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**EFFECT OF OCCUPATIONAL HEALTH AND
SAFETY ON EMPLOYEE PERFORMANCE
THROUGH JOB SATISFACTION**

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Master's Thesis

Supervisor

Asst. Prof. Dr. Fulya ODUNCU

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I hereby declare that all information/data presented in this graduation project has been obtained in full accordance with academic rules and ethical conduct. I also declare all unoriginal materials and conclusions have been cited in the text and all references mentioned in the Reference List have been cited in the text, and vice versa as required by the abovementioned rules and conduct.

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DEDICATION

With profound gratitude, I extend my deepest appreciation to my supervisor, Dr. Fulya ODUNCU, for her invaluable guidance, mentorship, and unwavering support. My heartfelt thanks go to all the participants who responded to my questionnaires, whose contributions were essential to this study. This thesis is dedicated to my parents, siblings and to every student worldwide who, with courage and sacrifice, leaves their families, spouses, and children to pursue their education and carve their path in life.



ABSTRACT

EFFECT OF OCCUPATIONAL HEALTH AND SAFETY ON EMPLOYEE PERFORMANCE THROUGH JOB SATISFACTION

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The aim of this study is to investigate the effect of occupational health and safety on employee performance, as well as to examine the mediating role of job satisfaction in the relationship between occupational health and safety and employee performance in a sample of furniture manufacturing firms. An online survey was conducted among employees at these furniture manufacturing firms. A total of 385 employees completed the survey. The study adopts a quantitative approach, using the PROCESS macro (Model 4) to examine mediation effects. The findings indicate that occupational health and safety have a considerable direct positive influence on employee performance. There were statistically significant regression models for occupational health and safety. However, as evidenced by a non-significant indirect impact suggests that job satisfaction did not significantly influence the association between occupational health and employee performance. Similar results were seen for occupational safety, where job satisfaction had a negligible and statistically insignificant mediation effect. These results imply that although job satisfaction may not be a powerful mediator in these connections, occupational health and safety do directly improve employee performance. In addition to providing insights for future research, the study adds to the body of literature by emphasizing the vital relevance of preserving occupational health and safety in organizational contexts and managerial practices.

Keywords: Occupational Health, Occupational Safety, Workplace Well-being, Safety Performance, Employee performance, Job Satisfaction.



TABLE OF CONTENTS

	<u>Pages</u>
ABSTRACT	vi
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
1. INTRODUCTION	1
1.1 BACKGROUND OF STUDY	1
1.2 OBJECTIVE OF THE STUDY	3
1.3 SIGNIFICANCE OF THE STUDY	3
2. LITERATURE REVIEW	5
2.1 OCCUPATIONAL HEALTH	5
2.1.1 Dimension of Occupational Health.....	6
2.1.1.1 Workplace well-being	6
2.2 OCCUPATIONAL SAFETY	7
2.2.1 Dimension of Occupational Safety	8
2.2.1.1 Safety performance	8
2.3 JOB SATISFACTION	9
2.4 EMPLOYEE PERFORMANCE.....	11
3. RESEARCH MODEL AND HYPOTHESIS	13
3.1 RESEARCH QUESTIONS	13
3.2 RESEARCH MODEL	13
3.3 RESEARCH HYPOTHESIS	14
3.4 RESEARCH CONTRIBUTION.....	15
4. RESEARCH METHODOLOGY	16
4.1 SAMPLING APPROACH.....	16

4.2 MEASUREMENT TOOLS FOR VARIABLES.....	16
4.2.1 Demographic Profile.....	17
4.2.2 Occupational Health.....	17
4.2.3 Occupational Safety.....	17
4.2.4 Employee performance	17
4.2.5 Job Satisfaction	17
4.3 ANALYSIS OF DATA TECHNIQUE.....	17
5. FINDINGS OF THE STUDY	19
5.1 FREQUENCY ANALYSIS.....	19
5.1.1 Demographic Profile of Respondents	19
5.2 RESULTS OF FACTOR AND RELIABILITY ANALYSIS	20
5.2.1 Occupational Health.....	20
5.2.2 Occupational safety.....	21
5.2.3 Job Satisfaction	21
5.2.4 Employee Performance	22
5.3 MEANS, STANDARD DEVIATION AND CORRELATION.....	23
5.4 HYPOTHESIS TEST RESULTS	24
5.4.1 Regression Analysis of the Effect of Occupational Health on Employee Performance	24
5.4.2 A Regression Analysis of the Effect of Occupational Safety on Employee Performance	25
5.4.3 A Regression Analysis of the Effect of Occupational Health and Safety on Job Satisfaction.....	26
5.4.4 A Regression Analysis of the Effect of Job Satisfaction on Employee Performance	28

5.4.5 A Regression Analysis of the Effect of Job Satisfaction Mediating Occupational Health and Safety on Employee Performance	29
5.4.6 Assumptions Check of Mediation Analysis.....	31
6. DISCUSSION, CONCLUSION AND RECOMMENDATION	34
6.1 DISCUSSION.....	34
6.2 CONCLUSION.....	38
6.3 RECOMMENDATION	39
7. LIMITATION AND FUTURE RESEARCH	41
REFERENCES	42
APPENDICES.....	60

LIST OF TABLES

	<u>Pages</u>
Table 5.1: Demographic Profile.	19
Table 5.2: Occupational Health Factor and Reliability Analysis.	20
Table 5.3: Occupational Safety Factor and Reliability Analysis.....	21
Table 5.4: Job Satisfaction Factor and Reliability Analysis.....	22
Table 5.5: Employee Performance Factor and Reliability Analysis.	23
Table 5.6: Descriptive Statistics.	23
Table 5.7: Intercorrelations of Variables.....	24
Table 5.8: Effect of Occupational Health on Employee Performance.	25
Table 5.9: Effect of Occupational Safety on Employee Performance.....	26
Table 5.10: Effect of Occupational Health and Safety on Job Satisfaction.	27
Table 5.11: Effect of Job Satisfaction on Employee Performance.....	28
Table 5.12: The Mediating Effect of Job Satisfaction on the Relationship between Occupational Health and Safety and Employee Performance.....	29
Table 5.13: Assumptions Check of Mediation Analysis.	31

LIST OF FIGURES

	<u>Pages</u>
Figure 3.1: Research Model.....	13



1. INTRODUCTION

1.1 BACKGROUND OF STUDY

Ancient Egypt serves as a historical testament to the occurrence of industrial accidents, injuries, and fatalities, showcasing the long-established presence of these unfortunate events. According to a report by Çiçek and Öçal (2016), the construction of the pyramids in Egypt was marked by fatalities and lasting physical injuries, which brought attention to the presence of these issues. Throughout history, the problem of substandard working conditions has persistently troubled individuals, yet the state has made minimal efforts to address this concern through safety measures. The industrial revolution has brought about a surge in occupational hazards, highlighting the need for regulations in this domain.

Human labor in the 18th and 19th centuries raised worries about the physical well-being of workers. It was discovered that labor posed a grave threat to life during the industrial revolution in Europe. Consequently, the matter of workplace health and safety became a pressing issue. Over time, the focus of job-related safety and health evolved from tackling illnesses and injuries to embracing the job environment and well-being of employees. Balkr (2012), claims that the basic goal of Occupational Health and Safety is to mitigate or eradicate health issues that arise among employees due to their work's physical surroundings. The International Labor Organization (ILO) highlights that a staggering 160 million individuals suffer from work-related accidents, with an alarming annual count of over 340 million such incidents transpiring (ILO, 2021).

Throughout history, products from wood business have continuously been acknowledged to be among of the greatest dangerous areas of the manufacturing industry. Wood product manufacturing often involves labor-intensive tasks aimed at maximizing production output, which can lead employees to work quickly and compromise their health and safety. The emphasis on meeting production quotas may prioritize manufacturing over employee well-being, leading to a conflict between productivity and safety (Bosak et. al 2013). Kim and Park (2006) classed the production of furniture and wood items as highly hazardous sectors. A detailed analysis of the chemicals utilized in production led to the development of classification. The research was primarily concerned with the quantity of chemicals used and the potential for leakage into the workplace. Wood dust, a by-product of

manufacturing, might cause problems for companies that make wooden goods as indicated by Zhou et al. (2023).

The Global Center for Investigations on Cancer formally designated the residue of wood as a human carcinogen, according to studies done by Hancock et al. (2015). Moreover, studies have revealed the likelihood of developing asthma, chronic bronchitis, rhinorrhoea, and a decrease in lung function is significantly higher among those who have been exposed to wood dust (Mikkelsen et al., 2002).

The implementation of health and safety initiatives and policies not only shield employees but also extend protection to individuals who may be affected by the company's products and services. In contemporary personnel management, the preservation of occupational safety and health holds significant importance.

According to Muniz et al. (2009), there is a lack of acknowledgment for its relevance, effect, and role regarding the area of occupational health and safety. The most significant positive consequence of this aspect is its impact on productivity, specifically in terms of reducing absenteeism, as emphasized by Garcie-Herrero (2012). Several researches have repeatedly proved that the standard of one's employment circumstances has a significant influence on workers' work-related behaviors, as stated by Faragher et al., (2005).

Empirical evidence reveals workers who view their job surroundings as secure and pleasant have a greater likelihood of performing more better and be more productive. (Bunn III et al., 2001, Nanzushi, 2015). Furthermore, the early proponents of scientific management delved into the possibility that work-related factors could also shape employee behavior. The question arose as to whether the realm of health and safety could affect employee performance and work satisfaction level on the job when examined from this perspective.

According to Heinrich's (1998) domino theory, accidents at work can be explained by a combination of five causal factors that are interconnected. These factors consist of the social environment, which encompasses social and ecological aspects, carelessness or human mistake, harmful behaviors or circumstances resulting from inadequate planning, risky equipment, and an unhealthy atmosphere typified by an out-of-phase state leading to

injury. The on-going investigation's findings are consistent with this explanatory framework.

In Sub-Saharan African nations, the wood industry has one of the highest rates of accidents and injuries among industries. According to empirical research, the utilization of wood has been found to be a contributing factor in over 50% of occupational fatalities in Ghana. Ghana's forestry sector reported 92 fatalities per 100,000 workers in 2006 indicating a significant safety concern. The Ghanaian wood processing industry has experienced several unfortunate incidents resulting in various injuries. These incidents have been attributed to various factors, including a lack of knowledge about occupational health and safety and disregard for safety procedures.

The present regulatory framework governing occupational health and safety in Ghana, as embodied in the National Labour Act 651, is found wanting in its comprehensiveness. Specifically, the Act lacks thorough rules pertaining to workplace health and safety.

However, an examination of this study's outcomes reveal a vacuum within the factual understanding concerning the mediating effect of work satisfaction in the relationship between occupational health and safety and job performance. Through this study, we intend to gain insight into the extent to which job satisfaction impacts employees' occupational health and safety performance in Ghana's furniture manufacturing sector.

1.2 OBJECTIVE OF THE STUDY

The primary objective of this research is to investigate the impact of occupational health and safety on the performance of employees. Additionally, it aims to assess the hypothesis that job satisfaction plays a crucial role as a mediating effect between worker performance and occupational health and safety.

1.3 SIGNIFICANCE OF THE STUDY

This research aims to explore the relationship between employee performance, job satisfaction and occupational health and safety. By assessing job satisfaction, it becomes feasible to gauge performance of employees pertaining health and safety consequences. The outcome of this study can be utilized by companies to devise measures that prevent

any deterioration in worker performance. The conclusions derived from this research, which highlight the pivotal link between occupational health and safety and employee performance, particularly job satisfaction, can hold substantial policy implications for furniture manufacturing companies. As a result, organizations may seek to boost employee performance and assess individual achievements in relation to their peers.

By undertaking this research, government agencies and other enterprises, legally obligated to create a secure place of work for their workers, will be able to build efficient communication channels with employees while keeping them informed about health and safety problems.

This research will additionally enlighten businesses regarding the significance of occupational health and safety, and the influence it has on methodically eradicating the potential for accidents, illnesses, injuries, or fatalities within the workplace. This can be achieved by ensuring that workplace hazards are systematically eliminated or controlled, rather than adopting a reactive approach and waiting for emergencies to occur.

By offering substantial and reliable evidence, this study will contribute to the knowledge base of future researchers and authors, casting light on the tremendous impact of workplace safety and health on employee output in businesses.

2. LITERATURE REVIEW

2.1 OCCUPATIONAL HEALTH

In accordance with the World Health Organization (1999), employers acknowledge the comprehensive nature of health. The absence of illnesses or disabilities is not the only factor that defines health but physical, mental, and social well-being is also included. When it comes to employee health, employers emphasize these three things (mental, physical and social).

Mathis and Jackson (2004) define occupational health as an employee's complete physical, mental, and emotional well-being. Pursuant to this definition, a healthy worker is any individual who is free of any disease, damage, mental or sentimental conditions which may obstruct their usual work obligations. Occupational health, as described by Abddllah et al (2009), refers to the overall well-being of individuals in terms of their physical and mental state, safeguarding them from any diseases resulting from the components, techniques, or operations utilized in their employment.

Husni (2005:140) provides a description of occupational health as a discipline within health science that strives to preserve employee's optimal well-being on all levels in order to enhance their productivity. The initiative for occupational health is intricately linked to the recognition and management of health dangers stemming from exhaustion, anxiety, sound pollution, radiation exposure, and various perilous substances. These factors can significantly impact the physical well-being, cognitive abilities, and overall mindset of individuals.

Sumamur (2007:76) defines occupational health as an area of health and medical studies that aims to assist employees and communities in attaining optimal social, psychological, and physical health. This is accomplished through the implementation of preventive and therapeutic interventions, targeting both general illnesses and those specifically related to work.

Health, as a scientific and practical discipline, encompasses the investigation of variables that may contribute to the onset of diseases, as well as the practical development of

strategies and techniques aimed at aiding individuals in disease prevention and recovery (Gopang et al., 2017).

