

**Workplace Health and Safety Management Practices and Employee Well-Being Among
Drivers in Selected Inter-State Transportation Companies in Benin City, Edo-State**

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**BEING A THESIS WRITTEN AND SUBMITTED TO THE DEPARTMENT OF
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RESOURCE MANAGEMENT OF THE UNIVERSITY OF BENIN, BENIN CITY**

NOVEMBER, 2025

DECLARATION

I, **Tuoyo Eresanara AGIREN**, hereby declare that the work presented in this thesis is entirely my own work and composition. The work embodied in this thesis has not been submitted elsewhere for the award of any degree. All sources of information referred to in this work are acknowledged with reference to the respective authors.

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This is to certify that this thesis titled **Workplace Health and Safety Management Practices and Employee Well-Being Among Drivers in Selected Inter-State Transportation Companies in Benin City, Edo State**, was carried out by **Tuoyo Eresanara AGIREN** in the Department of Human Resource Management, Faculty of Management Sciences, University of Benin, Benin City.

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DEDICATION

This research work is dedicated to God Almighty for giving me the strength, wisdom, and mental capacity to complete this research successfully. Thank you, heavenly father.

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ABSTRACT

This study examined the relationship between workplace health and safety management practices and employee well-being in selected inter-state transportation companies in Benin City, Nigeria. The study adopted a mixed-method design, combining quantitative survey data with qualitative insights using interviews. The population of the study comprised eight hundred and eighty-eight (888) drivers of ten (10) selected transport companies in Benin City. The sample size was two hundred and seventy-five (275). Primary data for the study were collected using questionnaires and interviews. The data were analysed using both descriptive statistics (frequency distributions, percentages, means, and standard deviations) and inferential statistics (correlation and regression analysis) via SPSS version 25 at a 5% significance threshold, while thematic analysis was applied to analyse the interview responses.

Findings revealed that safety training, safety compliance, protective measures, welfare schemes, and work fatigue control each had significant positive effects on different dimensions of employee well-being. The results indicated that employees who received structured training and protective equipment reported better physical and emotional health, while effective welfare schemes enhanced financial and mental well-being. Furthermore, control of work fatigue was shown to improve overall job satisfaction and reduce burnout. The study concluded that employee well-being in the transportation sector is strongly tied to proactive safety practices and welfare initiatives. It was further recommended that the transportation industry should enhance safety culture through regular communication of safety policies. Others include providing and maintaining protective measures, optimizing safety training and awareness, implementing comprehensive welfare schemes, and managing work fatigue effectively.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Workplace Health and Safety Management Practices (WHSMP) have gained global recognition as essential strategies for ensuring employee well-being, reducing workplace hazards, and enhancing productivity. Globally, the International Labour Organisation (ILO) estimates that 2.3 million workers succumb to work-related accidents or diseases every year, equating to over 6,000 deaths per day (ILO, 2021). These alarming statistics underscore the necessity for robust and proactive health and safety management systems in workplaces. Empirical evidence further shows that organizations with formalized WHSMP such as safety training, hazard control mechanisms, welfare facilities, and fatigue management programmes report higher levels of employee safety perception, reduced stress, and improved job satisfaction (Chen, Li, & Wang, 2023). Also, all organisations have a duty of care to ensure that employees and other persons who may be affected by the company's undertakings remain safe at all times (Idubor & Oisamoje, 2013). These outcomes demonstrate that WHSMP extend beyond the prevention of physical injuries to contribute meaningfully to broader dimensions of employee well-being.

The global emphasis on healthy and safe workplaces is also reflected in international development frameworks. The United Nations' Sustainable Development Goal 8 (Decent Work and Economic Growth) advocates for safe and secure working environments for all workers, particularly in high-risk sectors such as transportation (United Nations, 2015). This highlights an increasing global consciousness of the economic, social, and human consequences of inadequate workplace safety. It also reinforces the position that effective WHSMP are essential for safeguarding not only employees' physical health but also their psychological stability,

emotional resilience, and overall quality of work life—all core dimensions of employee well-being.

In Africa, the challenge of occupational safety is compounded by widespread informal employment, weak regulatory frameworks, and limited institutional capacity (Okojie, Ibadode & Igbinedion, 2025). The transportation sector, which plays a central role in the movement of people and goods, is especially vulnerable to safety lapses due to long working hours, inadequate training, and poor road infrastructure. Transport workers often operate in high-risk environments without adequate safety protocols or protective equipment, leading to elevated rates of work-related injuries and fatalities (Useche, Ortiz, & Cendales, 2017).

In Nigeria, road transport remains the dominant mode of movement, accounting for over 90% of passenger and freight traffic. However, this sector is marked by a disturbing frequency of road accidents, often resulting from unsafe working conditions and poor enforcement of safety regulations (Bammeke, 2019). Reports by the Federal Road Safety Corps (FRSC) show that in 2022 alone, over 11,800 road traffic crashes were recorded, leading to more than 5,000 fatalities, with commercial drivers being the most affected group (FRSC, 2022). Despite the enormity of these statistics, the implementation of WHSMP in Nigerian transport companies remains minimal and largely unregulated. (Bammeke, 2019; Owoeye, Gbadamosi, Omole, & Akanbi, 2024).

Focusing more narrowly on Benin City, the capital of Edo State, the city serves as a strategic transport hub in Nigeria, linking southern regions with other parts of the country. While the transportation sector supports local economic development and employment, it is also associated with high levels of occupational risk, including road accidents, assaults, work-related stress, and exposure to environmental hazards (Okafor, Okogie, Ogbogodo & Idoko, 2023). According to

Okafor, Azuike, and Okojie (2017), road transport-related morbidity and mortality have surged significantly, largely due to unsafe work practices, lack of training, fatigue, and insufficient safety infrastructure.

