in health issues for the staff, which can lower performance levels (Nur Shifaa Athirah Saidi et al. 2019). Organizational leaders have a critical role in maintaining and improving the behavioral factors of employee belonging and affirmation in the workplace (Diamantidis, A. D., & Chatzoglou, P. 2018).

Employee health serves as a link between behavioral and environmental factors. Enhancing behavioral and physical characteristics will enhance worker health, and healthy workers are more productive; they can carry out their duties more successfully and efficiently, which will enhance worker performance (Hafeez, I. et, al. 2019). Over 50% of employees work long hours in offices, which negatively affects their physical health and wellbeing (Soriano, A. et al, 2018). Employee performance refers to the work processes that employees need to complete over a specific period, including applying their ideas and efforts to help the organization achieve its business objectives it is also that Employee performance can be enhanced by the work environment, but it can also be negatively effected if it is thought to be insufficient (Setyani Dwi Lestari et al, 2021).

On the shop floor, manual activities still make up a significant portion of the process, particularly in as-

sembling the product. The workplace environment is important for employees' day-to-day activity. Based on the interview conducted by the researcher with the people leader on the shop floor during the needs assessment in the company, one of the reasons that may affect the performance and increased absenteeism of their members is the health issue concern that could be possibly affected by the physical working environment, which includes lighting facilities, cleanliness, noise, and cooling facilities, an uncomfortable working environment, and a dusty workplace that employees experience in the workplace. Behavioral factors are also one of the variables in this study that may contribute to the decreasing performance of the employees. This includes all conditions or events related to a balanced workload, work relations, the boss, and employees or fellow employees. The work environment involves all aspects of an employee's internal and external surroundings that may effect their ability to perform their duties (Nurhasanah & Purwanto, 2022).

In this paper, the researcher reviews the available literature about workplace environments and employee performance. In previous studies of Hafeez, what needed further study was determining employee health and employee performance. The current study focuses on how workplace environment factors affect employee health and performance in the shop floor area. Also, the study aims to help the company improve the working environment on the shop floor of a manufacturing company in Batangas.



Statement of the Problem

The purpose of this study is to identify the effects of the working environment on employees' performance in the manufacturing shop floor. The study would like to address the problem experienced by employees in the working environment on the manufacturing shopfloor that leads to constant complaints by the employees to their people leader up to the higher management.

Significance of the Study

The study aims to provide valuable information on how to navigate the effects of the working environment on employees' performance by using employees' health as a mediator. The workplace environment is one of the most important factors affecting the health and performance of employees. The study will address SDG 3, which is to ensure healthy lives and promote well-being for all ages. In the workplace, especially in manufacturing industries, it is very important to protect the health and well-being of every employee. They need to feel satisfied with life, which is characterized by their health, happiness, and prosperity. A healthy and well-being employee may increase performance, reduce absenteeism, and improve employee retention at the company. The study also addresses SDG 8, which promotes sustainable and inclusive economic growth, employment, and decent work for all. Relying on this in manufacturing will help improve resource efficiency in consumption and production. It also gives everyone more opportunities for jobs. This research can help improve the performance and well-being of an employee. A well-de-

signed workplace can increase employee engagement, creativity, and motivation. Below are the stakeholders who will benefit from this study.

For the manufacturing shop floor, providing an empirical foundation for approaching the current workplace environment issue, will improve safety and performance in aviation manufacturing. The paper's output will help to manage the working environment according to the health and performance of the employees.

For employees, providing a safe workplace environment helps reduce risky manufacturing practices and other workplace hazards. Better use of resources can increase performance; obtaining greater profitability in the production units leads to a reduction in cost.

For the company administrators, this study may provide them with insight into the development in terms of the safety of the people and the quality of the product.

And, for future researchers, the findings may serve as the foundation for additional research.

Review of Related Literature

This section presents the relevant literature and studies that the researcher considered in consolidating the significance of the current study. It also presents the synthesis of the art to fully grasp the research for better comprehension of the study.