It is vital to ensure that all employees have regular access to information and education about health services (Eldredge et al., 2016). Emphasizing health services and practices can lead to improved productivity, decreased absenteeism, and enhanced job satisfaction for employees. Quality health services and preventive care are essential issues that lead to improved health outcomes and increased life expectancy (Schoen et al., 2019). The findings of Connolly & Myers (2003) indicated that wellness variables played a key role in predicting the degree of work satisfaction among individuals. The implementation of a wellness program not only fosters healthier lifestyles and minimizes health risks for employees, but it also offers a range of benefits for organizations. Enhanced productivity, reduced healthcare expenses, boosted employee satisfaction, and a healthier work environment are some of the benefits. Bronkhorst and Brenda (2016) came to the conclusion that performance and occupational health are related. Sakariyau and Latip (2016) came to the conclusion that worker performance is not significantly impacted by occupational health.

2.1.1 Dimension of Occupational Health

2.1.1.1 Workplace well-being

According to Johnson et al. (2018), the main factors influencing workplace well-being include leadership and management, work and its context, work-life balance, and the goal and significance of work. This component is analyzed by tools targeted at employers and employees. Every facet of working life is included in workplace well-being, including the physical environment's quality and safety as well as employees' attitudes about their employment, workplace atmosphere, and organizational structure. International Labour Organization (ILO, 2025) Popular publications (Coleman, 1997), practitioner-focused publications (King, 1995; Neville, 1998), and scholarly research journals (Briner, 1994; Cooper & Cartwright, 1994; Smith, Kaminstein, & Makadok, 1995; Warr, 1990) have all begun to highlight workplace health and well-being. Maintaining a healthy workplace and, to the greatest degree feasible, workplace well-being requires employers to assist staff members and provide an atmosphere that fosters excellent health and well-being.

The most significant topic in organizational research is workplace well-being (Danna & Griffin, 1999). According to Donald et al. (2020), the advantages of workplace well-being have been connected to both individual and organizational sustainability in terms of careers. This encapsulates the dyadic interaction between employees and organizations in the JD-R paradigm (Bakker and Demerouti, 2007; Demerouti et al., 2001).

When health risks are properly addressed and managed, businesses may teach, support, and promote healthy habits that benefit workers and the workplace (Kumar & Preetha, 2012). A small number of studies previously proposed that an essential aspect of the health of a worker is their workplace. Prior to now, a small number of academics have proposed that workplace well-being is a crucial aspect of worker's health as a whole. Workplace wellbeing will encourage employees to be "healthy" and productive, both of which will benefit the company as a whole. (Aryanti, Sari, & Widianana, 2020). Research on the conceptions of wellbeing held by laypeople also suggests a tight relationship between the ideas of health and wellbeing (Daniels et al., 2018). According to Pradhan and Hati (2019), workplace well-being is measured as a component of the overall health of workers.

2.2 OCCUPATIONAL SAFETY

With the goal of accident prevention and risk reduction, occupational safety measures aim to mitigate the potential harm that workstations can pose to personnel, ensuring their immediate safety (Geldart et al., 2012). Mathis and Jackson (2004) provided a definition for safety that it pertains to the safeguarding of people's physical health.

The concept of safety, as described by Mondy (2008), revolves around taking care of employees' health by averting injuries at work. Security insurance covers a wide range of incidents, including injuries, repetitive stress, and issues related to occupational and domestic violence.

When organizations prioritize the safety of its workers in the business environment, it enhances their overall psychological and physiological well-being, leading to heightened shades of work contentment and output. (Huang et al., 2014). The provision of training and education regarding safety practices to employees, individuals, and communities is instrumental in increasing awareness levels and minimizing the occurrence of accidents (Salminen et al., 2004).

Promoting and mandating the implementation of safe work practices, such as correct lifting methods and machine operation, has the potential to reduce the occurrence of workplace accidents (Hofmann & Tetrick, 2003). When accident prevention takes precedence, it not only safeguards individuals from potential harm but also plays an important role in establishing a safer and more productive atmosphere that benefits all parties involved. Cost savings can be achieved by implementing accident prevention measures, which result in reduced medical expenses, compensation claims, and lost productivity (Yusof & Othman, 2010).

According to Marwansyah (2016: 359), Mondy and Noe assert that occupational safety encompasses safeguarding employees against workplace accidents. The essence of occupational safety lies in establishing a workplace that is free from potential harm or loss. Occupational safety dangers include those that enhance the probability of fire, shock from electricity, injuries, bruising, breakages, organ loss, and eyesight impairment. Additionally, it was revealed that during the review of employees' safety results, they are encouraged to aggressively investigate and implement feasible safety improvement proposals.

2.2.1 Dimension of Occupational Safety

2.2.1.1 Safety performance

Safety performance is a useful measure of worker safety that is characterized by organizational involvement and individual compliance that can enhance occupational safety (Andel et al., 2022). Within industries, workers are seen to be the most important resource (Min et al. 2019; Mora et al. 2020; Dennerlein et al. 2020). According to this, it is critical that businesses enhance working conditions to safeguard employees and boost output.

Occupational safety research literature has adopted a multi-dimensional conceptualization of safety performance in recent years. When a company prioritizes safety more, it will become necessary to have a reliable safety performance statistic. The efficacy of safety management procedures and programs in reducing workplace accidents and injuries is referred to as safety performance in major industrial organizations (Sahoo & Sahu, 2015), (Zhang & Li, 2017).

Safety performance measure should demonstrate how effective a firm project is in terms of safety. Additionally, this kind of measurement ought to show when the standard of safety performance is shifting. Major aspects of task-related behaviors are represented by safety performance (Neal et al., 2000).

For the past years, researchers in the field of occupational safety have examined safety performance and the emphasis of much of the early research in this field was adhering to safety rules. For example, public utility employees were instructed by Komaki et al. (1980) on how to handle tools and equipment properly.

In lieu of utilizing statistics data on injuries and fatalities, safety performance has been chosen as a practical indicator to portray the safety condition of construction staff based on the findings of earlier construction safety research (Gunduz, Birgonul, & Ozdemir, 2018). Consequently, it is significant and helpful for the development of occupational safety in the furniture sector to analyze Safety Performance improvement by including potential ideas of the safety frameworks (Nyoni, Pillay, Rubin, & Jefferies, 2019).

Business experts have put a high value on identifying and implementing workplace strategies that may influence employee behavior in order to improve safety performance results (Cigularov et al., 2010; Vinodkumar and Bhasi, 2010).

Safety performance is measured by evaluating how well the initiatives made to reduce workplace accidents and the associated losses worked (Wu et al 2008). The goals of Occupational Health and Safety indicators are frequently used to assess safety performance (Hale, Guldenmund, Van Loenhout, & Oh, 2010). Walters (2016) discovered that occupational safety has no immediate effect on how employees perform, instead fostering a positive atmosphere for employees.

2.3 JOB SATISFACTION

A key factor in evaluating one's feelings as part of the efficacy of the work engagement is job satisfaction. According to Mathis (2004), unfulfilled expectations can result in dissatisfaction with one's job. A dedicated initiative is striving to establish a technical description of job satisfaction that encompasses a person's level of enjoyment and fulfillment in their job (Kornhauser & Sharp, 1932). Hasibuan (2007) describes job

satisfaction as a favorable state of mind and a genuine passion for the assigned tasks. This mindset is demonstrated through high work morale and a strong sense of work discipline. Hassan et al. (2016) provides an explanation of Job Satisfaction as the measure of how much employees appreciate their work, which is determined by considering both the positive and negative experiences they encounter. Locke (1969) defined job satisfaction as the feeling of sentimental fulfillment that results from finishing a task successfully and producing a finished good. In a nutshell, job satisfaction is the feeling of emanating gladness and contentment with successfully fulfilling job expectations, adapting to work conditions, and fostering positive interactions with colleagues (Davis & Nestrom, 1985).

In Hoppock's view, job satisfaction is rather a result of several factors working together. It encompasses the integration of psychological, physiological, and environmental elements, helping people to authentically express their fulfillment with their employment (Hoppock, 1935). Research conducted by Davis and Nestrom in 1985 has demonstrated that job satisfaction is a measure of individuals' feelings, attitudes, and behaviors towards their job. The idea of job happiness is strongly related to individuals' feelings and attitudes towards their work. Nonetheless, research suggests that the level of alignment between employees' expectations and the actual tasks they perform has a key part in determining their job satisfaction (Iverson & Maguire, 2000). Various research projects have demonstrated that job satisfaction offers numerous advantages. For instance, individuals who experience high levels of satisfaction are less inclined to resign from their positions (Egan et al, 2004). Furthermore, they seem to perform better in their professions (Judge et al, 2001) and are less likely to miss work than disgruntled employees (Hackett & Guion, 1985). Kılıç and Selvi (2009) state that decreased employee job satisfaction may imply poor working circumstances.

The existing evidence indicates the work setting exerts a major impact in shaping an employee's job satisfaction. Other factors to consider are the nature of the job, salary, and prospects for career growth, interpersonal dynamics within the workplace, managerial approach, and individual traits (Eroğlu et al, 2014). Maslow's hierarchy of needs advocate for individuals to experience fulfillment at one level before aiming for the higher levels (Frame 1996). This theory emphasizes the significance of first satisfying basic needs, such as security, in order to progress further.

Research conducted in the past has identified significant correlations between job satisfaction and attitudes towards health and safety. As an illustration, Ayim Gyekye (2005) revealed that individuals who derive greater satisfaction from their job are more likely to prioritize safety. Putra et al. (2021) identifies several factors that contribute to job satisfaction, including workload, compensation, incentives and appraisals, career growth, and loyalty. The findings of Jalalkamali's (2016) research emphasize the significant association involving job satisfaction and employee performance. Yousef (2006) performed a research which shown a significant and positive correlation between work pleasure and performance. According to Kuswadi, contented employees are more likely to work better and achieve more success (2004). Robbins (2006) emphasizes the significance of work satisfaction in connection to productivity, arguing that highly fulfilled employees are more likely to perform well in their roles. Amabile's (1993) research sheds light on the connection between job satisfaction and worker performance. It turns out that individuals who are content with in professions are more likely to be creative thinkers and to do well on innovative activities. Workplace health and safety improve employees' job happiness, claim Çınar and Gündoğdu (2019). Occupational Health and Safety (OHS) and work satisfaction have a substantial association, as demonstrated by study undertaken by Caughey (2015) and further reinforced by Kavanaugh's (2017) findings. According to Subramaniam (2016), employee productivity is impacted by workplace health and safety. Kılıç & Selvi (2009) looked at the relationship between hotel employees' work satisfaction and risk factors related to their health and safety. The results of this study's investigation demonstrated the substantial effect that biological, chemical, and physical elements have on employee satisfaction, underscoring the need of mitigating these risks in order to establish a positive work environment.

2.4 EMPLOYEE PERFORMANCE

Standards, objectives, and criteria are only a few of the components of an employee's overall strategy, according to Veithzal (2005). Employee contribution to the company's goal-achieving is how Perera (2019) defines staff performance. The degree to which an employee's contributions both in terms of quantity and quality are in keeping with the duties that have been delegated to them is what Mangkunegara (2006) defines as performance. "Performance" includes a broad range of activities, including an

organization's capacity to function when assessed in respect to established norms and standards, according to Siagian (2018). When assessing employee performance, Dharmanegara et al. (2016) and Sari et al. (2019) used collaboration, discipline, job quality, quantity of work, and working hours as criteria. Carefully chosen, these metrics provide an all-encompassing evaluation of the employees' entire performance. By considering these factors, companies may be able to obtain useful information on the effectiveness and output of their staff. Following that, decisions and modifications based on this data may help the company achieve its objectives and boost production. Research conducted by Perera (2019) has established the effects of workplace health and safety on employee performance. Worker satisfaction is positively correlated with productivity, according to his research. Arrozak's (2021) research shows that workplace health and safety have a considerable favorable impact upon employee performance. A research by Dwomoh et al. (2013) found that an increase in worker productivity was a consequence of a corporation implementing health and safety measures. Lim (2012) emphasized within his writings that the effect of occupational health and safety guidelines on employees' output is significant. According to his findings, when workers possess a clear understanding of health and safety regulations, as well as the resources required for their tasks, it enables them to carry out their work with enhanced effectiveness and efficiency.

3. RESEARCH MODEL AND HYPOTHESIS

3.1 RESEARCH QUESTIONS

This Research mainly answers the following questions;

- a. How does occupational health affect employee performance?
- b. To what extent does ensuring workplace safety increase employee performance?
- c. What role does health and safety at the workplace play in determining employee job satisfaction?
- d. How does job satisfaction influence the overall performance of employees?
- e. Does job satisfaction serve as a mediating effect between occupational health, safety, and employee performance?

3.2 RESEARCH MODEL

The relationships between the variables are shown in Figure 2.1, which is the conceptual model that supports the current study. These variables—dependent, mediator, and independent—are displayed in the research model. Thus, job satisfaction serves as the mediator, employee performance is the dependent variable, and occupational health and safety are the independent factors.