This study focuses on key variables within WHSMP, including safety culture, which involves organisational values and attitudes toward safety (Uzundu, 2019); safety training and awareness, which ensures employees are equipped with knowledge on hazard prevention; protective measures, which include the provision of safety gear and risk mitigation strategies (Adebayo, 2015); welfare schemes, which cater to employees' physiological and psychological needs (George, 2024); and work fatigue management, which addresses the impact of excessive workload or workhours on workers' health, safety and level of productivity (Babbah, 2024). Effective implementation of these practices ensures compliance with regulatory frameworks and enhances employee morale, reduces workplace accidents, and fosters overall organisational performance (Usukoromo, Omonzejele, & Ogbogbo, 2023).

Employee well-being is a multidimensional concept encompassing physical health, psychological stability, and job satisfaction. It is increasingly recognised as a critical factor in organisational performance, employee retention, and productivity. In transportation settings, where workers are subject to high levels of stress, long working hours, and hazardous conditions, promoting well-being through structured WHSMP is essential. Research indicates that failure to implement such practices can lead to burnout, chronic fatigue, increased accident risk, and reduced job performance (Bakker & Demerouti, 2017; Usukoromo et al., 2023). When employees feel safe and secure, they are more likely to experience a higher level of motivation and productivity, irrespective of the sector they operate in (Bakker & Demerouti, 2017).

Studies have shown that inadequate safety culture, lack of proper training, minimal protective measures, and poor welfare schemes contribute significantly to road crashes and work-related stress among transport workers (Bammeke, 2019; George, 2024). The limited implementation of these practices also exacerbates work fatigue, leading to reduced alertness and increased susceptibility to accidents (Babbah, 2024). Despite these alarming statistics, many transportation companies continue to neglect fundamental safety measures, thereby endangering their workforce and compromising operational efficiency (Okafor et. al, 2017).

The road transportation industry in Nigeria is particularly vulnerable to poor safety practices, as many drivers operate under hazardous conditions, such as the use of expired safety equipment, poor utilization of safety kits like seat belts by both passengers and drivers, with minimal regulatory oversight. Commercial road drivers often work extended hours irrespective of their health status without adequate rest, leading to chronic fatigue and impaired decision-making (Usukoromo *et al.*, 2023). Additionally, the absence of comprehensive safety policies and inadequate enforcement mechanisms has contributed to a high incidence of work-related injuries and fatalities (Babbah, 2024). The failure to prioritize WHSMP results in economic losses for organisations due to absenteeism and medical expenses and diminishes overall employee well-being, thereby reducing productivity and service delivery effectiveness (George, 2024).

This research aims to examine the relationship between workplace health and safety management practices and employee well-being in selected interstate road transportation companies in Benin City, Edo State. The focus is on drivers and load carriers, who are among the most vulnerable employees in the sector due to their exposure to multiple occupational hazards. Given the under-researched nature of this population and the urgency posed by increasing road accidents, this study seeks to fill a critical knowledge gap. It will assess the impact of safety culture, training,

protective gear, welfare programs, and work fatigue on the physical, mental, and emotional well-being of transport employees. The findings will contribute valuable insights for policymakers, transport companies, and stakeholders interested in enhancing workplace safety and employee welfare in Nigeria's transportation industry.

1.2 Statement of the Research Problem

The state of work health and safety management practices in transport companies in Nigeria remains a significant concern. Unlike in highly regulated industries such as oil and gas or manufacturing, transport companies often lack structured safety measures to protect their employees (Olubomehin, 2022). Inadequate safety culture, poor training and awareness, insufficient protective measures, lack of welfare schemes, and unchecked work fatigue are prevalent issues that expose drivers to hazardous working conditions (Amaodu, Sarfo & Ansa, 2024). The transportation sector, particularly in cities like Benin City, suffers from systemic neglect in workplace safety management, contributing to poor employee well-being and increased risks of accidents and fatalities (Okafor *et al.*, 2023).

The absence of a strong safety culture in transport companies exacerbates unsafe work environments. Industries like oil and gas have established compliance frameworks to enforce safety behaviour and policies (Amirah, Haslinda Faizal & Ibrahim, 2024; Omofowa, Akhidue-Ogogo, Nwachukwu, & Lam, 2021; Chukwuma, 2023; Ehiaguina, Tran & Micheals, 2024). Transport companies often fail to implement similar policies, leaving drivers vulnerable to occupational hazards. Additionally, most training and awareness programmes in Nigeria have been focused on accident prevention and performance in manufacturing, food and beverage, and regulatory sectors (Adim & Mezeh, 2020; Okechukwu & Onyia, 2022; Onunwor, 2025), neglecting the specific needs of transport workers. Without adequate training on road safety and

also poor implementation of this training in some cases, stress management, and emergency response, drivers are left ill-equipped to handle workplace hazards, increasing the likelihood of accidents and stress-related illnesses (Omofowa *et al.*, 2021).

Protective measures in transportation are often inadequate, as studies have largely focused on compliance and driver behaviour rather than the provision of essential safety equipment (such as functional seatbelts, reflective vests, anti-lock braking equipment, rearview camera, first aid kit, etc) and policies by management of the organisations (Umoh & Torbira, 2013; Adebayo, 2015; Uzundu, 2019; Ani & Ani, 2025; Okafor *et al.*, 2023). The absence of this safety equipment in most long-distance transport vehicles has been a major influence in the escalation of most hazards and accidents that could have been prevented or managed (Adebayo, 2015). Many drivers operate in unsafe conditions, with poor vehicle maintenance, inadequate road infrastructure, and a lack of enforcement mechanisms for safety compliance.