Workplace environment

When workers are comfortable in their workplace, they are certain to be more disciplined and perform better in reaching the organization's or agency's objectives (Putri, et. al, 2019). In several studies, they discovered that the working environment is important because productive employees can operate more effectively in a comfortable setting, which enhances employee performance and improves company production. A positive work environment allows employees to experience joy and helps them fully develop their personalities, but a toxic work environment causes suffering and de-actualizes employees' behaviors (Osazevbaru, H. O et. al, 2021). Being comfortable in the workplace will allow the employee to reach the daily target output, and appreciating them, will increase their morale. One of the top locations for health promotion in the twenty-first century is the workplace. It has been demonstrated that they have a direct effect on workers' social, emotional, mental, and financial well-being and, consequently, the health of their families. (Abdin, S. et al, 2018). Good workplace design helps the worker and the organization produce quality products and promote a safe environment. A pleasant and conducive work environment improves the conditions in which people utilize their abilities, competencies, and knowledge to perform effectively (Hafeez, I. et. al. 2019). Motivated employees benefit from increased employee engagement and lower employee absenteeism and turnover. It also builds a great company culture. It is necessary to provide a safe and pleasant place to work that places importance on employees' physical, mental, and general well-being, as well as their fundamental rights to privacy, autonomy,

and human dignity. Industrial workers must continually retrain and improve in order to improve their career opportunities and work-life balance. (Xu, X. et. al, 2021). The retention of workers aside from better salaries and benefits is a good workplace environment. The organization must maintain good practices in maintaining a good working environment.

Physical and Behavioral Environmental Factors

Maintaining a healthy workplace environment makes the business successful. In today's dynamic and competitive global business, the manager should not only focus on employees' compensation to enhance their performance, as many other factors need to be considered (Hamidi, N. et. al, 2020). When provided with enough workplace environmental support, employees will show a high level of satisfaction and dedication to their company.

The researcher used two main factors, The Physical and Behavioral Environment. The following are the related literature considered in this study. The physical workplace environment in this study, as it relates to environmental ergonomics, includes temperature, ventilation rate, noise, light, and relative humidity (Ning, H. J., & Kam, L. V. 2018). All these factors influence positive human performance, both directly and indirectly. Maintaining a good physical environment in the workplace and managing their human resources will help them receive valuable feedback (Ali, F. et. al, 2018). The study above showed that the physical workplace environment has a significant effect on employee performance. According to the study by Hafeez et. al, 2019, physical and behavioral en-



environmental factors are positively affecting employee health, and employee health is positively affecting employee performance. In the current research study, the researcher adopted these variables from previous studies. (The effect of workplace environment studies on employee performance mediating employee health) Because it is essential to have a healthy and supportive work environment for employees to feel valued, motivated, and productive.

Motivation for employees comes from positive aspects of environmental behavior (Graves, L. et. al, 2019). Workers are likely to adopt behaviors that improve performance if they are employed in a dynamic workplace with rising job-related demands (Diamantidis, A. D., & Chatzoglou, P. 2018). In a dynamic workplace, the employees must be readily able to adapt and reconfigure themselves when the working environment changes. As reviewed in previous research by Hafeez, behavioral factors in the working environment affect employee performance more significantly than physical environmental factors. According to the study of Gachui J. et al, 2020). Most people agree that one of the most significant problems facing modern and future societies is the behavioral aspect of the workplace. They discuss how the working environment and conditions, organizational settings, the tasks and their substance, the workers' personal qualities, and those of their family members interact.

Employee Health

Globalization and the global financial crisis have had a significant effect on the workplace, increasing

demand and causing stress and related issues (Moreno Fortes, A. et. al, 2020). If the organization is facing a global financial crisis, the budget forecasted for promoting wellness among employees may be affected. Administrators have the power to make decisions in ways that affect the physical health and general well-being of their staff members. Consequently, a growing trend has seen businesses teach managers ways to lower the risk factors for their employees' physical health at work (Gayed, A., et. al, 2018). As the people leader in an organization, he or she has a responsibility for the health and well-being of the members of the organization. The health of employees is negatively effected by long work hours (Wong, K., et. al, 2019).