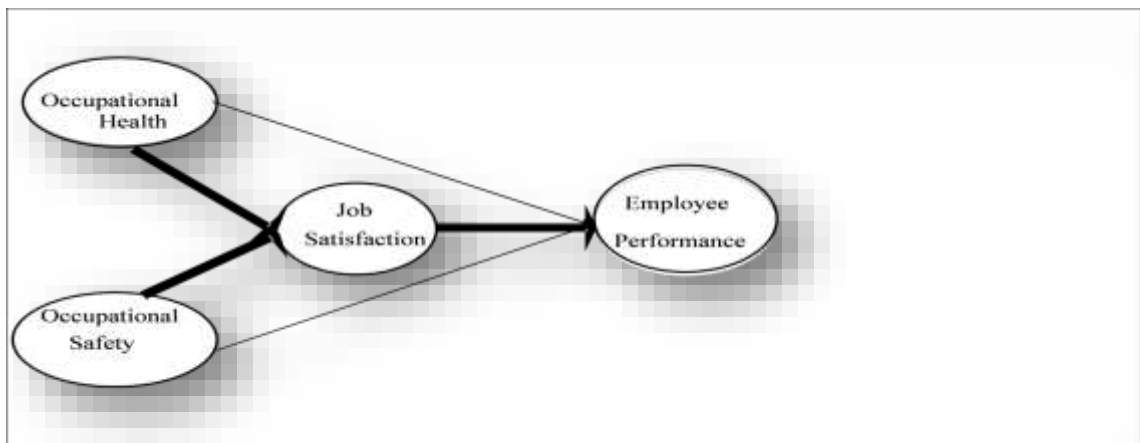


Figure 3.1: Research Model.

3.3 RESEARCH HYPOTHESIS

Occupational health was a key component of Awan et al.'s (2020) investigation of how performance management systems might improve employee performance through job engagement. The study emphasizes how occupational health programs integrated create a positive work atmosphere that boosts dedication and performance among employees. Wallace et al. (2006) investigated how safety atmosphere influences employee performance by acting as a mediator between organizational procedures and workplace incidents. The significance of occupational health in establishing a secure workplace that promotes productivity is emphasized by this study. The findings of Attridge (2009) and Firth-Cozens (2001) highlight how occupational health initiatives help employees to perform at their best.

H1: Occupational health has a significant and favorable impact on employee performance.

According to a research by Neal and Griffin (2006), occupational safety increases workers' sense of security and allows them to concentrate on their work without worrying about getting hurt, which increases output. The studies by Burke et al. (2011) and Zohar (2000) highlight how occupational safety improves performance and shows how it has a favorable impact on performance.

H2: Occupational safety has a positive and significant effect on employee performance.

According to Nielsen et al. (2018), occupational health and safety practices increase employee's job satisfaction by creating a good work environment. Findings by Gyekye and Salminen (2007) revealed how occupational health and safety influences employee attitudes in a beneficial manner. Mearns et al. (2003) found that safety and health play a dual function in fostering job satisfaction at work. A research by Leung et al. (2012) examined how safety management and health promotion work together to affect job satisfaction. These enhancements were highly correlated with increased job satisfaction.

H3: Both Occupational health and Safety have an impact on Job Satisfaction at the same time.

Judge et al. (2001) conducted a meta-analysis to investigate the connection between employee performance and job satisfaction. According to the study, job satisfaction

increases intrinsic motivation, which improves employee performance. Research conducted by Riketta (2008) and Harter et al. (2002) revealed that job satisfaction drives performance. Hackett and Guion (1985) looked at how job satisfaction affected performance and absenteeism. The study emphasizes how job satisfaction might lower performance-impairing withdrawal habits.

H4. Job satisfaction has a favorable and considerable effect on employee performance.

A study by Christian et al. (2009) revealed that, one important way that occupational health and safety affects performance is through job satisfaction. Idris et al. (2012) found that job satisfaction acted as a mediator in the relationship between occupational health and safety and performance results. Pousette et al. (2008) investigated the role that job satisfaction plays as a mediator in the link between occupational health and safety practices and employee performance. The study supports the hypothesis. According to Siu et al. (2004), one important factor relating occupational health and safety to performance is job satisfaction.

H5. Job satisfaction can greatly influence the mediating effect of occupational health and safety on employee performance

3.4 RESEARCH CONTRIBUTION

The current study employs an interaction model that has been enhanced over earlier studies to estimate the influence of occupational health and safety and job satisfaction on employee performance. The study also addresses if earlier investigations and study results are applicable to the corporate characteristics under consideration. In order to help the company solve the challenge, theoretical implications and managerial recommendations are also provided. The findings of this study will provide significant contributions to the existing literature on job satisfaction, employee performance and occupational health and safety, and will also offer valuable insights to business managers and policymakers for the betterment of workplace environments in Ghana.

4. RESEARCH METHODOLOGY

4.1 SAMPLING APPROACH

This is cross-sectional nature, and a quantitative approach is utilized to investigate the way each of the variables is related to each other. Questionnaires are employed as a form of quantitative data gathering technique. To examine the assumptions of the study model, a sample of workers employed in 28 active furniture manufacturing firms in Kumasi, located in Ghana, are drawn. Ghana's major wood product production district is located at Kumasi, which is in the semi-deciduous forest zone. Because furniture manufacturing businesses are considered risky workplaces, a random sample approach was used to ensure that all participants in the research were equally represented inside the manufacturing firm. From the population of interest, sample of 385 workers from the furniture manufacturing enterprises were recruited. The sample size was calculated using the Cochran formula, which is as follows:

The Cochran formula is:

$$n_0 = \frac{Z^2 pq}{e^2} \quad (4.1)$$

Where:

e is the desired level of precision (i.e. the margin of error), p = percentage picking a choice expressed as a decimal (0.5 used for sample size needed); q is $1 - p$, $Z = Z$ value. The z -value is found in a Z table. A 95 % confidence level gives us Z values of 1.96;

$$((1.96)^2 (0.5) (0.5)) / (0.05)^2 = 385$$

4.2 MEASUREMENT TOOLS FOR VARIABLES

Questionnaires were the main quantitative data collecting tool used in the study to gauge the four main variables: occupational health, occupational safety, job satisfaction, employee performance. To guarantee validity and reliability, validated scales were used to operationalize each variable. The measuring instruments are described in detail below:

4.2.1 Demographic Profile

The goal of this section is to collect data related to respondents' age, gender, and educational attainment in manufacturing companies were asked about in this section

4.2.2 Occupational Health

In this paper, nine-item Occupational Health questionnaire was developed by Pradhan and Hati (2022) used to measure workplace well-being of employees. The primary focus of the test is a 5-point Likert-type scale, with 1 representing "strongly disagree" and 5 representing "strongly agree." The sample item is "My workplace is very conducive."

4.2.3 Occupational Safety

The Nine-item occupational safety scales were derived from Wu et al. (2008) and modified by Hong et al., (2018). The main emphasis of the tool is a Likert-type scale with five points, where 1 indicating "strongly disagree" and 5 indicating "strongly agree." Machinery is equipped with good safeguard in my company "is an example of an item.

4.2.4 Employee performance

Employee performance scale was adapted from Kirkman and Rosen (1999) and converted into four item scale by Sigler and Pearson (2000), which had a 5 item Likert-type, with 1 indicating "strongly disagree" and 5 indicating "strongly agree." "Standard output level" is a sample item.

4.2.5 Job Satisfaction

The tool used to measure job satisfaction was created by Brayfield and Rothe (1951) and was shortened as a five-item Likert-type scale by Judge et al. (1998) measuring five points, with 1 denoting "strongly disagree" and 5 denoting "strongly agree." A sample item is "I'm quite satisfied with my current job."

4.3 ANALYSIS OF DATA TECHNIQUE

SPSS software was used for analyzing the data. In the initial phase, Frequency analysis was used to examine demographic variables in the initial phase. Next, reliability analysis

and factor analysis (KMO and Bartlett's) were conducted. A regression analysis was used to test the research hypotheses.

The PROCESS macro (Model 4) in SPSS was used for the mediation analysis, which depended on a number of presumptions to guarantee reliable findings. Initially, linearity was assumed between the correlations between employee performance (EP), job satisfaction (JS), and occupational health (OH) and occupational safety (OS). Normality was assessed. Third, results from the Variance Inflation Factor (VIF) were used to assess multicollinearity. Fourth, residual plots were used to confirm homoscedasticity. Fifth, the inclusion of covariates somewhat addressed the assumption that no factors were left out. Sixth, temporal precedence, reliable measurement, and significant relationships were also assessed.

5. FINDINGS OF THE STUDY

5.1 FREQUENCY ANALYSIS

5.1.1 Demographic Profile of Respondents

The characteristics of respondents are shown in Table 1. It demonstrates that, out of the 385 respondents, 272 are males (70.65%), 112 are females (29.09%), and 1 respondent (0.26%) preferred not to be identified. 2.6% of respondents were under 24 years, 27.53% were within the age range of 25 and 30, 29.57% of those surveyed were in the age range of 31 and 35. 8.83% of the sample were in the range of 36 and 40, while 35.06% are above 40.

According to the frequency analysis of respondents' educational backgrounds, the highest frequency of respondents, accounting for 42.34% of the sample had bachelor's degree. 38.70% had completed high school. 18.8% of the sample had a postgraduate degree, 0.78% had a basic education.

Table 5.1: Demographic Profile.

Gender	Frequency	Percentage %
Male	272	70.65
Female	112	29.09
Prefer not say	1	0.26
Age		
Under 24 years	10	2.6
25-30 years	106	27.53
31-35 years	100	25.97
36-40 years	34	8.83
Over 40 years	135	35.06
Education level		
Basic/ None	3	0.78
High school	149	38.70
University degree	163	42.34
Post graduate	70	18.18

5.2 RESULTS OF FACTOR AND RELIABILITY ANALYSIS

5.2.1 Occupational Health

The scale for the measurement of Occupational health consists of 9 items. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test were employed to assess the appropriateness of the data for factor analysis. The results indicate that the KMO value exceeds 0.6 (KMO = .931), with a significant Bartlett's test result of 0.000 ($p < 0.05$), confirming the adequacy of the sample and validating the appropriate. Factor analysis (principal component) was applied. Items 2, 3, 5, 6, 7, 8, and 9 all had loadings ≥ 0.70 , suggesting a substantial correlation with the occupational health concept which also showed an Eigenvalue above 1 and a cumulative variance explanation of 55.486%. While Item 4 had the lowest loading below the 0.60 threshold for strong scales, Item 1 had a moderate loading. Because of its weak loading and possible overlap with concepts item 4 was removed. The revised eight-item scale was employed for subsequent analysis, guaranteeing improved construct validity. A reliability test revealed an exceptional Cronbach's alpha ($\alpha = 0.895$), indicating strong level of uniformity with in the test.

Table 5.2: Occupational Health Factor and Reliability Analysis.

Occupational Health: [$\alpha=0.895$ Mean= 4.171 Eigen value = 4.994 , variance%=55.486	Factor loading
My workplace is very conducive	.621
I attach lots of value to my work	.757
I use to maintain a balance between work and home life	.727
My employer does care a lot about their employees	.559
I enjoy meaningful work	.790
My job provides ample scope for career growth	.825
My work achievement often acts as a source of motivation	.829
My work offers challenges to advance my skills	.774
I am quite satisfied with my job	.778
Kaiser Meyer-Olkin measure of sampling adequacy: .931. Barlett's Test of Sphericity: .000; Chi-Square: 1645.957; Degree of Freedom: 36.	

5.2.2 Occupational safety

A total of nine items made up the occupational safety scale. The KMO value and Barlett significance (KMO = .939, Barlett significance = 0.000) show that factor analysis is possible and that sample adequacy is excellent. The factor analysis reveals one dominating component that explains 65.138% of the variance, with an eigenvalue of 5.862. The factor loadings varied between 0.481 and 0.879. Strong loadings (≥ 0.70) were found for eight items, suggesting that they made a significant contribution to the occupational safety construct. The lowest loading was item 1 (0.481), which was much lower than the other items (0.783–0.879) and below the 0.50 criterion for strict scales. Because of this item's poor alignment, it was removed. Cronbach's alpha remained over 0.90 after eliminating Item 1. Revision of the factor analysis following removal confirmed that the variance explained and eigenvalue were still acceptable. Further analyses were conducted using the eight-item scale, which ensured improved construct validity and reliability.

Table 5.3: Occupational Safety Factor and Reliability Analysis.

Occupational Safety: [$\alpha=0.932$ Mean= 4.285 Eigen value = 5.862 , variance = 65.138%]	Factorloading
Pathways of workplaces are neat and tidy in my company	.481
Machinery is equipped with good safeguard in my company	.803
Electrical equipment is with good safeguard in my company	.783
Hazardous workplaces are equipped with good ventilation in my company	.820
My company provides employees with Personal Protective Equipment (PPE)	.853
My company implements measurement of hazardous environment periodically	.879
My company establishes safety & health labels/signage in workplace	.872
My company carries out self-inspections	.862
My company keeps/saves self-inspection records properly	.835
Kaiser Meyer-Olkin Sampling Adequacy Measure: .939	
Degree of freedom: 36 Barlett's Test of Sphericity: .000 Chi-Square: 2492.396	

5.2.3 Job Satisfaction

The structure of the Job Satisfaction Scale was evaluated using factor analysis. The KMO Measure of Sampling Adequacy (0.767) and Bartlett's Test of Sphericity (Chi-Square = 443.431, df = 6, p = 0.000) were used to confirm the data's suitability for factor analysis. The data revealed one dominant factor with an eigenvalue of 2.452 and explained 61.289%

of the total variance. Four items (1, 2, 3, 4) had strong positive loadings according to the factor loading with Cronbach's alpha ($\alpha = .786$) demonstrated that these items fit the underlying construct well. However, item 5 had lower and negative loading which indicate that it could not be a useful tool for measuring job satisfaction. After removal, a new factor analysis confirmed that the variance explained and eigenvalue were still adequate. For further analysis, the four-item scale was employed, guaranteeing improved construct validity and reliability.

Table 5.4: Job Satisfaction Factor and Reliability Analysis.

Job Satisfaction: [$\alpha=.786$ Mean= 3.902 Eigen value = 2.452, variance = 61.289%]	Factorloading
I'm quite satisfied with my current job.	.789
Most days I go to work with enthusiasm	.805
Every day at work seems never-ending	.701
I find my job enjoyable	.831
I think my job is unpleasant.	-.481
Measure of Sampling Adequacy by Kaiser Meyer-Olkin: .767	
Barlett's Sphericity Test: .000 Chi-Square: 443.431 Degrees of freedoms: 6	

5.2.4 Employee Performance

Kaiser-Meyer Olkin (KMO) and Bartlett's tests for sphericity and sample adequacy were used in order to determine if the data was suitable for factor analysis. The data is suitable for factor analysis and the KMO score of 0.823 shows there is sufficient shared variance across the variables.