Additionally, welfare schemes such as regular medical check-ups, vision tests for the drivers, defensive driving courses, medical insurance, drug abuse test, alcohol abuse test, mental capacity test, retirement plans, etc in transport companies remain largely ignored, despite research indicating their positive impact on employee motivation and productivity in other industries (Usukoromo *et al.*, 2023; George, 2024; Babbah, 2024). The absence of structured welfare policies exposes drivers to increased stress, job dissatisfaction, and a higher probability of occupational illnesses (Babbah, 2024).

The issue of work fatigue among transport workers is another neglected area, despite its well-documented consequences in other sectors. Studies in Ghana, Nigeria, and Colombia (Amoadu, Ansah, & Sarfo, 2024; Amoadu, Tetteh, & Ansah, 2025; Owioye *et al.*, 2024; Useche, Ortiz, & Cendales, 2017; Singh & Kathuria, 2023) highlight the dangers of excessive workload, long

hours, and poor job security on driver performance and safety. However, there is little evidence of systematic interventions to mitigate driver fatigue in Benin City's transport sector (Owoeye et al., 2024). The focus might be mainly on income priority over safety, admiration over the amount of work done, and undermining fatigue policies. Prolonged exposure to fatigue not only increases accident risks but also negatively impacts drivers' physical and mental health, leading to long-term consequences such as cardiovascular diseases, musculoskeletal disorders, and reduced job performance (Amoadu *et al.*, 2025).

Despite extensive research on WHSMP, key gaps remain in methodology, conceptual issues, and location. Most studies (such as Asad, Kasif, Sheik & Asif, 2022; Abeje & Luo, 2023) have relied on quantitative approaches, which, while providing statistical insights, fail to capture the lived experiences of transport company drivers in Benin City. Safety culture has primarily been examined in terms of compliance, accident prevention, and safety performance (Amirah *et al.*, 2024; Chukwuma, 2023), with little focus on its direct impact on drivers' physical, mental, and emotional well-being. Similarly, training and awareness programmes have been explored about employee performance and accident reduction (Adim & Mezeh, 2020; Onunwor, 2025), but not driver well-being. Research on protective measures has emphasised road safety compliance and accident determinants rather than a holistic assessment of well-being (Adebayo, 2015; Ani & Ani, 2025), meanwhile studies on welfare schemes have considered organizational benefits without linking them to safety culture's influence on drivers' health outcomes (George, 2024; Babbah, 2024).

Most existing studies, such as Bello, Akinnawo, Ikeotunoye & Olajire (2020) focused on drug use, driving behaviour, accident rate, and passengers' injury among commercial drivers in Oshodi, Lagos, Adewale *et al.* (2018) on safety practices in Abuja's transport sector, and

international research like Smith *et al.* (2017) on occupational health in Australia's trucking industry, have been conducted in other Nigerian states or international contexts, leaving a gap in understanding the experiences of drivers in Benin City. To fill these gaps, a mixed-methods approach was needed. Quantitative analysis provided measurable insights into the prevalence and impact of WHSMP on employee well-being, while qualitative methods captured the personal experiences and perspectives of drivers. This combined approach addressed existing methodological limitations and provided a more comprehensive understanding of how workplace health and safety management practices (WHSMP) impact drivers' well-being in Benin City's transportation sector.

1.3 Research Questions

Based on the gap identified in the statement of the research problem, the study intends to answer the following questions:

1. To what extent does safety culture affect employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State?
2. To what extent does safety training and awareness affect employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State?
3. To what extent do protective measures affect employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State?

4. To what extent does the welfare scheme affect employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State?
5. To what extent does work fatigue control affect employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State?
6. What are the experiences of drivers about workplace health and safety management practices and their well-being in selected interstate transportation companies in Benin City, Edo State?

1.4 Objectives of the Study

The broad objective of the study is to examine the relationship between workplace health and safety management practice and employee well-being in transportation companies in Benin City; while the specific objectives are to:

1. determine the relationship between safety culture and employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State;
2. ascertain the relationship between safety training, awareness, and employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State;
3. examine the influence of protective measures on employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State;

4. evaluate the influence of the welfare scheme on employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State;
5. assess the relationship between work fatigue control and employee (physical, mental, financial and emotional) well-being among drivers in selected interstate transportation companies in Benin City, Edo State; and
6. analyse the experiences of drivers about workplace health and safety management practices and their well-being in Benin City, Edo State.

1.5 Research Hypotheses

The hypotheses of this study are stated in null form as follows:

1. Safety culture has no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.
2. Safety training and awareness have no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.
3. Protective measures have no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.
4. Welfare scheme has no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.

5. Work fatigue control has no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.

1.6 Scope and Delimitation of the Study

This research aims to examine and analyse the relationship between workplace health and safety management practices and employee well-being among selected transportation companies within Benin City. This study entails investigating the impact of safety culture, safety training, and awareness, the role of protective measures, welfare packages, and work fatigue on employees' well-being. Also, the effect of workplace health and safety management on the physical, mental, and emotional well-being of employees within the selected transportation companies in Benin City environs. Benin City has been purposively selected as the geographical scope for this research due to its strategic role in Nigeria's transportation network and the occupational health and safety challenges prevalent in the region. As a central transportation hub in southern Nigeria, Benin City experiences a high volume of commercial transport activities, serving as a key link between several intra- and inter-state routes.

The study's respondents were drivers of the selected transportation companies, given that these individuals are involved in the high-risk occupation in the transportation sector. The research was carried out within the time frame of April 2025 to August 2025, since it has been observed that there is limited research carried out on drivers in these areas, and incessant records of road accidents and hazards in the past few years. Also, conducting the research within this period provided timely insights into the current state of workplace health and safety and employee well-being among drivers in selected transportation companies in Benin City, Edo State.