Also, Health problems cause distractions, poor production, and, less frequently, safety failures (McHugh, M., et. al, 2019). To create an effective and efficient working environment, it is important to take care of employees' health in the workplace. The foundation of corporate development is a work environment and leadership that prioritize the health of the employee (Liping, L., & Fang, C. C. 2020). According to Khoreva and Wechsler's (2018) research, an employee's performance is influenced by both their physical and mental health. The study found that strategies that improve employee work performance include those that increase motivation as well as those that improve skills and opportunities. The study discovered that motivational techniques and physical health improve in-role job-related performance.



Employee Performance

For several reasons, employees must be productive. It directly affects a company's profitability and competitiveness, first and foremost. Productive workers may produce more goods or services in less time, which can result in higher incomes and a more competitive position in the market. Moreover, performance is an accepted measure used to evaluate the effectiveness and performance of an organization (Tzenios, N. 2019). The performance of the employee normally depends on the working environment, such as providing a proper tool and equipment and providing formal training and certification for the process.

The ratio of an organization's workforce's output to their production capacity is known as performance. Improving performance is the goal of employee motivation. A productive work environment and a strong skill set are the foundations of a productive worker (Sood, K., & Boruah, A. 2018). Offering employees rewards for a job well done will help them be motivated and more productive. With that, they feel the appreciation and care shown to them by the organization.

A job's performance is influenced by several variables, including the working environment, encouraging supervision, personal skills, and an integrated system of motivational policies and organizational standard operating procedures (SOPs) (Rasool, S. et al, 2019). It is not enough to have a good working environment to achieve performance; it is a collaboration of people leaders, skilled workers, and following standard operating procedures. The level of employee satisfaction with their work determines their

performance, and vice versa. Higher employee satisfaction levels result in higher performance (Shobe, K. 2018). A happy worker is likely to be a productive worker. Happier workers feel more involved in the business, which lowers the absenteeism rate. Due to the full staff, the organization is also able to deliver on schedule to the customer; commitment delays are eliminated. Businesses are better able to recognize and compensate high-performing workers (Warr, P., & Nielsen, K. 2018). The performance of a worker has a big effect on how successful a business, agency, or organization is. A rise in performance suggests that workers may make more progress or contribute more effectively, whereas a fall in performance denotes a decline in the output they generate (Hasyim et al.,2021). The current study partially adopted the questionnaire statement to measure employee performance from the study of Suryanto et al. (2023). where the employee performance indicators include quality, quantity of work, reliability, and work attitude.

Workplace environment and performance

According to the study of Zhenjing, one of the key elements in an organizational setting that affects employee performance is the work environment. Monetarily rewarding employees is insufficient in the competitive corporate environment of today to push them to greater performance levels. Nonetheless, according to the study of Hafeez, it is more successful to combine monetary and non-monetary benefits to raise employee performance levels, which in turn helps the organization reach its objectives. Monetary and non-monetary benefits programs in an organization boost the level of performance of each employ-



ee. They have the eagerness to meet the target output because of the rewards or tokens awaiting them once they hit the target. Employee performance might decrease in a toxic work environment, but worker performance can increase in a cooperative environment (Rasool, S. et. al, 2019). A toxic workplace environment is a significant source of psychological strain for employees and can lead to a high level of stress that can affect performance. A company’s work environment is designed to give its employees a comfortable and conducive work setting in which to accomplish the objectives that the organization has set for them (Hairo, A. M., & Martono, S. 2019). It has been discovered that a happy, healthy workplace improves performance (Girdwichai, L., & Sriviboon, C. 2020). A nice working environment makes the employees happy and comfortable; it is essential in making them strive for more and will improve the quality of their work. The emotions of employees might be effected by their workplace (Badrianto, Y., & Ekhsan, M. 2020). If the employees are not comfortable in the workplace, it may hurt their emotions and lead them to be unproductive.