The major component of a factor analysis revealed an eigenvalue of 2.928, explaining 73.203% of the total variance. With Cronbach's alpha ($\alpha = .876$), factor loadings showed a very substantial contribution to the Employee Performance construct, with values ranging from 0.839 to 0.884. Every loading was higher above the 0.80 threshold, indicating strong performance characteristics. Since every item made a substantial contribution to the construct and deleting any one would diminish the content validity and reliability, none of the items were removed.

Table 5.5: Employee Performance Factor and Reliability Analysis.

Employee Performance: [$\alpha=0.876$ Mean= 4.326 Eigen value = 2.928, variance = 73.203%]	Factorloading
I complete my tasks on time	.850
I meet or exceed my goals	.839
I make sure that products meet or exceed quality standards	.849
I respond quickly when problems come up	.884
Kaiser Meyer-Olkin Sampling Adequacy Measure: .823 Degree of freedom: 6 Barlett's Test of Sphericity: .000 Chi-Square: 788.738	

5.3 MEANS, STANDARD DEVIATION AND CORRELATION

Table 5.6 presents the means, skewness, kurtosis, and standard deviations. The correlation research results are shown in Table 7.5.

Based on table 5.7, while job satisfaction has a moderate correlation with employee performance ($r=0.506$), it has a strong correlation with occupational health ($r=0.638$) and occupational safety ($r=0.629$). This implies that while job satisfaction plays a significant role, it is not the exclusive indicator of employee success. Employee performance had the strongest correlations with occupational safety ($r=0.663$) and occupational health ($r=0.779$). This demonstrates that workplace health and safety conditions have strong influence on employee performance than just job satisfaction.

Table 5.6: Descriptive Statistics.

	N	Mean	Std. Deviation	Skewness	Kurtosis
Occupational Health	385	37.5377	5.48286	-2.597	8.473
Occupational Safety	385	38.5662	6.12597	-2.450	6.437
Job Satisfaction	385	15.6078	2.57683	-1.437	3.792
Employee performance	385	17.3039	2.72118	-2.470	7.760
Valid N (listwise)	385				

Table 5.7: Intercorrelations of Variables.

		Occupational Health	Occupational Safety	Job Satisfaction	Employee Performance
Occupational Health	Pearson Correlation Sig. (2-tailed) N	1 385			
Occupational Safety	Pearson Correlation Sig. (2-tailed) N	.803(**) .000 385	1 385		
Job Satisfaction	Pearson Correlation Sig. (2-tailed) N	.638(**) .000 385	.629 (**) .000 385	1 385	
Employee Performance	Pearson Correlation Sig. (2-tailed) N	.779 (**) .000 385	.663 (**) .000 385	.506 (**) .000 385	1 385

**Correlation is significant at the 0.01 level (2-tailed).

Listwise N=385

5.4 HYPOTHESIS TEST RESULTS

5.4.1 Regression Analysis of the Effect of Occupational Health on Employee Performance

The influence of occupational health on employee performance is ascertained in this phase by using linear regression to examine the relationship between the occupational health (independent variable) and employee performance (dependent variable). Table (5.8) shows that occupational health has an effect on employee performance.

Table 5.8: Effect of Occupational Health on Employee Performance.

Model	Unstandardized Coefficients.		Standardized Coefficients.	t	significance
	B.	Standard Error	Beta.		
(Constant)	2.788	0.603		4.623	0.000
Occupational Health	0.387	0.016	0.779	24.328	0.000
R	0.779 ^a				
R Square	0.607				
Adjusted R Square	0.606				
F	591.860				

As shown in the table, R Square = 0.607, which means that occupational health explains 60.7% of the total variance in employee performance. Thus, occupational health has a substantial significant impact on employee performance. The regression model has a p-value of less than 0.05 with a very high F-value ($F = 591.860$) and corresponding significance ($p=0.000$) depicting strong level of statistical significance. Employee performance is so greatly impacted by occupational health. Furthermore, a strong significant positive relationship between employee performance and occupational health is demonstrated by Beta = 0.779. It is possible to conclude that occupational health has been shown to have a significant and positive influence on employee performance. Therefore H1 is accepted.

5.4.2 A Regression Analysis of the Effect of Occupational Safety on Employee Performance

To assess how occupational safety influences employee performance, this part use linear regression analysis to ascertain how occupational safety influences employee performance.

Table (5.9) illustrates the influence of workplace safety on employee performance.

Table 5.9: Effect of Occupational Safety on Employee Performance.

Model	Unstandardized Coefficients.		Standardized coefficients.	t	significance
	B.	Standard Error	Beta		
Constant	5.941	0.663		8.957	0.000
Occupational Safety	0.295	0.017	0.663	17.345	0.000
R	0.663a				
R Square	0.440				
Adjusted R Square	0.438				
F	300.843				

According to the table, R Square = 0.440, indicating that 44.0% of the variance in employee performance is explained by occupational safety. With a p-value of 0.000 and an extremely high F-value, the model is statistically significant. This suggests that employee performance is significantly impacted by occupational safety. The beta value of 0.663 makes it evident that there is a significant positive relationship between employee performance and occupational safety. Occupational safety has a significant, consistent impact on predicting employee performance. Therefore, it is possible to conclude that occupational safety significantly and favorably affects employee performance. H2 is accepted.

5.4.3 A Regression Analysis of the Effect of Occupational Health and Safety on Job Satisfaction

The influence of occupational safety and health on job satisfaction is evaluated in this section using regression analysis to ascertain the connection between job satisfaction and occupational safety and health. The effect of occupational safety and health on workers' job satisfaction is displayed as follows in Table (5.10).

Table 5.10: Effect of Occupational Health and Safety on Job Satisfaction.

Model	Unstandardized Coefficients.		Standardized coefficients.	t	Sig.
	B.	Standard Error	Beta		
Constant	3.670	0.692		5.305	0.000
Occupational Health	0.176	0.030	0.375	5.877	0.000
Occupational Safety	0.138	0.027	0.328	5.132	0.000
R	0.668 ^a				
R Square	0.446				
Adjusted R Square	0.443				
F	153.578				

According to the table, 44.6% of the total variance in job satisfaction can be explained by occupational safety and health (R Squared = 0.446). This indicates that job satisfaction is greatly impacted by these two elements. The influence of occupational health on job satisfaction is higher than that of occupational safety (Beta = 0.375).

Occupational safety appears to have a significant impact on job satisfaction, although being somewhat less significant than occupational health (Beta = 0.328). At any standard significance level ($p < 0.05$), occupational health ($p=0.000$) is statistically significant and positively affects job satisfaction.

Additionally, occupational safety ($p=0.000$) is statistically significant, indicating that it positively affects job satisfaction. As a result, employee performance is significantly and favourably impacted by both occupational safety and health. Thus H3 is accepted

5.4.4 A Regression Analysis of the Effect of Job Satisfaction on Employee Performance

This section uses regression analysis to examine the link between job satisfaction and employee performance in order to determine the effect of job satisfaction on employee performance. Table (5.11) illustrates how job satisfaction affects employee performance.

Table 5.11: Effect of Job Satisfaction on Employee Performance.

Model	Unstandardized Coefficients.		Standardized coefficients.	t	Significance
	B.	Standard Error	Beta		
Constant	8.967	0.736		12.178	0.000
Job Satisfaction	0.534	0.047	0.506	11.474	0.000
R	0.506 ^a				
R Squared	0.256				
Adjusted R Squared	0.254				
F	131.661				

According to the table, Job satisfaction explains approximately 25.6% (R Square = 0.256) of the total variance in employee performance. At a p-value of 0.000 and a high F-value of 131.661, it is clear that employee performance is greatly impacted by job satisfaction. As evidenced by the highly statistically significant coefficient ($p < 0.01$), work satisfaction has a large positive influence on productivity. Job satisfaction is a statistically significant and fairly strong predictor of employee performance, as shown by the beta value of 0.506. Consequently, it is possible to conclude that employee performance is greatly and favorably impacted by job satisfaction. Thus H4 is accepted.

5.4.5 A Regression Analysis of the Effect of Job Satisfaction Mediating Occupational Health and Safety on Employee Performance

The hypothesis that job satisfaction mediates the influence of occupational health and safety on employee performance was examined using Hayes PROCESS Model 4 (Hayes, 2022) mediation analysis. The following effects of job satisfaction (Mediator) on the relationship between occupational health (first analysis) and occupational safety (second analysis) and employee performance (dependent variable) are shown in Table (5.12).

Table 5.12: The Mediating Effect of Job Satisfaction on the Relationship between Occupational Health and Safety and Employee Performance.

MODEL	PATH	EFFECT	SE	t	p	95% CI (LLCI, ULCI)	Significant?
Model 1 (OH → JS → EP)	Direct Effects						
	OH → JS	0.3000	0.0185	16.2293	<0.001	(0.2637, 0.3364)	Yes
	JS → EP	0.0150	0.0440	0.3405	0.7337	(-0.0715, 0.1015)	No
	OH → EP	0.3822	0.0207	18.4877	<0.001	(0.3416, 0.4229)	Yes
	Indirect Effects						
	OH → JS → EP	0.0045	0.0185	-	-	(-0.0309, 0.0416)	No
	R- squared						
	OH → JS	0.4075	-	263.3899	<0.001	-	-
	OH → EP	0.6072	-	295.3048	<0.001	-	-

Table 5.12: The Mediating Effect of Job Satisfaction on the Relationship between Occupational Health and Safety and Employee Performance “Table Continued”.

Model 2 (OS → JS → EP)	Direct Effects						
	OS → JS	0.2646	0.0167	15.8325	<0.001	(0.2317, 0.2974)	Yes
	JS → EP	0.1548	0.0514	3.0121	0.0028	(0.0538, 0.2559)	Yes
	OS → EP	0.2537	0.0216	11.7315	<0.001	(0.2112, 0.2962)	Yes
	Indirect Effects						
	OS → JS → EP	0.0410	0.0202	-	-	(-0.0002, 0.0793)	No
	R- squared						
	OS → JS	0.3956	-	250.6679	<0.001	-	-
	OS → EP	0.4529	-	158.1284	<0.001	-	-

In Model 1, Occupational health is statistically significant and has a strong positive effect on job satisfaction ($b=0.3000$, $p<0.001$), with an increase of 0.3000 units in occupational health for every unit gain in job satisfaction. Employee performance and job satisfaction had no statistically significant relationship ($b=0.0150$, $p=0.7337$). Employee performance is statistically and significantly impacted by occupational health ($b=0.3822$, $p<0.001$). For every unit increase in occupational health, employee performance increases by 0.3822 units when job satisfaction is taken into consideration. The indirect impact is negligible because zero is a member of the confidence interval (Bootstrapped CI: -0.0309, 0.0416) and not statistically significant. Occupational health and employee performance are not mediated by job satisfaction.

In model 2, occupational safety has a really strong ($b=0.2646$, $p=0.001$) effect on job satisfaction. Each unit improvement in occupational safety leads to a 0.2646-unit increase in job satisfaction. Employee performance is highly impacted by job satisfaction when occupational safety is maintained constant ($b=0.1548$, $p=0.0028$). Employee performance improves by 0.1548 units for each unit gain in job satisfaction. Positive effects on employee performance are directly influenced by occupational safety ($b=0.2537$, $p<0.001$). After taking Job Satisfaction into consideration, every unit improvement in Occupational Safety results in a 0.2537 unit gain in Employee Performance. Since zero is included in the confidence interval (Bootstrapped CI: $[-0.0002, 0.0793]$), the indirect impact is negligible and not statistically significant. This implies that job satisfaction's ability to mediate the relationship between employee performance and occupational safety is not very strong.

Consequently, it can be asserted that occupational health and safety exert a direct and substantial impact on employee performance; however, job satisfaction does not serve as a significant mediator in this relationship.

5.4.6 Assumptions Check of Mediation Analysis

Table 5.13: Assumptions Check of Mediation Analysis.

Assumption	Description	Model 1 (OH → JS → EP) Status	Model 2 (OS → JS → EP) Status
Linearity	Relationships between X (OH/OS), M (JS), and Y (EP) are linear.	Partially met; Path b non-significant ($p = 0.7337$).	Likely met; Significant paths a and b ($p < 0.001$, $p = 0.0028$).
Normality of Residuals	Residuals in regression models (JS, EP) are normally distributed	Met; bootstrapping used (95% CI $[-0.0309, 0.0416]$)	Met; bootstrapping used (95% CI $[-0.0002, 0.0793]$).

Table 5.13: Assumptions Check of Mediation Analysis “Table Continued”.

No Multicollinearity	X (OH/OS) and M (JS) are not highly correlated, avoiding inflated standard errors.	Likely met; small SEs (0.0185, 0.0440).	Likely met; small SEs (0.0167, 0.0514).
Homoscedasticity	Variance of residuals is constant across levels of X and M.	Likely met; small SEs, but non-significant path b.	Likely met; small SEs, significant paths.
Temporal Precedence	X precedes M, which precedes Y (OH/OS → JS → EP).	Not empirically met; cross-sectional.	Not empirically met; cross-sectional.
Reliable and Valid Measurement	Scales for X, M, and Y are reliable ($\alpha \geq 0.70$) and valid (loadings ≥ 0.60).	Met; $\alpha = 0.895$ (OH), 0.786 (JS), 0.876 (EP)	Met; $\alpha = 0.932$ (OS), 0.786 (JS), 0.876 (EP)
Significant Relationships	Paths a (X → M) and b (M → Y) are significant for mediation to occur.	Not met; path a significant ($p < 0.001$), path b non-significant ($p = 0.7337$).	Partially met; path a significant ($p < 0.001$), path b significant ($p = 0.0028$), but indirect effect non-significant.