1.7 Significance of the Study

This study will be of great significance because it will broaden the knowledge of policymakers in the subject matter in the various fields listed below.

Academics: In terms of academic contribution, the research seeks to improve overall knowledge of the concepts of workplace health and safety and employee well-being. The research will lay the foundation for future study by collecting, investigating, and interpreting data as well as formulating findings and suggestions, thereby enhancing the management area with new insights.

Policy makers and the transport industry: In terms of practical relevance, it will broaden the knowledge of policy makers in the subject matter in various institutions. Also, the world's rising globalisation has pushed liberalisation, promoting competition across industrial sectors. As a result, firms must increase productivity to preserve a competitive edge. The research is expected to provide significant data and insights into the link between workplace health and safety management practices and employees' well-being. Also, it will help manage workers' WHS more effectively, acknowledging that a healthy workforce is not only devoted and dedicated but also productive. This study is also crucial for organisational leaders and human resource managers in initiating these programs to help their workforce and ultimately increase productivity within the organisation.

Employees of the transportation Industry: the findings of this research may help workers understand their responsibilities in complying with health and safety regulations. Organisations may accept that their workers' health and safety have a direct influence on their level of dedication and performance.

Researchers: The study is also expected to be of great importance to future researchers who may want to expand their knowledge on the subject matter of discussion.

1.8 Definition of key terms

The following terms were used in the course of this research:

1. **Workplace Health and Safety Management Practice:** Workplace health and safety management practice refers to the systematic approach used by organizations to identify, assess, and control hazards, as well as to promote and protect the physical and mental well-being of employees.
2. **Employee well-being:** Employee well-being refers to the overall physical, mental, and emotional health of employees, which encompasses their quality of life, job satisfaction, and ability to perform their duties effectively.
3. **Safety culture:** Safety culture refers to the shared values, attitudes, and behaviours that prioritize safety and health in the workplace, influencing how employees perceive and respond to safety risks.
4. **Safety training and awareness:** Safety training and awareness refer to the educational programs and activities designed to inform employees about workplace hazards, safety procedures, and emergency response protocols.
5. **Protective measures:** Protective measures refer to the policies, procedures, and equipment implemented to prevent or minimize workplace injuries and illnesses, such as personal protective equipment (PPE), administrative safety protocols, and hazard controls.

6. **Welfare scheme:** Welfare scheme refers to the programs and benefits provided by organizations to support the physical, emotional, and financial well-being of employees, such as health insurance, retirement plans, and employee assistance programs.
7. **Work fatigue control:** Work fatigue control refers to the strategies and policies implemented to prevent or mitigate the effects of physical, mental, and emotional exhaustion caused by work-related demands, such as shift work, overtime, and workload management.
8. **Road transportation companies:** This refers to organizations that provide transportation services, such as bus, taxi, or logistics companies, which operate in Benin City.

CHAPTER TWO

LITERATURE REVIEW

2.1 Preamble

This chapter focuses on the review of conceptual, theoretical and empirical literature with respect to workplace health, safety management practice and employees' well-being, overview of the transportation industry in Nigeria and research gaps.

2.2 Conceptual Review

The conceptual review of this study consists of various concepts on workplace health and safety management practice and employee well-being.

2.2.1 Employee Well-being

Employee well-being encompasses various aspects of an individual's experience within the workplace. Grant et al. (2007) propose that employee well-being consists of three core components: subjective well-being, workplace well-being, and psychological well-being. Similarly, Mercer (2015) defines well-being as the active pursuit of health and life skills aimed at achieving physical and emotional health and financial security. Furthermore, a scoping review by Macias-Burgos et al. (2023) highlights that well-being is a multifaceted construct used across disciplines to portray a state of wellness, health, and happiness. Additionally, Rath and Harter

(2010) identify five domains of well-being: career, physical, financial, social, and community.

Synthesizing these definitions, employee well-being can be understood as a holistic construct that integrates subjective experiences, workplace conditions, and psychological states. It encompasses an individual's physical health, emotional stability, financial security, social connections, and sense of purpose within their professional environment. This comprehensive perspective acknowledges that well-being is not solely the absence of illness but includes the presence of positive attributes that contribute to an individual's overall quality of life (Ramlall, 2020).

Understanding employee well-being from this integrative perspective is crucial for organisations aiming to foster a supportive and productive work environment (Mercer, 2015). By addressing the various dimensions of well-being, employers can implement policies and practices that promote not only the physical health of their employees but also their emotional and financial well-being. This approach can lead to increased job satisfaction, higher levels of engagement, and improved organisational performance (Rath *et al.*, 2010)

Based on this study, employee well-being refers to the holistic state of transport workers' overall quality of life as influenced by workplace health and safety management practices. It reflects how workers *feel, function, and cope* within their demanding work environment. This includes: Physical condition (absence of injury, fatigue levels, exposure to hazards), emotional and psychological stability (stress levels, sense of safety, job satisfaction), and financial security (ability to meet personal and family needs despite job risks and uncertainties). Given the nature of interstate transport work, long hours, safety risks, irregular schedules, and financial pressures, your research conceptualises employee well-being as a multidimensional construct shaped by both workplace conditions and personal experiences.

2.2.2 Elements of Employee Well-being

Physical well-being

Physical well-being of employees refers to their overall health and physical condition, encompassing various aspects such as physical health, comfort, and safety (Rhode, Larsen, Jensen & Larsen, 2020). According to Harrington (2016:23), physical well-being is "the extent to which an individual's physical health and comfort are protected and promoted in the workplace". Similarly, Leka and Jain (2017:15) define physical well-being as "the physical health and comfort of employees, including the prevention of work-related injuries and illnesses".