B. Research Framework

Theoretical Framework

According to Barnett & Gareis (2006), the individual in a given environment has a vibrant relationship with their social, physical, and natural environment. The Ecological System Theory, also known as person in the environment, supports this study and suggests that work and life are interconnected, with one influencing the other in terms of process, time, context,

and time characteristics (Grzywacz & Bass, 2003). The many types of environmental systems have an effect on human development, according to ecological system theory. This theory, which was developed by renowned psychologist Urie Bronfenbrenner, explains why we could act differently when comparing our behavior at work or in the presence of our family to that of our peers. Theory of Social Exchange (Emerson, 1976) Support from managers fosters employee trust, which in turn motivates workers and fosters a positive attitude towards their jobs. Employee satisfaction also rises because of manager support, which boosts worker performance.

This theory was relevant to this study because protective factors like safety ergonomics in the workplace reduce the potential risk to the workers to be more productive in a safe working environment. The more protective factors are available the more the employee will perform productively without worrying about safety and health concerns.

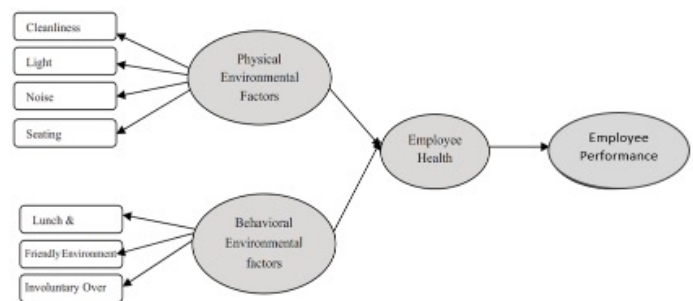


Figure 1. Conceptual Framework

Source: Hafeez, I., Yingjun, Z., Hafeez, S., Mansoor, R., & Rehman, K. U. (2019). Effect of workplace environment on employee performance: mediating role of employee health

This research, which is based on Hafeez’s study, has concentrated on the connection between worker performance and the workplace. The study’s foundation is the connection between an employee’s performance and their working environment. The study



focused on two primary aspects of the work environment: the physical location, which included office lighting, building surrounds, and staff seating arrangements, and the behavioral aspect, which included the teatime setting and overtime bonuses, among other things. The previous study used information gathered from several Pakistani software companies to calculate the effect of these elements on the life of the developer. The objective of the research is to investigate how employee performance (EP) is affected by workplace environments, namely physical and behavioral environmental factors, and how employee health (EH) plays a mediating role in these effects. The previous study's findings showed that a variation of one unit in PEF accounts for a 35% change in EH, a variation of one unit in BEF accounts for a 33% change in EH, and a variation of one unit in EH accounts for an 80% increase in EP. Environmental factors that are behavioral and physical have a beneficial effect on EH, while EP is positively effected by EH. The study's findings showed that office environment variables and employee performance are mediated by employee health.

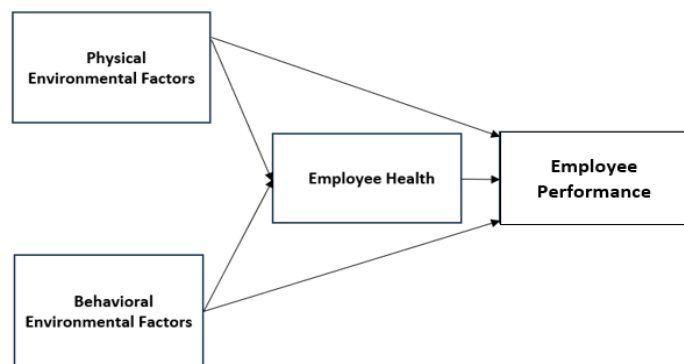


Figure 2. Operational Framework

The Operational framework for this study was adopted from the study of Hafeez, I. et. al, (2019) entitled “Effect of workplace environment on employee

performance: the mediating role of employee health.” The purpose is to find out the effect of physical environment factors and behavioral environment factors on employee performance and determine if employee health mediates these relationships. They conducted their research in an office environment and the results of the study revealed that physical and behavioral environmental factors were positively affecting employee health, and employee health was positively affecting employee performance.