As shown in Table 5.12, a number of assumptions were evaluated to ensure the validity of the findings.

- a. Linearity: For the pathways a (OH/OS → JS), b (JS → EP), and c (OH/OS → EP), linear connections were assumed. Scatterplots and residual plots confirmed that the significant routes a ($\beta = 0.2646$, $p < 0.001$) and b ($\beta = 0.1548$, $p = 0.0028$) in Model 1 maintained linearity. One limitation identified in Model 2 was the fact that while path a ($\beta = 0.3000$, $p < 0.001$) was significant, path b ($\beta = 0.0150$, $p = 0.7337$) was not, indicating possible non-linearity.

- b. Normality of Residuals: For indirect effects, bootstrapping (5,000 samples) was used to mitigate the assumed normal residuals (Model 1: 95% CI [-0.0002, 0.0793]; Model 2: 95% CI [-0.0309, 0.0416]). Shapiro-Wilk tests and Q-Q plots verified that there were no significant violations ensuring strong conclusion.
- c. No Multicollinearity: evaluated using the Variance Inflation Factor ($VIF < 5$) and OH/OS and JS correlations (< 0.80). No problems were shown by small standard errors (0.0167 for OS $\rightarrow$ JS, 0.0185 for OH $\rightarrow$ JS) and model fit ($R^2 = 0.4529$ for Model 1, 0.6072 for Model 2).
- d. Homoscedasticity: Residual plots were used to confirm that there were no notable violations. The residual variance remained constant with small standard errors.
- e. Temporal Precedence: The cross-sectional design prevents this from being experimentally satisfied. Previous studies and theoretical frameworks supported the causal sequence (OH/OS $\rightarrow$ JS $\rightarrow$ EP). (Christian et al., 2009)
- f. Reliable and Valid Measurement: confirmed by EFA findings (loadings above 0.60 after removing Items 1, 4, and 5) and Cronbach's alpha (OH: 0.895, OS: 0.932, JS: 0.786, EP: 0.876). Strong measurement was ensured by the revised scales.
- g. Significant Relationships: Paths A ($p < 0.001$) and B ($p = 0.0028$) were significant in Model 1, but there was no indirect impact (95% CI [-0.0002, 0.0793]). In Model 2, path A was significant ($p < 0.001$), while path B ($p = 0.7337$) and the indirect impact (95% CI [-0.0309, 0.0416]) were not, suggesting no mediation.

The assumptions were mostly met with the exception of temporal precedence (caused by the cross-sectional design) and significant associations (caused by non-significant indirect effects), Items removal and bootstrapping improved robustness.

6. DISCUSSION, CONCLUSION AND RECOMMENDATION

6.1 DISCUSSION

This study looked at how employee performance and occupational health and safety are directly related, as well as how job satisfaction functions as a mediator in Ghanaian furniture manufacturing firms. The findings show a positive relationship between employee performance and occupational health and safety. Furthermore, there is no significant mediating role for job satisfaction in these relationships.

The findings confirm hypothesis (H1) that occupational health has a positive and substantial influence on employee performance. The study's findings show that improving occupational health may dramatically improve employee performance. This research indicates that employees believe furniture manufacturing companies should prioritize occupational health programs, including ergonomic workplace designs, comprehensive health benefits, and regular health and safety training. These programs have the potential to provide demonstrable improvements in employee performance. This result supports the findings of Zafir and Nasir (2015), employee well-being, which includes occupational health, is directly correlated to higher performance levels, decreased absenteeism and increased workplace morale. These results support these findings, highlighting the value of investing in occupational health initiatives. These results are also in consistent with those of Danna and Griffin (1999), who maintained that occupational health, improves physical and cognitive capacities, which are both necessary for excellent performance, in addition to reducing workplace stress. According to research by Bakker and Demerouti (2007), the Job Demands-Resources (JD-R) model highlights how organizational demands, including occupational health, may improve employee performance and engagement. Wang et al. (2017), Oluoch (2015), Mufeed (2023) and other studies that concentrate on certain areas and industries have discovered comparable connections between performance and occupational health, especially in high-stress settings. According to Bronkhorst and Brenda (2016), occupational health has an impact on performance, and this finding validates their findings. This result, however, runs counter to Sakariyau and Latip (2016) which states that occupational health has no impact on employee performance.

The findings support hypothesis (H2), which states that employee performance is impacted by occupational safety. Based on the survey, employees are more happy with the furniture manufacturer's extensive safety policies, frequent safety training and audits, workplace equipment, and settings that promote employee safety as these indicators result in demonstrable gains in employee performance, as seen by the positive and significant correlation. This result supports Subrahmaniam's (2016), Gbadago, Amedome, and Honyenuga (2017) Ekowati & Amin (2019) assertion that employee performance is impacted by workplace safety. However, this study contradicts Walters' (2016) conclusion that occupational safety has no effect on employee performance.

The acceptance of Hypothesis (H3) implies that occupational health and safety have a favorable and considerable impact on job satisfaction. This conclusion is consistent with Herzberg's Two-Factor Theory, which classifies safety and health conditions as hygiene factors that, when addressed, reduce unhappiness and produce a more motivated workforce. This agrees with previous research, which has continuously underlined the relevance of occupational safety and health in impacting employee happiness and overall workplace productivity (Clarke, 2006; Zohar, 2010) and are also similar with previous studies carried out by the Parker et al. (2003) and Nielsen et al. (2008), who highlighted safety and health conditions as critical to employee well-being.

Furthermore, it supports the findings of Kelloway and Barling (2010), who emphasized that a good occupational safety and health culture leads to organizational performance by enhancing employee morale and lowering absenteeism. These findings confirm the conclusions of Vinodkumar and Bhasi(2010) who found that a safe work environment reduces risks and fosters trust, hence increasing job satisfaction. The research emphasizes the value of occupational health and safety in improving work satisfaction and employee performance. Furniture manufacturing firms in Ghana who want to enhance their workplace environment should focus both to achieve long-term productivity and employee well-being.

An analysis of the relationship between job satisfaction and employee performance revealed that the model is statistically significant in its entirety. The findings supported hypothesis (H4) that employee performance and job satisfaction are connected. According to the findings, the employees are satisfied with the organization's work environment since

it offers personal safety equipment, frequent safety training, and accident prevention measurements. This research revealed that job satisfaction had a direct influence on job performance for employees at furniture manufacturing enterprises. These results support those of Jalalkamali (2016), who demonstrated how job satisfaction affects employee performance. In a similar vein, the results support those of Locke (1976) contention that job satisfaction is a key predicate of excellent employee performance, encouraging employee engagement and motivation. Additional evidence confirming the beneficial relationship between job satisfaction and employee performance comes from empirical research. Judge et al. (2001), for example, discovered a moderate to strong relationship between employee performance and job satisfaction across a range of sectors and job types. This suggests that contented workers are more likely to demonstrate greater levels of dedication, innovation, and productivity. This conclusion is especially pertinent to industries that need high levels of employee engagement and accuracy, as Robbins and Judge (2013) pointed out when they made the case that job satisfaction is a key factor in supporting organizational success. According to Bakotić (2016), the relationship between performance and employee happiness also implies that companies with high employee satisfaction may have lower staff turnover, improved teamwork, and increased organizational loyalty. Organizations should prioritize methods to enhance job happiness in order to attain the best possible performance from their workforce. A nice work atmosphere, acknowledging employee accomplishments, and providing equitable remuneration are just a few examples of actions that may greatly raise employee happiness.

The rejection of Hypothesis (H5) suggests that although job satisfaction influences performance, it has no or very little mediation effect in this particular situation. The mediation effect of job satisfaction in connecting workplace characteristics to performance results has been substantiated by several researches. This is consistent with ideas like the Happy-Productive Worker Hypothesis (Wright & Cropanzano, 2000) and the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007). According to these frameworks, a safe and healthy work environment improves job satisfaction, which in turn raises motivation and engagement, which improves performance.

Christian et al. (2009) discovered that Job satisfaction is favourably impacted by workplace safety atmosphere, which in turn mediates its impact on safety performance

results. These results are in contrast to the non-significant indirect impact in Model 1 of the current study. In a study of Malaysian workers, Idris et al. (2012) found that a psychosocial safety atmosphere (similar to OS and OH) improved JS, which in turn mediated its impact on job engagement and performance is in contrast to the non-significant effects in the current study Model 1 and Model 2. The rejection of mediation of the current study challenges Ricketta (2008) longitudinal studies who confirmed that JS mediates the relationship between job resources. While studies such as Christian et al. (2009) and Idris et al. (2012) support the mediating role of job satisfaction in less hazardous contexts, comparative analysis of the literature shows that findings from high-risk industries (Neal & Griffin, 2006; Siu et al., 2007) support the focus on direct effects in the current study.

This finding is different from research like Judge et al. (2001), which hypothesized that job satisfaction, would operate as a mediating factor between performance and working circumstances. According to these findings, the direct effect of occupational health and safety on employee performance is greater than any indirect impacts that may be mediated by job satisfaction. Similarly, Robbins and Judge (2013) contend that a psychological mechanism that connects favourable workplace elements, such safety to performance results is job satisfaction. Their concept states that safety measures help people feel fulfilled and well-off, which improves job satisfaction and motivates employees. The analysis's rejection of Hypothesis (H5) casts doubt on this viewpoint by implying that performance is directly impacted by occupational safety rather than through the mediating effect of job satisfaction. This is consistent with Bakotić (2016), who pointed out that although job satisfaction is important, other workplace elements, like safety, may have a more direct and significant impact on output. Similarly, Zohar (2010) points out that workplace safety procedures and safety climates provide a safe space where workers may concentrate on their work.

Job satisfaction is still significant, but it should be seen as an additional element rather than the primary mediator of the link between performance and occupational health and safety. It is imperative for furniture manufacturing firms in Ghana to guarantee that safety protocols are not only implemented but also efficiently conveyed and implemented. The mediating function of job satisfaction is diminished in Ghana, where workers in the

majority of furniture manufacturing companies with severe safety concerns put safety before satisfaction.

6.2 CONCLUSION

In this thesis, the mediating function of job satisfaction in the connections between employee performance and occupational health and safety is thoroughly examined. In line with research conducted in high-risk industries (Neal & Griffin, 2006; Karasek & Theorell, 1990) and in contrast to studies conducted in less hazardous contexts (Christian et al., 2009; Idris et al., 2012), the rejection of job satisfaction as a mediator, backed by non-significant indirect effects, challenges the Happy-Productive Worker Hypothesis and JD-R model. The large direct effects of occupational health and occupational safety highlight the importance of safety and health measures in driving performance.

According to the study's findings, giving occupational health initiatives top priority is not only required by law and morality, but it is also a calculated investment in worker performance. According to these findings, certain occupational health initiatives might have a noticeable positive impact on company success, employee happiness, and productivity for Ghanaian furniture manufacturing companies

The results of this research have significant ramifications for Ghanaian furniture manufacturers, which rely heavily on skilled labor and physically demanding activities. Occupational safety and health are crucial in this environment because of the inherent dangers connected with the machinery, tools, and materials used in furniture manufacturing. Applying these insights can assist businesses enhance employee job satisfaction, which is directly related to productivity, work quality, and overall business performance. As demonstrated by their notable beneficial influence on job satisfaction, improved occupational safety and health conditions are likely to result in improved employee performance. For furniture companies in Ghana, this means fewer workers missing work because of illnesses or accidents. Production processes are more accurate and efficient because contented workers are more engaged and driven, higher retention rates, lower expenses related to excessive employee turnover, and improved training of new hires.

The results and their consistency with previous research highlight how crucial it is for businesses to maintain strong occupational health and safety procedures. Businesses that put health and safety first not only abide by the law and moral principles, but they also see measurable improvements in worker productivity and organizational effectiveness. This study supports the claim that occupational health and safety expenditures are a strategic necessity to boost worker productivity and organizational performance rather than only being a compliance concern.

Prioritizing safety and health interventions is emphasized in the practical consequences, while theoretical contributions include contesting universal mediation assumptions and promoting contextualized models. The study shows strong measurement validation from a methodological standpoint and emphasizes the necessity of longitudinal designs.

In a cultural context that has been overlooked, this research contributes to existing information by looking at the mediating role of job satisfaction in the link between employee performance and occupational health and safety. The results mostly support other studies on the subject, but they also show that, in Ghanaian culture, employment success is strongly correlated with occupational safety and health when job satisfaction does not operate as a mediating factor. The results of the study can be applied to other civilizations with comparable traits.

6.3 RECOMMENDATION

It is recommended that business groups and the Ghanaian government work together to advance occupational safety and health standards in the furniture manufacturing sector. The implementation of tax incentives for businesses that invest in health and safety measures or the creation of recognition programs for exceptional practices can promote broad adoption. Ghanaian furniture manufacturers ought to think about routine health examinations to track and treat problems resulting from extended exposure to dust, noise, or chemicals frequently found in the furniture-making industry. Reducing physical strain through task and workstation design is especially important in an industry where manual labor is common. Resources for stress management, like counseling or stress-relief programs, should be made available because employees in this industry may feel under pressure from physically taxing jobs and deadlines.

Regular training sessions to teach staff members how to use tools, machinery, and protective gear safely, upgrading to newer, safer equipment that lowers the chance of accidents, and enforcing rules requiring Personal protective equipment (PPE) use and compliance with safety rules are all ways that furniture companies can improve safety. In light of Ghana's economic and cultural circumstances, interventions must to be both economical and culturally aware. Businesses might collaborate with regional health organizations to offer health initiatives that are sponsored. It's possible that community-based and traditional methods of health and safety education will engage employees better and taking use of Ghana's national labor regulations and incentives for workplace safety enhancements can save money and increase compliance.