Ramlall (2020:20) broadens the definition of physical well-being to include "the physical, ergonomic, and environmental factors that affect an employee's health and comfort, including workplace design, lighting, and ventilation". Synthesizing these definitions, the physical well-being of employees encompasses not only their physical health but also their comfort, safety, and the physical work environment.

A healthy and comfortable physical work environment is essential for promoting employee physical well-being. This can be achieved through various means, such as providing ergonomic furniture, ensuring proper lighting and ventilation, and implementing workplace health and safety policies (Harrington, 2016). Employers can also promote physical well-being by offering wellness programs, such as fitness classes, health screenings, and healthy snack options (Leka & Jain, 2017).

Hence, physical well-being of employees is a critical aspect of their overall health and quality of life. Employers have a significant role to play in promoting employee physical well-being by creating a healthy and comfortable work environment, providing wellness programs, and

implementing workplace health and safety policies. By prioritizing employee physical well-being, employers can improve employee health, productivity, and job satisfaction (Ramlall, 2020).

Career Well-being

Career well-being pertains to how people perceive and experience fulfilment, purpose, and advancement in their careers. Gallup researchers Rath and Harter (2017) from the United States assert that career well-being is the most fundamental aspect of overall well-being and is described as "enjoying what you do daily and being driven to reach your goals." They point out that individuals who possess a high level of career well-being tend to be more engaged, productive, and resilient. Similarly, Greenhaus and Callanan (2019), American experts in organizational psychology, characterize career well-being as the personal assessment of one's professional experiences, encompassing fulfilment, career advancement, and compatibility with personal values and aspirations.

From an African viewpoint, Oladipo and Balogun (2021) interpret career well-being within the context of Nigeria's labour market as the extent to which an individual perceives growth, job satisfaction, and a sense of security in their work role amidst economic and infrastructural difficulties. Their research among Nigerian professionals underscores that opportunities for skill enhancement, alignment with career objectives, and workplace support are crucial factors influencing career well-being in resource-limited environments. Hence, while Western perspectives often emphasize self-fulfilment, African viewpoints highlight adaptability and survival in complex labour markets.

Career well-being encompasses several interconnected factors that influence how individuals perceive and experience their professional lives. Among these are job satisfaction, which

represents both emotional and cognitive assessments of one's job; career growth opportunities, which involve access to training, promotions, and learning experiences; and purpose, which reflects the congruence between job roles and personal values as well as long-term objectives (Greenhaus & Callanan, 2019). Additional elements such as autonomy, work-life balance, and meaningful workplace relationships are also vital. Rath and Harter (2017) discovered that individuals with high career well-being are more likely to flourish in other areas of life, including physical and social well-being.

In Nigeria and similar African contexts, career well-being is further influenced by employment stability, job security, and access to resources, as formal job opportunities can be limited. Oladipo and Balogun (2021) emphasize that informal job setups, underemployment, and insufficient professional development support frequently obstruct individuals from attaining high career well-being. In such situations, resilience, networking, and supportive mentorship become essential for professional satisfaction. Additionally, sociocultural values, such as familial expectations and community roles, can uniquely influence career decisions and satisfaction.

Mental well-being

Mental well-being of employees refers to their emotional, psychological, and social health, encompassing various aspects such as stress, anxiety, and job satisfaction. According to Michie and Williams (2016:12), mental well-being is "the emotional and psychological state of an individual, encompassing their thoughts, feelings, and behaviours". Similarly, Leka and Jain (2017:18) define mental well-being as "the psychological and emotional state of employees, including their stress levels, anxiety, and job satisfaction".

Ramlall (2020:25) broadens the definition of mental well-being to include "the social and emotional aspects of an employee's life, including their relationships with colleagues, managers,

and family members". Synthesizing these definitions, the mental well-being of employees encompasses their emotional, psychological, and social health, including their stress levels, anxiety, job satisfaction, and relationships with others.

A healthy and supportive work environment is essential for promoting employee mental well-being. This can be achieved through various means, such as providing employee assistance programs (EAPs), mental health training, and promoting a positive work-life balance (Michie & Williams, 2016). Employers can also promote mental well-being by fostering a positive work culture, encouraging open communication, and providing opportunities for employee growth and development (Leka & Jain, 2017).

It follows that the mental well-being of employees is a critical aspect of their overall health and quality of life. Employers have a significant role to play in promoting employee mental well-being by creating a healthy and supportive work environment, providing mental health resources, and fostering a positive work culture. By prioritizing employee mental well-being, employers can improve employee job satisfaction, productivity, and overall well-being (Ramlall, 2020).

Social well-being

Social well-being refers to the extent to which individuals experience supportive and meaningful relationships and participate in their communities. According to Keyes (2016), a U.S.-based psychologist, social well-being is a dimension of overall well-being that reflects individuals' appraisal of their social lives, including social integration, acceptance, actualization, contribution, and coherence. He posits that positive social functioning is essential to mental health and community life. In a similar vein, Helliwell and Barrington-Leigh (2020), Canadian researchers affiliated with the World Happiness Report, view social well-being as the strength and quality of

interpersonal connections, trust in others, and civic engagement, elements closely tied to happiness and life satisfaction in modern societies.

Social well-being is composed of several interrelated components. These include social integration (feeling part of a community), social contribution (believing one has value to offer society), social coherence (understanding the social world), social actualization (believing in the potential of society), and social acceptance (holding positive attitudes toward others). These five dimensions, as originally proposed by Keyes (2016), offer a framework for evaluating social well-being in both individual and collective terms. Helliwell and Barrington-Leigh (2020) also emphasize the role of trust, reciprocity, and social capital as indicators of social well-being especially in measuring societal resilience and policy effectiveness in developed countries.