The current study, on the one hand, is completely different in terms of the location in which the respondent came from the manufacturing area. The same workplace environment factors, such as physical and behavioral, will be considered independent variables. The physical environment refers to the lighting facilities, cleanliness, noise, and cooling facilities, and a comfortable working environment that employees experience in the workplace. The behavioral environment, on the other hand, covers issues relating to the workers, the general environment, and work. refers to a balanced workload, a degree of personal control over the work, encouragement from coworkers and managers, a positive work environment, a role that is reasonably defined, and a sense of control or engagement in changes at the company. Employee health refers to the physical and mental well-being of employees. Employee performance will also be measured using the survey questionnaire. It refers to the employees' performance as measured through work quality, work quantity, work reliability, and work attitude.



C. Objectives of the Study

The main purpose of this study is to find out the effect of physical environment factors and behavioral environment factors on employee performance and determine if employee health mediates these relationships.

Specifically, this study aims to.

- a. To investigate if physical and behavioral environmental factors significantly affect employee performance.
- b. To determine whether employee health significantly mediates the effect of the physical and behavioral environmental factors on employee performance.
- c. To determine the respondents' perception towards working environment, level of employees' performance and status of employees' health.

D. Hypotheses

The current study tests the following hypotheses.

H_{01} : The physical environment factors do not significantly affect employee performance.

H_{02} : The behavioral environment factors do not significantly affect employee performance.

H_{03} : Employees' health does not significantly mediate the effect of physical environment factors on employee performance

H_{04} : Employees' health does not significantly mediate the effect of behavioral environment factors on employee performance

MATERIALS AND METHODS

A. Research Design

The research study used a quantitative and descriptive-casual research design. The purpose of quantitative research design is to gather quantifiable data to statistically analyze a population sample. The study used descriptive-causal research to evaluate the cause-and-effect relationship among variables: the physical environment factor, the behavioral environment factor, employee health, and employee performance.

B. Locale of the Study

The manufacturing company in Batangas was the chosen location for the research project. The manufacturing shop floor was the study's location. Because this area is concerned about a problem with the working environment that could have an effect on worker performance and health.

C. Respondents of the Study

The respondents to the study are the technicians who worked in the shopfloor manufacturing area of Company ABC. The participants were selected because, based on the gathered information during the needs assessment from the company, this group of people is concerned about their health because of the work environment, which eventually can also affect their performance as they spend more than 10 hours working on the shop floor per day. This study uses a purposive sampling technique. This is a type of



non-probability method in which the researcher uses expertise to select participants.

D. Sampling Design

The participants for this study were selected based on the list provided by the company. The researcher selected the technician per process on the shop floor. For this study, a total of 107 target samples were determined using g-power analysis with an effect size of 0.15 and a power of 0.95 and two predictors. To obtain the objectives, the purposive sampling technique was used in collecting the data. Respondents were chosen based on the following criteria:

- a. Technician level 1 to level 5
- b. Assigned in P1-P6 Process
- c. Working Onsite

E. Research Tools and Instruments

A survey questionnaire was used with three references to collect quantitative data. In the survey, the researcher adopted and modified a questionnaire from a previous study (Hafeez, I. et al., 2019: Effect of workplace environment on employee performance: the mediating role of employee health), in which the questions focused on the physical working environment and the employee's health. The second reference was the study of Gachui, J. G., Were, S., and Namusonge, G. (2020). Effect of work environment on employee performance at the Ministry of Education headquarters in Kenya. In which the behavioral environment was considered. Another reference that was considered was the study of Suryanto et al. (2023): Analysis of the Effect of Work Environment and Knowledge

Sharing on Employee Performance in Innovative Behavior Mediation, in which employee performance was considered. The survey questionnaire was modified to fit the objectives of the current study. The survey questionnaire applies only to the technicians on the shop floor. It was composed of two parts, Part 1 and Part 2. In Part 1, the contents were general information, in which the following are listed: gender, age, education, work area, and work experiences. For the second part of the questionnaire, there are a total of 30 variable questions: 24 out of 30 using a 5-point Likert scale (Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, and Strongly Agree). While the remaining 6 questions are for employees' health using a Likert scale (Never, Seldom, Sometimes, Often, and Always). For the full details on the questionnaire survey, please refer to Appendix A.