Businesses that prioritize these factors not only adhere to moral and legal requirements but also improve employee happiness, which makes their staff more competitive and productive. For the furniture manufacturing industries in Ghana to thrive sustainably, these focused initiatives are crucial.

7. LIMITATION AND FUTURE RESEARCH

This study has a few drawbacks. The survey was restricted to a small number of carefully chosen furniture enterprises, and its findings may not necessarily reflect those of other Ghanaian furniture manufacturing companies. The study used a cross-sectional approach, gathering information from 385 employees all at once. One crucial premise of mediation analysis is temporal precedence, which is limited by this method. Future studies can perform longitudinal research using data that has time-lag

The findings of the study might not be applicable to all sectors or geographical areas. Only the work performance of these particular furniture manufacturing enterprises can be affected. The study's exclusive emphasis on certain industries may restrict its generalizability in other settings. Even though the mediation analysis shed light on the relationships between occupational health, safety, job satisfaction, and performance, the study did not investigate other potential mediating factors, such as individual differences (like personality traits) or contextual factors (like economic conditions). Studies may examine different sectors, industries, or demographic groups to find differences in how workplace safety and health affect performance. A more thorough model of employee performance should be developed by researchers by examining other factors such company culture, employee engagement, and leadership styles. Future studies should look at possible mediators that could change the direction or strength of the connections found, such employee age, tenure, or job complexity.

REFERENCES

- Abdullah, N. A. C., Spickett, J. T., Rumchev, K. B. & Dhaliwal, S. (2009), Assessing employees' perception on health and safety management in public hospitals. *International Review of Business Research Papers*, 5(4)
- Abramis, D. J. (1994). Work role ambiguity, job satisfaction, and job performance: Meta-analyses and review. *Psychological Reports*, 75(3_suppl), 1411-1433.
- Acquah-Moses E. E. (2004) Lumber supply to the local market: from policy to practice. In: Nketiah KS, Wieman A, Asubonteng KO, editors. Workshop Proceedings 2, 'Chainsaw lumber production: a necessary evil?' 2004 November 11, Kumasi, Ghana. Tropenbos International, 2004, p. 54–61
- Adu S, Adu G and Effah B, (2015). Safety measures in wood processing: an important component for the entrepreneur – the case of a local furniture industry in Ghana. *Saf.* 2015 May;4(5):2677–2686.
- Amabile, T.M. (1993) Motivational Synergy: Toward New Conceptualizations of Intrinsic and Extrinsic Motivation in the Workplace. *Human Resource Management Review*, 3, 185- 201.
- Andel, S. A., Porter, C. O., Amber, B., & Lukjan, K. P. (2022). Differential effects of rude coworkers and patients on nurses' safety performance: an emotional labor perspective. *Journal of managerial psychology*, 37(3), 224-242.
- Antara, G. P. W., Landra, L., Agung, A. A. P. (2020). The Effect of Performance Appraisal and Work Environment towards Employee Performance Mediated by Job Satisfaction. *International Journal of Contemporary Research and Review*. 11. 10.15520/ijcrr.v11i05.806
- Arrozak, J. R. (2021). The Effect of Work Environment, OHS, and Job Satisfaction on Employee Performance. *International Journal of Innovation in Enterprise System*, 5(01), 78-89.

- Aryanti, R. D., Sari, E. Y. D., & Widiyana, H. S. (2020, October). A literature review of workplace well-being. In *International Conference on Community Development (ICCD 2020)* (pp. 605-609). Atlantis Press.
- Attridge, M. (2009). Employee assistance programs: A research-based primer. In J. C. Quick, T. A. Wright, J. A. Adkins, D. L. Nelson, & J. D. Quick (Eds.), *Handbook of occupational health psychology* (2nd ed., pp. 383–407). American Psychological Association. <https://doi.org/10.1037/10474-018>
- Awan, S. H., Habib, N., Shoaib, C., & Akhtar, S. (2020). Effectiveness of performance management system for employee performance through engagement. *SAGE Open*, 10(4), 1–15. <https://doi.org/10.1177/2158244020969387>
- Ayim Gyekye, S. (2005). Workers' perceptions of workplace safety and job satisfaction. *International Journal of Occupational Safety and Ergonomics*, 11(3), 291-302.
- Bakker, A.B. and Demerouti, E. (2007), "The Job Demands-Resources model: state of the art", *Journal of Managerial Psychology*, Vol. 22 No. 3, pp. 309-328. <https://doi.org/10.1108/02683940710733115>
- Bakotić, D. (2016). Relationship between job satisfaction and organizational performance. *Economic Research-Ekonomska Istraživanja*, 29(1), 118–130. <https://doi.org/10.1108/02683940710733115>
- Balkır, Z. G. (2012), Protection of the right to occupational health and safety: the employer's organization of occupational health and safety. *Social Security Journal* 2(1), 56-91
- Basaran, I. E. (1999). *Organizational behavior*. Ankara: Umut Publishing
- Bosak, J., Coetsee, W. J., & Cullinane, S. J. (2013). Safety climate dimensions as predictors for risk behavior. *Accident Analysis & Prevention*, 55, 256-264.
- Brayfield, A. H., & Rothe, H. F. (1951). An index of job satisfaction. *Journal of Applied Psychology*, 35(5), 307. doi:10.1037/h0055617

- Briner, R. B. 1994. Stress and well-being at work: Assessments and interventions for occupational mental health. *Journal of Occupational and Organizational Psychology*, 67: 183–184.
- Bronkhorst and B. V, “Safety climate, worker health and organizational health performance. Testing a physical, psychosocial and combined pathway,” vol. 9, no. 3. pp. 270–289, 2016
- Bunn III, W. B., Pikelny, D. B., Slavin, T. J., & Paralkar, S. (2001). Health, safety, and productivity in a manufacturing environment. *Journal of Occupational and Environmental Medicine*, 43(1), 47-55.
- Burke, M. J., Salvador, R. O., Smith-Crowe, K., Chan-Serafin, S., Smith, A., & Sonesh, S. (2011). The dread factor: How hazards and safety training influence learning and performance. *Journal of Applied Psychology*, 96(1), 46–70. <https://doi.org/10.1037/a0021838>
- Chaughey, “Best Practices to Promote Occupational Safety and Satisfaction: A Comparison of Three North American Hospitals,” in *International Best Practices in Health Care Management*, vol. 17, 2015, pp. 161–149, 2015.
- Chen, K. Y. et al. (2013). Burnout, job satisfaction, and medical malpractice among physicians, *International journal of medical sciences*. Ivyspring International Publisher, 10(11), p. 1471
- Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: A meta-analysis of the roles of person and situation factors. *Journal of Applied Psychology*, 94(5), 1103–1127. <https://doi.org/10.1037/a0016172>
- Çiçek, Ö., & Öçal, M. (2016). Historical development of occupational health and safety in the world and in Turkey. *Hak İş International Journal of Labor and Society*, 5(11), 106-129.
- Cigularov, K. P., Chen, P. Y., Rosecrance, J., 2010. The effects of error management climate and safety communication on safety: a multi-level study. *Accid. Anal. Prev.* 42, 1498–1506.

- Çınar, O. and Gündoğdu, M. (2019). Examining the relationship between occupational health and safety, job satisfaction and organizational commitment: Erzurum and Istanbul practice. *Journal of Business and Life*, 5(9), 231-247.
- Clarke, S. (2006). The relationship between safety climate and safety performance: a meta-analytic review. *Journal of occupational health psychology*, 11(4), 315.
- Coleman, B. C. 1997. Job-related injuries, illness take heavy toll. *Houston Chronicle*, July 28.
- Connolly, K. M., & Myers, J. E. (2003). Wellness and mattering: The role of holistic factors in job satisfaction. *Journal of Employment Counseling*, 40(4), 152–160
- Cooper, C. L., & Cartwright, S. 1994. Healthy mind; healthy organizations-a proactive approach to occupational stress. *Human Relations*, 47: 455–471.
- Danna, K., & Griffin, R. W. (1999). Health and well-being in the workplace: A review and synthesis of the literature. *Journal of Management*, 25(3), 357–384. <https://doi.org/10.1177/014920639902500305>
- Davis, K. & Nestrom, J.W. (1985). *Human behavior at work: Organisational behavior*, 7 editions, McGraw Hill, New York.
- D. A. Yousef, “Satisfaction with job security as a predictor of organizational commitment and job performance in a multicultural environment,” *Int. J. Manpow.*, vol. Vol.Issue:, pp. 184–194, 2006
- Daniels, K., Connolly, S., Ogbonnaya, C., Tregaskis, O., Bryan, M.L., Robinson-Pant, A., Street, J. (2018). Democratisation of wellbeing: Stakeholder perspectives on policy priorities for improving national wellbeing through paid employment and adult learning. *British Journal of Guidance and Counselling*, 46, 492-511
- Danna, K., & Griffin, R. W. (1999, June). Health and Well-Being in the Workplace: A Review and Synthesis of the Literature. *Journal of Management*, 25(3), 357–384. <https://doi.org/10.1177/014920639902500305>

- Demerouti, E.B., Bakker, A.B., Nachreiner, F. and Schaufeli, W.B. (2001), "The job demands-resources model of burnout", *Journal of Applied Psychology*, Vol. 86 No. 3, pp. 499-512.
- Dennerlein JT, Burke L, Sabbath EL, Williams JA, Peters SE, Wallace L, Sorensen G (2020) An integrative total worker health framework for keeping workers safe and healthy during the COVID-19 pandemic. *Hum Factors* 62(5):689–696
- Donald, W.E., Baruch, Y. and Ashleigh, M.J. (2020), "Striving for sustainable graduate careers: Conceptualization via career ecosystems and the new psychological contract", *Career Development International*, Vol. 25 No. 2, pp. 90-110. <https://doi.org/10.1108/CDI-03-2019-0079>
- Dwomoh, G., Owusu, E. E., & Addo, M. (2013). Impact of occupational health and safety policies on employees' performance in the Ghana's timber industry: Evidence from Lumber and Logs Limited. *International Journal of Education and Research*, 1(12), 1-14.
- Dharmanegara, I. B., Sitiari, N. W., Wirayudha, I. D. G. N. (2016). Job Competency and Work Environment: the effect on Job Satisfaction and Job Performance among SMEs Worker. *IOSR Journal of Business and Management*.
- Eaton, A. & Nocerino, T. The effectiveness of health and committees: Results of a survey of public sector workplaces. *Industrial Relations*, 39, (2000) 265-90.
- Effah B., Antwi, K. & Adu G, (2013). The safety culture of artisans at the Sokoban Wood Village enclave, Ghana. *Am Int J Contemp Res*. 2013; 3(12):121–128.
- Egan, T. M., Yang, B., & Bartlett, K. R. (2004). The effects of organisational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly*, 15(3), 279-301.
- Egan, T. M., Yang, B., & Bartlett, K. R. (2004). The effects of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human resource development quarterly*, 15(3), 279-301.

- Ekowati, V. M., & Amin, F. M. (2019). The Effects of Occupational Health and Safety on Employee Performance through Work Satisfaction. Ekowati, M.V. & Amin, F. (2019). The Effect of Work Environment on Employee Performance through Work Discipline: *Advances in Economics, Business and Management Research*, volume 101.
- Eldredge, J. M., Krause, K. A., & Krause, J. F. (2016). *Journal of Occupational and Environmental Medicine*, 58(1), 12-18.
- Eroglu, F. (2007). *Behavioral sciences*. Istanbul: Beta Publishing
- Eroğlu, Ş. G., Çoban, H., & İrmiş, A. (2014). Research on job dissatisfaction of the university staff. *European Journal of Research on Education*.
- Evans, D.D., Michael, J.H., Wiedenbeck, J.K., Ray, C.D., 2005. Relationships between organizational climates and safety-related events at four wood manufacturers. *Forest Prod. J.* 55 (6), 23–28
- Faragher, E. B., Cass, M., & Cooper, C. L. (2005). The relationship between job satisfaction and health: a meta-analysis. *Occupational and environmental medicine*, 62(2), 105-112.
- Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J.. Relation between occupational safety management and firm performance. *Safety science*, 47(7), (2009) 980-991.
- Firth-Cozens, J. (2001). Teams, culture and managing risk. In C. Vincent (Ed.), *Clinical risk management* (2nd ed., pp. 113–129). BMJ Books.
- Fisher, C. (2007). *Researching and writing a dissertation: A guidebook for business Student*, 2 nd Ed. Ashford Colour Press, England.
- Frame, D. (1996). Maslow's hierarchy of needs revisited. *Interchange*, 27(1), 13-22.
- Garcie-Herrero, S. Working conditions, Psychological, physical symptoms, and occupational accidents. Bayesian network models

- Gbadago, P., Amedome, S. N., & Honyenuga, B. Q. (2017). The impact of occupational health and safety measures on employee performance at the South Tongu District Hospital. *Global Journal Inc.(USA)*, 17(5), 13-19.
- Geldart S, Smith C A, Shannon H S & Lohfeldb L, Organizational practices and workplace health and safety: A cross-sectional study in manufacturing companies, *Safety Sci* 48 (2010) 562–569.
- Gopang, M. A., Nebhwani, M., Khatri, A., & Marri, H. B. (2017). An assessment of occupational health and safety measures and performance of SMEs: An empirical investigation. *Safety Science*, 93, 127–133.
<https://doi.org/10.1016/j.ssci.2016.11.024>
- Gunduz, M., Birgonul, M. T., & Ozdemir, M. (2018). Development of a safety performance index assessment tool by using a fuzzy structural equation model for construction sites. *Automation in Construction*, 85, 124-134.
- Gyekye, S. A., & Salminen, S. (2007). Workplace safety perceptions and perceived organizational support: Do supportive perceptions influence safety perceptions? *International Journal of Occupational Safety and Ergonomics*, 13(2), 189–200.
<https://doi.org/10.1080/10803548.2007.11076723>
- Hackett, R. D., & Guion, R. M. (1985). A reevaluation of the absenteeism-job satisfaction relationship. *Organisational Behavior and Human Decision Processes*, 35(3), 340-381.
- Hale, A., Guldenmund, F., Van Loenhout, P., & Oh, J. (2010). Evaluating safety management and culture interventions to improve safety: Effective intervention strategies. *Safety Science*, 48(8), 1026-1035.
<https://doi.org/10.1016/j.ssci.2009.05.006>
- Hancock, D. G., Langley, M. E., Chia, K. L., Woodman, R. J., & Shanahan, E. M. (2015). Wood dust exposure and lung cancer risk: a meta-analysis. *Occupational and environmental medicine*, 72(12), 889-898.

- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87(2), 268–279. <https://doi.org/10.1037/0021-9010.87.2.268>
- Hassan, M., Nadeem, A. B., & Akhter, A. (2016). Impact of workplace spirituality on job satisfaction: Mediating effect of trust. *Cogent Business & Management*, 3(1).
- Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). The Guilford Press. <https://www.guilford.com/p/hayes3>
- Heinrich, H.W., 1931, “Industrial accident prevention”, Mc Graw Hill Book Company, New York
- Hofmann, D. A., & Tetrick, L. E. (2003). The etiology of the concept of "unsafe behavior": A critique of the classical and human factors models. *Theoretical Issues in Ergonomics Science*, 4(4), 295-318.
- Holcroft, C.A., Punnett, L., 2009. Work environment risk factors for injuries in wood processing. *J. Saf. Res.* 40, 247–255.
- Hong, C. C., Ramayah, T., & Subramaniam, C. (2018). The relationship between critical success factors, internal control and safety performance in the Malaysian manufacturing sector. *Safety science*, 104, 179-188.
- Hoppock, R. (1935) Job satisfaction. New York: Arno Press.
- Huang, Y. H., Verma, S. K., Chang, W. R., Courtney, T. K., Lombardi, D. A., Brennan, M. J., & Perry, M. J. (2014). Working with “difficult” patients: Nurse-physician communication and safety in the operating room. *Social Science & Medicine*, 115, 36- 44.
- Husni, (2005) Employment Law. Ed. Revision. Jakarta:PT. King Grafinso
- Idris, M. A., Dollard, M. F., & Winefield, A. H. (2012). Integrating psychosocial safety climate in the JD-R model: A study amongst Malaysian workers. *South African*

Journal of Industrial Psychology, 37(2), 29–39.
<https://doi.org/10.4102/sajip.v37i2.851>

International Labour Organization (ILO). 2025. Available online: https://www.ilo.org/safework/areasofwork/workplace-health-promotion-and-well-being/WCMS_118396/lang-en/index.htm (accessed on 18 April 2025).

Iverson, R. D., & Maguire, C. (2000). The relationship between job and life satisfaction: Evidence from a remote mining community. *Human Relations*, 53(6), 807–839.

Jalalkamali M., “Relationships between work values, communication satisfaction, and employee job performance: The case of international joint ventures in Iran,” *Manag. Decis.*, vol. 54, no. 4, pp. 796–814, 2016.

Johnson, S., Robertson, I.T. and Cooper, C.L. (2018), *Well-being: Productivity and Happiness at Work*, 2nd Ed., Springer-Verlag, New York

Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. (1998). Dispositional effects on job and life satisfaction: the role of core evaluations. *Journal of Applied Psychology*, 83(1), 17. doi:10.1037/0021-9010.83.1.17

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological bulletin*, 127(3), 376.

Kavanaugh, “The relationship between job satisfaction and demographic variables for healthcare professionals,” *Manag. Res. News*, vol. 29, pp. 6–304, 2017.

Kelloway, E. K., & Barling, J. (2010). Leadership development as an intervention in occupational health psychology. *Work & Stress*, 24(3), 260–279.
<https://doi.org/10.xxxx>

Khan, A.H. and Aleem, M. (2014). Impact of job satisfaction on employee turnover: an empirical study of Autonomous Medical Institutions of Pakistan. *Journal of International Studies*, Vol. 7, No. 1, pp.122–132.

- Kılıç, G., & Selvi, M. S. (2009). The effects of occupational health and safety risk factors on job satisfaction in hotel enterprises. *Ege Akademik Bakış Dergisi*, 9(3), 903-921.
- Kim, H., Park, D., 2006. Selecting high-risk micro-scale enterprises using a qualitative risk assessment method. *Ind. Health* 44, 75-82
- King, P. M. 1995. The psychosocial work environment: implications for workplace safety and health. *Professional Safety*, 40: 36-39
- Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: antecedents and consequences of team empowerment. *Academy of Management Journal*, 42 (1), 58 ± 74.
- Komaki, J., Heinzmann, A.T., Lawson, L., 1980. Effect of training and feedback: component analysis of a behavioral safety program. *Journal of Applied Psychology* 65 (3), 261-270.
- Kornhauser, A. W., & Sharp, A. A. (1932). Employee attitudes; suggestions from a study in a factory. *Personnel Journal*, 10, 393-404.
- Kumar, S., & Preetha, G. S. (2012). Health promotion: an effective tool for global health. *Indian Journal of Community Medicine*, 37(1), 5-12.
- Kuswadi, How to Measure Employee Satisfaction. Jakarta:Gramedia, 2004
- Leung, M.-Y., Liang, Q., & Olomolaiye, P. (2012). Impact of construction workers' hazard identification and safety perception on their safety performance. *Journal of Construction Engineering and Management*, 138(9), 1055-1064. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0000516](https://doi.org/10.1061/(ASCE)CO.1943-7862.0000516)
- Lim, A. (2012). OHS management system: Three benefits for construction enterprise. Retrieved on 4th February, 2024 from www.artipot.com/article-tags/ohs-management-system.
- Locke, E. A. (1969). What is job satisfaction? *Organizational behavior and human performance*, 4(4), 309-336.

- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297–1349). Chicago: Rand McNally.
- M. As'ad, *Industrial Psychology: Human Resources Science Series*. Yogyakarta: Liberty, 2004.
- M. Jalalkamali, “Relationships between work values, communication satisfaction, and employee job performance: The case of international joint ventures in Iran,” *Manag. Decis.*, vol. 54, no. 4, pp. 796–814, 2016.
- Marwansyah. (2016). *Human Resource Management*. Bandung, Alfabet.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological review*, 50(4), 370–396
- Mathis, L. R. and Jackson, H. J. (2004). *Human resource management: International student edition*. 10th Ed., Seng Lee Press, Singapore.
- Mathis, R. L. and Jackson, J. H. (2004), *Human Resource Management*, New York: South Western College Publishing
- M. D. Bhastary and K. Suwardi, “Safety influence analysis and occupational health (K3) and work environment on performance employees at PT Samudera Perdana,” *Management Journal and Finance*, vol. 7, no. 1, pp. 47–60, May 2018, doi: 10.33059/jmk.v7i1.753.
- Mearns, K., Whitaker, S. M., & Flin, R. (2003). Safety climate, safety management practice and safety performance in offshore environments. *Safety Science*, 41(8), 641–680. [https://doi.org/10.1016/S0925-7535\(02\)00011-5](https://doi.org/10.1016/S0925-7535(02)00011-5)
- Michael, J.H., Wiedenbeck, J.K., 2004. Safety in the wood products industry. *Forest Prod. J.* 54, 10.
- Mikkelsen, A.B., Schlünssen, V., Sigsgaard, T., Schaumburg, I., 2002. Determinants of wood dust exposure in the Danish Furniture Industry. *Ann. Occup. Hyg.* 46, 673–685.

- Min J, Kim Y, Lee S, Jang TW, Kim I, Song J (2019) The fourth industrial revolution and its impact on occupational health and safety, worker's compensation and labor conditions. *Saf health work* 10(4):400–408
- Mondy, R. W. (2008). *Human resource management* (10th ed.). Pearson Prentice Hall.
- Mora Z, Suharyanto A, Yahya M (2020) Effect of work safety and work healthy towards employee's productivity in PT. Sisirau Aceh Tamiang *Burns* 2(1):753–760
- M. S. P. Hasibuan, *Human Resource Management, Revised*. Jakarta: Bumi Aksara, 2016
- Mufeed, S. (2023). Impact of occupational stress on employee performance in Maldives tourism industry. *International Journal of Scientific Research and Management (IJSRM)*, 11(6), 4919-4938. <https://doi.org/10.18535/ijssrm/v11i06.em01>
- Naing, Amy Win. Effect of Occupational Health and Safety Practices on Job Satisfaction and Job Performance of Employees in KRK Engineering and Construction Co., Ltd". Diss. MERAL Portal.
- Nanzushi, C. (2015). The effect of workplace environment on employee performance in the mobile telecommunication firms in Nairobi City County (Doctoral dissertation, University of Nairobi).
- Neal, A., Griffin, M.A., Hart, P.M., 2000. The impact of organisational climate on safety climate and individual behaviour. *Saf. Sci.* 34, 99–109.
- Neal, A., & Griffin, M. A. (2006). A study of the lagged relationships among safety climate, safety motivation, safety behavior, and accidents at the individual and group levels. *Journal of Applied Psychology*, 91(4), 946–953. <https://doi.org/10.1037/0021-9010.91.4.946>
- Neville, H. 1998. Workplace accidents: They cost more than you might think. *Industrial Management*, 40: 7–9
- Nielsen, K., Nielsen, M. B., Ogbonnaya, C., Käsälä, M., Saari, E., & Isaksson, K. (2018). Workplace resources to improve both employee well-being and performance: A

- systematic review and meta-analysis. *Work & Stress*, 31(2), 101–120.
<https://doi.org/10.1080/02678373.2017.1304463>
- Nielsen, K., Randall, R., Yarker, J., & Brenner, S.-O. (2008). The effects of transformational leadership on followers' perceived work characteristics and psychological well-being: A longitudinal study. *Work & Stress*, 22(1), 16–32.
<https://doi.org/10.xxxx>
- Nyoni, W., Pillay, M., Rubin, M., & Jefferies, M. (2019). Organizational factors, residual risk management and accident causation in the mining industry: A systematic literature review. In *Advances in Safety Management and Human Factors: Proceedings of the AHFE 2018 International Conference on Safety Management and Human Factors*, July 21-25, 2018, Loews Sapphire Falls Resort at Universal Studios, Orlando, Florida, USA 9 (pp. 14-23). Springer International Publishing.
- Oluoch, E. O. (2015). *Effect of occupational safety and health programmes on employee performance at Kenya Power Company Limited* (Doctoral dissertation, University of Nairobi).
- O'Rourke, M. (2007). The Australian Commission on Safety and Quality in Health Care agenda for improvement and implementation. *Asia Pacific Journal of Health Management*, 2(2), 21-25.
- O. S. & H. . Latip., “Beyond financial performance: A perspective on occupational safety performance in automobile SMEs in Nigeria,” *Int. J. Res. Stud. Manag.* Vol., vol. 5, no. 1, pp. 19–29, 2016.
- Page, K. M., & Vella-Brodrick, D. A. (2009). The ‘what’, ‘why’ and ‘how’ of employee well-being: A new model. *Social Indicators Research*, 90(3), 441–458.
- Parker, S. K., Axtell, C. M., & Turner, N. (2003). Designing a safer workplace: Importance of job autonomy, communication quality, and supportive supervisors. *Journal of Occupational Health Psychology*, 8(3), 211–228. <https://doi.org/10.xxxx>
- Perera, G.D.N. (2019). Occupational Health and Safety Practice and Job Performance: Role of Job Satisfaction. 1-10

- Pousette, A., Larsman, P., Eklöf, M., & Törner, M. (2008). The relationship between patient safety climate and occupational safety climate in healthcare—A multi-level investigation. *Journal of Safety Research*, 64, 187–194. <https://doi.org/10.1016/j.jsr.2017.02.011>
- Pradhan, R. K., & Hati, L. (2022). The measurement of employee well-being: development and validation of a scale. *Global Business Review*, 23(2), 385-407.
- Premier Occupational Healthcare (2010). An introduction to the role of occupational health for managers. Folkestone, England
- Putra, I., Ardika, I., Antara, M., & Idrus, S. (2021). The Effect of Quality of Work-Life on The Job Satisfaction, Work Motivation, and Work Performance of Hotel Employees in West Lombok. *International Journal of Research*, 8(7), 192-204.
- Ramli, A. H. (2019). Work Environment, Job Satisfaction and Employee Performance in Health Services.
- Riketta, M. (2008). The causal relation between job attitudes and performance: A meta-analysis of panel studies. *Journal of Applied Psychology*, 93(2), 472–481. <https://doi.org/10.1037/0021-9010.93.2.472>
- Robbins, S. P., & Judge, T. A. (2013). *Organizational behavior* (15th ed.). Upper Saddle River, NJ: Pearson.
- R. Veihzal, Human Resource Management for Companies. Jakarta: Salemba Empat, 2005.
- R. W. Mondy, Human Resource Management. Jakarta: Erlangga Publisher, 2008
- Sahoo, P.K.; Sahu, S.K. Safety performance evaluation of large-scale manufacturing industry. *J. Ind. Eng. Int.* 2015, 11, 557–566.
- Sakariyau, O. B., & Latip, H. A. (2016). Beyond financial performance: A perspective on occupational safety performance in automobile SMEs in Nigeria. *International Journal of Research Studies in Management*, 5, 19-29.