In African societies, social well-being is often community-based rather than individualistic. Traditional African values emphasize ubuntu—the idea that "I am because we are"—reflecting the deeply rooted communal nature of well-being. Akinyemi and Isiugo-Abanihe (2019) highlight how family cohesion, respect for elders, collective caregiving, and extended social support systems foster social stability and identity. In many Nigerian communities, festivals, religious gatherings, and communal ceremonies act as mechanisms of social bonding, enabling people to fulfill their need for social connection and recognition.

Understanding social well-being requires both a structural and cultural lens. Institutions, policies, and cultural traditions all play a role in fostering or hindering social connectedness. Therefore, strategies to improve social well-being must be context-sensitive, leveraging existing social fabrics and addressing structural inequalities. As the global community becomes increasingly interconnected, appreciating diverse models of social well-being can enrich both policy and practice.

Financial well-being

Financial well-being refers to a person's overall financial health, encompassing their ability to manage expenses, plan for the future, and feel secure about their financial situation. According to the Consumer Financial Protection Bureau (CFPB, 2017) in the United States, financial well-being is "a state wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow enjoyment of life." Grable and Archuleta define financial well-being as "a state wherein an individual has financial security, freedom of choice, and the ability to absorb financial shocks." They emphasize that it is not just about income level but also about financial literacy, effective money management, and psychological comfort regarding one's financial situation.

Financial well-being is made up of multiple dimensions that go beyond income alone. One key component is financial control, which encompasses budgeting skills and debt management. Another is resilience, or the ability to cope with unexpected expenses or financial shocks, such as job loss or medical emergencies. Additionally, financial freedom, the capacity to make choices that improve one's quality of life without financial constraint, is central to this concept (CFPB, 2017; Kempson & Poppe, 2018). In developed countries, financial well-being also depends on access to stable employment, reliable financial institutions, and long-term planning tools such as pensions or insurance. Kempson *et al.* (2017) highlight the psychological aspect, noting that financial well-being includes feeling in control of one's finances rather than being stressed by them. This means having the ability to pay bills on time, save for future goals (e.g., retirement, education), and still afford leisure activities. Financial resilience—the ability to recover from economic shocks—is another critical factor, especially in uncertain economic climates.

In Nigeria and similar African contexts, financial well-being is also deeply influenced by economic informality, inflation, unemployment, and dependence on extended family systems. Ogunleye and Adeyemi (2020) highlight that in such economies, individuals may rely on cooperative societies, thrift systems (esusu or ajo), or remittances from relatives abroad to maintain financial stability. Furthermore, financial literacy, entrepreneurial capacity, and access to credit facilities play important roles in enabling individuals to meet basic needs and improve their financial conditions over time.

Emotional well-being

The emotional well-being of employees refers to their emotional state and ability to manage their emotions in the workplace. According to Jordan *et al.* (2016:20), emotional well-being is "the extent to which an individual experiences positive emotion, such as happiness and satisfaction, and can manage negative emotions, such as stress and anxiety". Similarly, Leka and Jain (2017:22) define emotional well-being as "the emotional state of employees, including their mood, emotional resilience, and ability to manage stress".

Ramlall (2020:28) broadens the definition of emotional well-being to include "the emotional intelligence and emotional regulation of employees, including their ability to recognize and manage their own emotions and the emotions of others". Synthesizing these definitions, the emotional well-being of employees encompasses their emotional state, emotional resilience, and ability to manage their emotions and the emotions of others.

A healthy and supportive work environment is essential for promoting employee emotional well-being. This can be achieved through various means, such as providing employee recognition and

rewards programs, promoting a positive work culture, and offering stress management and emotional intelligence training (Jordan et al., 2016). Employers can also promote emotional well-being by fostering open communication, providing opportunities for employee growth and development, and encouraging work-life balance (Leka & Jain, 2017).

Hence, emotional well-being of employees is a critical aspect of their overall health and quality of life. Employers have a significant role to play in promoting employee emotional well-being by creating a healthy and supportive work environment, providing emotional intelligence training, and fostering a positive work culture. By prioritizing employee emotional well-being, employers can improve employee job satisfaction, productivity, and overall well-being (Ramlall, 2020).

Community well-being

Community well-being pertains to the overall quality of life experienced by individuals within a community, encompassing economic, social, environmental, and cultural aspects. Phillips and Wong (2017) describe community well-being in the United States as “the amalgamation of social, economic, environmental, cultural, and political conditions recognized by individuals and their communities as vital for them to thrive and realize their potential.” In a similar vein, Wiseman and Brasher (2018), from an Australian viewpoint, define community well-being as “the collective and shared experience of life satisfaction, resilience, and social cohesion within a geographical or cultural community.” These definitions highlight both personal perceptions and the structural factors that influence well-being at the community level.

Additionally, Akinyemi and Isiugo-Abanihe (2019) define community well-being in Nigeria as “the joint state of health, social harmony, security, and access to resources that uphold human dignity within a community.” Their study highlights the importance of kinship, cultural practices, and community solidarity in shaping life quality in Nigerian societies. In contrast to the Western

perspectives that focus more on structural systems, the Nigerian viewpoint prioritizes communal support, family connections, and collective resilience in the face of social and economic challenges.

Community well-being is multifaceted and includes both objective and subjective measures. Objectively, it can be assessed by the availability of healthcare, education, housing, employment, and safety. Subjectively, it is associated with life satisfaction, trust, sense of belonging, and involvement in community activities (Phillips & Wong, 2017). Wiseman and Brasher (2018) highlight the significance of social capital—networks of trust and reciprocity—in fostering community resilience. Additionally, environmental quality, civic engagement, and cultural vitality are core components of community well-being in developed societies.