Reliability and Validity of Instruments

As part of the study, a pilot test was carried out to verify and test the questionnaire. The pilot study was conducted to test the reliability and validity of the questionnaire. To assess the validity of this research instrument, a researcher selected 30 respondents outside the company ABC. It's important to note that the pilot data was not included in the actual study.

Validity Test

Validity is determined by the meaningful and applicable interpretation of the data attained from the measuring instrument as a result of the analyses (Sürücü, L., & Maslakçi, A. 2020). The study aimed to determine if the questionnaire used in the research



directly measured the variables and whether the questions were relevant and suitable for the study’s objectives. Internal validity was used in this study, and the researcher sought the opinions of line leaders in the field to assess the questionnaire’s content. This process helped in refining the questionnaire before collecting data. Please refer to Appendix I.

Reliability Test

The reliability test is seen in the values of Cronbach’s alpha and compound reliability values > 0.7 (Sabuhari, R., et. al, 2020). The alpha measure, with a value between 0 and 1, can be used to describe the validity of factors taken from scales with multiple points. Cronbach’s alpha (α) is a dimension that calculates the internal consistency of an assessment instrument. The value of Cronbach’s alpha between 0.6 and 0.8 is deemed acceptable (Raharjanti NW et. al, 2022). Table 1 provides the reliability test findings.

Table 1. Reliability test results

Variable	Cronbach’s Alpha Value	Remarks
Physical Environment Factor (PEF)	0.605	Reliable
Behavioral Environment Factors (BEF)	0.842	Reliable
Employee Performance (EP)	0.834	Reliable
Employee Health (EH)	0.810	Reliable
Aggregate score	0.772	Reliable

The findings in Table 1 indicate that the 0.6–0.8 threshold was met by the variables while the overall reliability was 0.772 which was evidence that the questionnaire was reliable.

F. Data Analysis and Interpretation

The researcher uses the mean and standard devi-

ation to measure the summary of the differences between each observation of the study. This is to present the employee’s assessment of environmental factors, their health status, and their performance. Multiple linear regression was used to determine the effect of the workplace environment on the performance of the employees. To determine the null hypothesis of the study, if the p-value is <0.05, there is a statistically significant effect, while if the p-value is >0.05, the result of the study has no statistically significant Effect. A simple linear regression test was used to analyze the indirect effect of the variables’ physical and behavioral factors by mediating the role of employee health in employee performance.

Table 2. Verbal Interpretation of Variables

Mean Range	Verbal Interpretation
4.21-5.00	Excellent
3.41-4.20	Very Satisfactory
2.61-3.40	Satisfactory
1.81-2.60	Needs improvement
1.00-1.80	Poor

G. Ethical Considerations

The research process utilized ethical guidelines developed by Bryan and Bell (2007) to ensure that the participants did not experience any harm as a result of their participation. The participants were employees of Company ABC who provided their complete consent before the study. Privacy was a top priority, and the participants were guaranteed that their information would be handled with care. Their voluntary involvement in the study was highly respected, and they were given the option to leave the study at any time. Moreover, the utmost impartiality was maintained during conversations and examinations throughout the investigation. Finally, all communication related to this action study was honest and transparent.





RESULTS AND DISCUSSION

This chapter presents the study’s findings, which are arranged into subsections based on the goals of the objectives. Response rate, respondents’ demographics, and descriptive statistics are all included in these sections.