- Salminen, S., Have, H. T., & Nielsen, P. A. (2004). Accident prevention: A joint managerial and safety technology approach. *Journal of Safety Research*, 35(4), 447-456.
- Sari, N. P. R., Bendesa, I. K. G., & Antara, M. (2019). The influence of quality of work life on employees' performance with job satisfaction and work motivation as intervening variables in star-rated hotels in Ubud tourism area of Bali. *Journal of Tourism and Hospitality Management*, 7(1), 74-83.
- Saunders et al (2002). *Research Methods for Business Students*, Prentice Hall, London
- Schoen S. A., Lane S. J., Mailloux Z., May-Benson T., Parham L. D., Smith Roley S., et al., (2019). A systematic review of Ayres sensory integration intervention for children with autism. *Autism Res.* 12, 6–19.
- Siagian, S. P. (2002). *Tips to Increase Work Productivity*. Jakarta: Rineka copyright.
- Siagian, V. (2018). Women on board and firm performance: Evidence from Indonesia LQ45. *Jurnal Terapan Ilmu Manajemen dan Bisnis*, 1(1), 98-110.
- Sigler, T. H., & Pearson, C. M. (2000). Creating an empowering culture: examining the relationship between organizational culture and perceptions of empowerment. *Journal of Quality Management*, 5(1), 27-52.
- Siu, O. L., Phillips, D. R., & Leung, T. W. (2007). Safety climate and safety performance among construction workers in Hong Kong: The role of psychological strains as mediators. *Accident Analysis & Prevention*, 39(2), 359–366. <https://doi.org/10.1016/j.aap.2006.07.008>
- Slemp, G. R., Kern, M. L., & VellaBrodrick, D. A. (2015). Workplace well-being: The role of job crafting and autonomy support. *Psychology of Well-Being*, 5(7), 1–17
- Smith, K., Kaminstein, D. S., & Makadok, R. J. 1995. The health of the corporate body: Illness and organizational dynamics. *Journal of Applied Behavioral Science*, 31: 328–351.

- Soysal, A., & Tan, M. (2013). A study in the service sector on the factors affecting job satisfaction: a case of domestic public and private bank personnel. *Niğde University Journal of the Faculty of Economics and Administrative Sciences*, 6(2), 45-63
- S. P. M. Hasibuan, *Human Resources Management*. Revised Edition. Jakarta: Bumi Literacy 2007
- S. P. Robbins, *Organizational Behavior*. Tenth Edition. Jakarta: PT Index Gramedia Group, 2006.
- Subrahmaniam C., "Safety management practices and safety compliance in small medium enterprises: Mediating role of safety participation," *Asia-Pacific J. Bus. Adm.*, vol. 8, no. 3, pp. 226– 244, 2016
- Suma'mur. (2007). *Occupational Safety and Accident Prevention*. Jakarta: Gunung Agung
- Veithzal.(2005). *Human Resource Management*. Jakarta: Raja Grafindo Persada.
- Vinodkumar, M.N., Bhasi, M., 2010. Safety management practices and safety behaviour: assessing the mediating role of safety knowledge and motivation. *Accid. Anal. Prev.* 42 (6), 2082–2093. <http://dx.doi.org/10.1016/j.aap.2010.06.021>.
- Wallace, J. C., Popp, E., & Mondore, S. (2006). Safety climate as a mediator between foundation climates and occupational accidents: A group-level investigation. *Journal of Applied Psychology*, 91(3), 681–688. <https://doi.org/10.1037/0021-9010.91.3.681>
- Walters D. , "Employee representation and health and safety," *Empl. Relations*, vol. 20, no. 2, pp. 180-195, 2016.
- Wang, Z., Liu, H., Yu, H., Wu, Y., Chang, S., & Wang, L. (2017). Associations between occupational stress, burnout and well-being among manufacturing workers: mediating roles of psychological capital and self-esteem. *BMC psychiatry*, 17, 1-10.

- Warnock, L. J., & Vonasek, E. K. (2009). Wood dust created throughout manufacturing can pose challenges for companies in the wood-products industry. *Journal of Occupational and Environmental Hygiene*, 6(10), 606-611.
- Warr, P. 1990. The measurement of well-being and other aspects of mental health. *Journal of Occupational Psychology*, 63: 193–210.
- World Health Organization (1999), Report of Regional Office for the Western Pacific. World Health Organization.
- Wright, T. A., & Cropanzano, R. (2000). Psychological well-being and job satisfaction as predictors of job performance. *Journal of Occupational Health Psychology*, 5(1), 84–94. <https://doi.org/10.1037/1076-8998.5.1.84>
- Wu, T. C., Chen, C. H., & Li, C. C. (2008). A correlation among safety leadership, safety climate and safety performance. *Journal of loss prevention in the process industries*, 21(3), 307-318.
- Yusof, A. M., & Othman, S. N. (2010). *Journal of Safety Research*, 41(4), 409-411.
- Zafir, M., & Nasir, R. (2015). Employee well-being and its relationship with occupational health: Impacts on performance and workplace morale. *Journal of Occupational Health and Performance*, 7(2), 123–135.
- Zhang, F.; Li, Y. Safety performance measurement of large-scale manufacturing enterprises based on the combination of grey correlation analysis and entropy weight method. *J. Chem. Pharm. Sci.* 2017, 9, 120–126
- Zheng, X., Zhu, W., Zhao, H., & Zhang, C. (2015). Employee well-being in organizations: Theoretical model, scale development, and cross-cultural validation. *Journal of Organizational Behavior*, 36(5), 621–644
- Zhou, X., Li, X., Cui, Z., Wu, L., Zhou, H., & Lu, X. (2023). Combustible wood dust explosions and impacts on environments and health-A review. *Environmental research*, 216, 114658.

- Zohar, D. (2000). A group-level model of safety climate: Testing the effect of group climate on microaccidents in manufacturing jobs. *Journal of Applied Psychology*, 85(4), 587–596. <https://doi.org/10.1037/0021-9010.85.4.587>
- Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident analysis & prevention*, 42(5), 1517-1522.



APPENDICES

APPENDIX A

A.1 QUESTIONNAIRES

Dear Sir/Madam,

My name is Christian Acheampong and I am a student of Altinbas University studying Masters in Business Administration (MBA). I am currently working on my dissertation which is titled “**Effect of Occupational Health and Safety on Employee Performance through Job Satisfaction**”. This does not concern any other business objective as it is solely for academic purposes. Kindly respond to the following questions.

Thank you for your time.

A.1.1 Section I Demographic Profiles

[Please click ☐ on each of the respective answer of the following question.]

1. Male

☐ Female

☐ Prefer not to say

2. Age group (year)

☐ Under 24 years

☐ 25- 30 years

☐ 31-35 years

☐ 36-40 years

☐ Over 40 years

3. Educational Background

- ☐ Basic/ None
- ☐ High School
- ☐ University Degree
- ☐ Postgraduate

A.1.2 Section II Occupational Health

Below are a series of statements that pertain to your perspective on occupational health. Please indicate your level of agreement or disagreement with each statement on a scale of 1 to 5 where 1= Strongly Disagree, 2= Disagree, 3= Neither Agree Nor Disagree, 4= Agree, 5= Strongly Agree.

Sr. No	Occupational Health	1	2	3	4	5
1	My workplace is very conducive					
2	I attach lots of value to my work					
3	I used to maintain a balance between work and home life					
4	My employer does care a lot about their employees					
5	I enjoy meaningful work					
6	My job provides ample scope for career growth					
7	My work achievement often acts as a source of motivation					
8	My work offers challenges to advance my skills					
9	I am quite satisfied with my job					

A.1.3 Section III Occupational Safety

Below are a series of statements that pertain to your perspective on occupational safety. Please indicate your level of agreement or disagreement with each statement on a scale of 1 to 5 where 1= Strongly Disagree, 2= Disagree, 3= Neither Agree Nor Disagree, 4= Agree, 5= Strongly Agree.

Sr. No	Occupational Safety	1	2	3	4	5
1	Pathways of workplaces are neat and tidy in my company					
2	Machinery is equipped with good safeguard in mycompany					
3	Electrical equipment is with good safeguard in my company					
4	Hazardous workplaces are equipped with good ventilation in my company					
5	My company provides employees with Personal Protective Equipment (PPE)					
6	My company implements measurement of hazardous environment periodically					
7	My company establishes safety & health labels/signage in workplace					
8	My company carries out self-inspections					
9	My company keeps/saves self-inspection records properly					

A.1.4 Section IV Job satisfaction

Below are a series of statements that pertain to your perspective on job satisfaction. Please indicate your level of agreement or disagreement with each statement on a scale of 1 to 5 where 1= Strongly Disagree, 2= Disagree, 3= Neither Agree Nor Disagree, 4= Agree, 5= Strongly Agree.

Sr. No	Job Satisfaction	1	2	3	4	5
1	I'm quite satisfied with my current job.					
2	Most days I go to work with enthusiasm.					
3	Every day at work seems never-ending.					
4	I find my job enjoyable.					
5	I think my job is unpleasant.					

A.1.5 Section V Employee Performance

Below are a series of statements that pertain to your perspective on Employee Performance. Please indicate your level of agreement or disagreement with each statement on a scale of 1 to 5 where 1= Strongly Disagree, 2= Disagree, 3= Neither Agree Nor Disagree, 4= Agree, 5= Strongly Agree

Sr. No	Employee Performance	1	2	3	4	5
1	I complete my tasks on time					
2	I meet or exceed my goals					
3	I make sure that products meet or exceed quality standards'					
4	I respond quickly when problems come up					

APPENDIX B

B.1 REGRESSION ANALYSIS

B.1.1: Effect of Occupational Health on Employee Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779 ^a	.607	.606	1.70786

a. Predictors: (Constant): Occupational Health

b. Dependent Variable: Employee Performance

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1726.320	1	1726.320	591.860	.000 ^b
	Residual	1117.124	383	2.917		
	Total	2843.444	384			

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), Occupational Health

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1250.916	1	1250.916	300.843	.000 ^b
	Residual	1592.528	383	4.158		
	Total	2843.444	384			

a. Dependent Variable: Employee performance

b. Predictors: (Constant), Occupational Safety

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	5.941	.663		8.957
	Occupational Safety	.295	.017	.663	17.345

a. Dependent Variable: Employee Performance

B.1.3 Effect of Occupational Health and Safety on Job satisfaction

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.668 ^a	.446	.443	1.92350

a. Predictors: (Constant), Occupational Health, Occupational Safety

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1136.432	2	568.216	153.578	.000 ^b
	Residual	1413.345	382	3.700		
	Total	2549.777	384			

a. Dependent Variable: Job Satisfaction

b. Predictors: (Constant), Occupational Health, Occupational Safety

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.670	.692		.000
	Occupational Safety	.138	.027	.328	.000
	Occupational Health	.176	.030	.375	.000

a. Dependent Variable: Job Satisfaction

B.1.4 Effect of Job Satisfaction on Employee Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.506 ^a	.256	.254	2.35051

a. Predictors: (Constant), Job Satisfaction

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	727.413	1	727.413	131.661	.000 ^b
	Residual	2116.032	383	5.525		
	Total	2843.444	384			

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), Job Satisfaction

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	8.967	.736		12.178	.000
	Job Satisfaction	.534	.047	.506	11.474	.000

a. Dependent Variable: Employee Performance

B.1.5 Effect of Job satisfaction mediating Occupational Health and Safety on Employee Performance

Mediation Analysis Results

Model 1: Mediation Analysis (OH → JS → EP)

Path	Effect	SE	t	p	95% CI (LLCI, ULCI)	Significant?
OH → JS	0.3000	0.0185	16.2293	<0.001	(0.2637, 0.3364)	Yes
JS → EP	0.0150	0.0440	0.3405	0.7337	(-0.0715, 0.1015)	No
OH → EP	0.3822	0.0207	18.4877	<0.001	(0.3416, 0.4229)	Yes

Indirect Effects

Path	Effect	SE	95% CI (LLCI, ULCI)	Significant?
OH → JS → EP	0.0045	0.0185	(-0.0309, 0.0416)	No

Model Summary (R-Squared Values)

Path	R-Squared	F-Value	p
OH → JS	0.4075	263.3899	<0.001
OH → EP	0.6072	295.3048	<0.001

Model 2: Mediation Analysis (OS → JS → EP)

Path	Effect	SE	t	p	95% CI (LLCI, ULCI)	Significant?
OS → JS	0.2646	0.0167	15.8325	<0.001	(0.2317, 0.2974)	Yes
JS → EP	0.1548	0.0514	3.0121	0.0028	(0.0538, 0.2559)	Yes
OS → EP	0.2537	0.0216	11.7315	<0.001	(0.2112, 0.2962)	Yes

Indirect Effects

Path	Effect	SE	95% CI (LLCI, ULCI)	Significant?
OS → JS → EP	0.0410	0.0202	(-0.0002, 0.0793)	No

Model Summary (R-Squared Values)

Path	R-Squared	F-Value	p
OS → JS	0.3956	250.6679	<0.001
OS → EP	0.4529	158.1284	<0.001

Assumptions Check of Mediation Analysis

Assumption	Model 1 (OS → JS → EP)	Model 2 (OH → JS → EP)	Met?
Linearity	Path a: $\beta = 0.2646$, $p < .001$; Path b: $\beta = 0.1548$, $p = .0028$	Path a: $\beta = 0.3000$, $p < .001$; Path b: $\beta = 0.0150$, $p = .7337$	Yes
Normality of Residuals	JS: skewness = -1.437, kurtosis = 3.792; EP: skewness = -2.470, kurtosis = 7.760	JS: skewness = -1.437, kurtosis = 3.792; EP: skewness = -2.470, kurtosis = 7.760	Partially
Homoscedasticity	Path a: SE = 0.0167; Path b: SE = 0.0514	Path a: SE = 0.0185; Path b: SE = 0.0440	Yes
Independence of Observations	N = 385, no clustering	N = 385, no clustering	Yes
No Multicollinearity	OH-JS: $r = 0.638$, $p < .001$	OS-JS: $r = 0.629$, $p < .001$	Yes
Reliable Measurement	JS: $\alpha = 0.786$; EFA loadings ≥ 0.60	JS: $\alpha = 0.786$; EFA loadings ≥ 0.60	Partially
Temporal Precedence	Cross-sectional design	Cross-sectional design	No