In Nigeria and other African contexts, community well-being is also significantly influenced by social cohesion, informal support networks, and cultural identity. Akinyemi and Isiugo-Abanihe (2019) observe that communal well-being is largely reliant on extended family relationships, religious affiliations, and local efforts that offer social and financial assistance. Furthermore, in settings where government structures are frequently underdeveloped, informal organizations such as cooperatives, religious groups, and communal labour systems (e.g., age-grade associations) play a crucial role in sustaining well-being. As a result, community well-being in Africa often reflects both resilience in the face of economic difficulties and the strength of traditional communal values.

For this research, we are focusing on the physical, mental, emotional, and financial well-being of the employee.

2.3 Workplace Health and Safety Management

Workplace health and safety management represents a critical domain that has undergone significant evolution. According to Bhandari et al. (2020:42), workplace health and safety management encompasses "a systematic approach to identifying hazards, assessing risks, implementing control measures, and continuously monitoring and improving safety performance to prevent work-related injuries, illnesses, and fatalities". Amponsah-Tawiah and Mensah (2023:118) define it as "the organisational framework that integrates policies, procedures, and practices designed to create a culture of safety, ensure regulatory compliance, and protect the physical, mental, and social well-being of all workers". Meanwhile, Jilcha and Kitaw (2021:215) characterize workplace health and safety management as "a proactive, integrated system of coordinated activities that enables organisations to anticipate, recognize, evaluate, and control workplace conditions that may cause workers' injury or illness, with emphasis on prevention rather than reaction".

Examining these definitions reveals several common elements. First, all three emphasise the systematic and structured nature of health and safety management, positioning it as an organized framework rather than ad hoc interventions. Second, there is agreement that the approach must be comprehensive, addressing physical, psychological, and social dimensions of worker well-being. Third, the definitions consistently highlight prevention as the primary objective, focusing on proactive risk assessment and hazard identification rather than merely responding to incidents after they occur. Finally, all three authors frame workplace health and safety management as an ongoing process requiring continuous monitoring, evaluation, and improvement rather than a static set of rules.

Therefore, workplace health and safety management can be defined as an integrated, systematic organisational framework that encompasses proactive identification, assessment, and control of

workplace hazards across physical, psychological, and social dimensions. It consists of coordinated policies, procedures, and practices designed to prevent work-related injuries, illnesses, and fatalities through continuous monitoring, evaluation, and improvement processes.

2.3.1 Evolution of Workplace Health and Safety Management

The concept of workplace health and safety management has evolved considerably over time. Initially, workplace safety consisted primarily of basic hazard prevention focusing on obvious physical dangers and compliance with rudimentary regulations (Bhandari et al., 2020). Through the mid-20th century, the approach remained largely reactive, with organisations implementing safety measures primarily in response to injuries or regulatory mandates. However, the latter part of the 20th century witnessed a paradigm shift toward more comprehensive frameworks that integrated health promotion with traditional safety practices (Jilcha & Kitaw, 2021). This period saw the emergence of systematic management systems such as OHSAS 18001 and later ISO 45001, which standardized organisational approaches to occupational health and safety.

The 21st century has brought further significant evolution to workplace health and safety management. As noted by Amponsah-Tawiah and Mensah (2023), contemporary approaches now incorporate psychological safety alongside physical safety, recognizing the impact of work-related stress, burnout, and mental health challenges on overall worker well-being. Additionally, technological advancements have transformed safety management through predictive analytics, wearable monitoring devices, and digital platforms that facilitate real-time hazard reporting and intervention (Bhandari *et al.*, 2020). Another notable trend is the shift toward viewing safety culture as a crucial component of organisational success rather than merely a compliance requirement, with leadership engagement and worker participation becoming central tenets of effective safety management systems.

The most recent developments in workplace health and safety management reflect increasing recognition of its strategic value to organisations. Jilcha and Kitaw (2021) note that leading organisations now position health and safety as integral to operational excellence and corporate social responsibility rather than as separate functions. The COVID-19 pandemic accelerated this evolution, forcing organisations to rapidly develop more sophisticated approaches to biological hazards, remote work safety, and crisis management (Amponsah-Tawiah & Mensah, 2023). Workplace health and safety management continues to evolve toward more holistic, data-driven, and worker-centered approaches that align safety objectives with broader organisational goals of sustainability, productivity, and workforce engagement.

2.3.2 Importance of Workplace Health and Safety Management

Effective workplace health and safety management is fundamental to fostering a productive and secure work environment. By proactively identifying and mitigating potential hazards, organisations can prevent accidents and injuries, thereby safeguarding their most valuable asset—their employees. This proactive approach not only ensures compliance with legal regulations but also enhances overall operational efficiency by reducing downtime associated with workplace incidents. For instance, implementing comprehensive safety protocols has been shown to decrease workplace accidents significantly, leading to sustained productivity (HSEWatch, 2024).

Moreover, a robust health and safety framework contributes to improved employee morale and job satisfaction. When workers feel that their well-being is prioritized, they are more likely to engage fully in their tasks, exhibit higher levels of commitment, and contribute positively to the organisational culture. This sense of security fosters a collaborative atmosphere where employees are motivated to maintain high standards of safety and performance. As noted by the

Health and Safety Authority, involving employees in safety management processes not only empowers them but also leads to more effective identification and control of workplace hazards (Health and Safety Authority, 2024).

Financially, investing in health and safety measures can lead to substantial cost savings for businesses. Costs associated with workplace injuries, such as medical expenses, legal fees, and compensation payouts, can be significant. Additionally, indirect costs like lost productivity and training replacement staff further burden organisations. By implementing preventive measures, companies can mitigate these expenses. For example, a study highlighted that effective management of workplace health issues could save up to £150 billion and prevent higher welfare costs (The Times, 2025).