A. Descriptive Statistics Results

The focus of this study was to gather demographic information about the technicians working on the manufacturing shop floor at company ABC. A total of 107 respondents, including male and female employees, participated in the study, resulting in a response rate of 100%. Among the participants, 91.6% were male. Most of the respondents (65%) were between 21-30 years old. Education-wise, 38.32% had an undergraduate degree, 28.04% had a vocational graduate degree, and 33.64% had a graduate degree. The respondents were assigned to different processes on the shop floor, ranging from P1 to P6. In terms of work experience, 78.5% of the respondents had more than 5 years of experience with only a minimal number of participants having 1-4 years of experience at company ABC. detailed tables can be found in the appendix B and C sections.

This is a summary of the descriptive statistics calculated for the variables used in the study. The dependent variable is Employee Performance, and the independent variables are the Physical Environmental Factor and Behavioral Environmental Factor. Additionally, the mediator variable was Employee Health. All variables from the questionnaires were analyzed,

and the mean and standard deviation of each variable reported by the participants were discussed. A detailed table can be found in the Appendix D section.

Table 3. Employees’ Perception of the Working Environment, Performance, and Health

Table with 4 columns: VARIABLES, MEAN, STD. DEV, INTERPRETATION. Rows include Physical Environmental Factor, Behavioral Environmental Factor, Employee performance, and Employee health.

Table 3 depicts the overall arithmetic mean and standard deviation of dependent, independent, and mediator variables as respondent by the respondents. The finding of this study indicates that most employees were very satisfactory agreed with the employee performance with a mean value of 4.03 and 0.51 standard deviation. Also very satisfactory in behavioral environmental factors scored a mean value of 3.59 and a 0.57 standard deviation. This indicates that Company ABC should maintain its strength in a behavior environment to have competent employees and improved performance. On the other side, employees’ satisfaction with the other variables such as physical environment factors with a mean value of 2.93 and 0.57 standard deviation, and employees’ health with a mean value of 2.94 and 0.72 standard deviation. This implies that Company ABC has to work to maintain the physical working environment for the employees to keep them safe and healthy.

Effects of Physical and Behavioral Working Environment on Employee Performance

The results of the multiple regression analysis presented in Table 4 indicate that the physical environment does not have a significant effect on em-





employee performance given a p-value of 0.301 which is greater than the standard level of significance of 0.05. This implies that the physical working environment that the employees experience in the company does not affect how well they perform in their jobs. This is aligned with the results of a study conducted by Rabuana, Ni & Yanuar, Yanuar. (2023), where the physical environment was also found to be statistically insignificant to employee performance, with a p-value of 0.395.

Table 4. Effect of Physical and Behavioral Environment on Employee Performance

Table with 8 columns: Predictor, Estimate, p-value, Stand. Estimate, Overall Model Test (R, R-Squared, F, P), Interpretation. Rows for Physical Environment (Not Significant) and Behavioral Environment (Significant).

The model fit measures R-squared was at 0.060 indicating the extent to which the performance was influenced by the physical and behavioral working environment. This shows that only 6% of the variation in performance can be explained by the working environment. It can be noted, however, that behavioral working environment significantly and positively affects performance given a p-value of 0.023 and a beta coefficient of 0.220. This indicates that having a balanced workload, a degree of personal control over the work, encouragement from coworkers and managers, and generally a positive work environment leads to better performance in terms of better work quantity, quality, reliability, and attitude. This has a similarity to the study of NJERI, N. L. (2022). The behavioral environment had a statistically significant positive effect on employee performance in KCB with a t-value of 1.531 with a significance value of 0.002 which is below 0.05.

Test of Mediation of Employee Health on the relationship between Physical and Behavioral working environment on performance

Physical Environmental Factor

Based on the simple linear regression results presented in Table 5 (Model 1) it was discovered that the Physical Environment does not have a significant effect on Employee performance. This is indicated by a p-value of 0.261, which is greater than the threshold of 0.05.

Table 5. Effect of Physical Environment on Employee Performance

Table with 11 columns: Model, Predictor, Dependent Variable, Estimate, p-value, Stand. Estimate, Overall Model Test (R, R-Squared, F, P), Interpretation. Row 1: Physical Environment, Employee Performance, 0.111, 0.261, 0.11, 0.11, 0.012, 1.280, 0.261, Not Significant.

The researcher did not proceed with the mediation test as physical environments do not significantly affect the employees' performance. According to Newsom's study in 2023, if one or more of the relationships are not significant, researchers generally conclude that mediation is not possible or likely.

Behavioral Environmental Factor

Based on the regression test results presented in Table 6 (Model 1) it was observed that the Behavioral Environment has a direct and significant effect on Employee performance, as evidenced by the p-value of 0.020, which is less than the threshold of 0.05. These findings are supported by Hafeez's study, which indicates that Employee Performance is directly and positively affected by the Behavioral Environment. This prompted the research to proceed on with step 2.





Table 6. Effect of Behavioral Environment on Employee Performance and Employee Health

Model	Predictor	Dependent Variable	Estimate	p-value	Stand. Estimate	Overall Model Test				Interpretation
						R	R-Squared	F	P	
1	Behavioral Environment	Employee Performance	0.204	0.020	0.224	0.224	0.050	5.560	0.020	Significant
2	Behavioral Environment	Employee Health	-0.123	0.233	-0.116	0.116	0.014	1.440	0.233	Not Significant

The regression analysis results presented in Table 6 (Model 2) indicate that the behavior environment does not significantly affect employee health. This is supported by the p-value of 0.233 which is greater than the standard level of significance of 0.05. The researcher is unable to conduct the mediation test as there is no significant effect of behavioral environments on the employees' health.

After conducting the mediation test process, it was found that behavioral environment has a significant direct effect on employee performance, while physical environmental factors do not. Therefore, we can conclude that there is no mediation effect possible, as neither the physical nor the behavioral environment has any effect on employee health.

CONCLUSION AND RECOMMENDATIONS

The study found that the physical environment of the shop floor is satisfactory. Based on the findings, the study failed to reject the Ho1. In other words, there is not enough evidence to support the claim that the physical environment has a significant effect on employee performance.

Based on the results, the researcher found that the quality, quantity, reliability, and attitude of the behavioral environment can be improved to positively affect employee performance. Therefore, there is sufficient evidence to reject Ho2 which claims that the

behavioral environment does not affect employee performance. The study also, concluded that the organization has clearly defined roles and responsibilities that maintain positive working relationships between co-workers and that there is support from colleagues and supervisors. Organizations need to have common goals and maintain a positive work environment to affect the business positively.

Due to insignificant results of the regression test on physical and behavioral environmental factors to employee health, the study has no evidence to support to rejection of the Ho3 and Ho4 which claims the Employee's health does not significantly mediate the effect of both physical and behavioral environmental factors.

In the workplace, it is recommended to the management to create a program that highlights the value and importance of every member of the organization. Employees must feel empowered in their respective roles and acknowledged for their good work, not just during annual reviews or promotions. One way to recognize good work is by implementing a program that rewards employees for their efforts. For instance, a "good deed" program where employees can receive a token of appreciation.

Moreover, involving technicians in SGA or Small Group Activities, where they can participate in solving problems encountered on the manufacturing shop floor, is a better way to recognize their skills and expertise. A well-designed program can be a significant factor in motivating and retaining individuals. The researcher has a plan to implement an annual behavioral





training course and enroll each member in the organization. The goal of this program is to assist individuals in identifying personal goals and setting objectives to achieve them. This training is expected to help the organization have more motivated, engaged, and productive employees.

Limitations of the Study

The current study has practical and theoretical implications, but it also has several limitations. The researcher used environmental factors to determine whether employees' health could indirectly affect employee performance through mediation. However, the test results were not significant. Future studies may want to consider additional factors such as employee satisfaction, employee motivation, career growth, and company benefits as mediator variables. A larger sample of mediating variables may also be used, and different data collection methods could be considered, including self-administered questionnaires. While the current study only used quantitative methods, future studies could consider using mixed methods research to provide a more comprehensive understanding of the topic.

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