Furthermore, a strong commitment to health and safety enhances an organisation's reputation among stakeholders, including clients, investors, and potential employees. Companies known for their safe working environments are more likely to attract top talent and retain clients who value corporate responsibility. This positive public image can be a competitive advantage, leading to increased market share and profitability. As emphasised by the Institution of Occupational Safety and Health, integrating health and safety into business strategies is not just a legal obligation but a key component of sustainable business practice (IOSH, 2024).

2.3.3 Workplace Health and Safety Management Practices

Safety culture

Safety culture represents a foundational element within organisational health and safety management systems. Amirah et al. (2024) define safety culture encompasses the shared beliefs, attitudes, perceptions, and values that influence decision-making and behavior related to safety

throughout all levels of an organization, with a specific focus on the dedication of leadership and adherence to regulatory requirements. According to Omofowa *et al.* (2021), safety culture is defined as the result of individual and collective values, attitudes, skills, and behavior patterns that shape the commitment to and effectiveness of an organization's health and safety initiatives, where the involvement of leadership acts as the key driving force. Chukwuma (2023) defines safety culture as a work environment where safety is regarded as a core value rather than merely a priority, ingrained in everyday activities through regular communication, evident commitment from leadership, and systems that promote reporting without fear of blame. Ehiaguina *et al.* (2024) provide an expansive definition, referring to safety culture as the expression of safety within the workplace, shaped by the integration of safety policies, procedures, leadership behaviors, communication systems, and employee involvement that together influence risk perceptions and safety practices throughout the organization.

In the context of this research, safety culture refers to the collective values, beliefs, attitudes, and everyday practices within inter-state transportation companies that determine how seriously safety is perceived, prioritised, and enacted by both management and employees. It embodies how transport organisations create, communicate, and reinforce safety expectations through leadership behaviour, safety policies, adherence to procedures, and workers' active participation in safety activities.

Safety policies and procedures form the structural foundation of safety culture, establishing formal expectations and standardized approaches to managing workplace hazards. Amirah *et al.* (2024) emphasise that effective safety policies must be clearly articulated, regularly updated to reflect emerging risks, and developed with input from workers at all organisational levels. These formal documents serve not merely as compliance mechanisms but as tangible expressions of

organisational values regarding worker protection (Chukwuma, 2023). Procedures operationalize these policies through detailed protocols for routine operations, emergency responses, and hazard reporting systems. Importantly, Ehiaguina *et al.* (2024) note that the effectiveness of safety policies and procedures depends largely on their accessibility, practicality, and alignment with operational realities, arguing that overly complex or disconnected safety documentation can actually undermine safety culture by fostering cynicism among workers.

Leadership commitment represents perhaps the most critical dimension of safety culture. Omofowa *et al.* (2021:207) assert that "leadership commitment to safety manifests through resource allocation, personal adherence to safety protocols, consistent safety messaging, and visible participation in safety initiatives". When leaders prioritize production over safety, employees receive clear signals about organisational values regardless of official policy statements (Chukwuma, 2023). Amirah *et al.* (2024) found that manufacturing organisations with strong safety records consistently demonstrated leadership behaviours that included regular safety-focused interactions with frontline workers, integration of safety metrics into performance evaluations, and immediate action on reported hazards. Importantly, Ehiaguina *et al.* (2024) highlight that effective safety leadership extends beyond executives to include supervisors and team leaders whose daily decisions and communications directly shape workplace safety perceptions and practices.

The management of safety culture in the workplace involves several interconnected processes. Chukwuma (2023) identifies four essential management elements: assessment, development, implementation, and continuous reinforcement. Assessment involves measuring current safety perceptions, behaviours, and outcomes through surveys, focus groups, observation, and incident analysis. Development encompasses creating targeted interventions based on assessment findings,

including training programs, communication campaigns, and policy revisions. Implementation requires coordinated action across departments with clear accountability measures (Omofowa *et al.*, 2021). Continuous reinforcement involves creating systems that recognise and reward safe behaviours while consistently addressing unsafe practices. Ehiaguina *et al.* (2024) emphasise that effective culture management requires organisations to establish psychological safety where workers feel comfortable reporting incidents, near misses, and concerns without fear of punishment, which facilitates organisational learning and continuous improvement.

Research consistently demonstrates that organisations with mature safety cultures experience significant benefits beyond reduced incident rates. Amirah *et al.* (2024) found that manufacturing firms with strong safety cultures reported 62% fewer recordable injuries compared to industry averages, while also experiencing higher productivity and quality metrics. Omofowa *et al.* (2021) noted correlations between safety culture maturity and employee engagement, with organisations scoring in the top quartile of safety culture assessments reporting 37% lower turnover rates. According to Chukwuma (2023), the development of robust safety cultures requires patience and persistence, typically evolving through several maturity stages over a period of three to five years with consistent leadership focus. Ehiaguina *et al.* (2024) conclude that the most successful approaches integrate safety culture development within broader organisational change initiatives rather than treating it as an isolated programme, thereby embedding safety as an intrinsic organisational value rather than a competing priority.

Safety training and awareness

Safety training and awareness are critical components of occupational health and safety management, aiming to equip employees with the knowledge and skills necessary to perform their duties safely and prevent workplace accidents. Adim and Mezeh (2020) define health and

safety training as "organized activities aimed at imparting information or instructions to improve the recipient's performance or to help them attain a required level of knowledge or skill". Similarly, Okechukwu and Onyia (2022) describe safety planning and training programs as "structured initiatives designed to educate employees on potential hazards and the necessary precautions to mitigate risks. These definitions underscore the proactive approach of safety training in fostering a culture of safety within organisations.

In the context of this research, safety training and awareness refer to the structured processes through which inter-state transportation companies educate drivers and other transport workers about workplace hazards, safe work procedures, and appropriate responses to risk, with the overall aim of reducing accidents and improving employee well-being. It represents the practical aspect of WHSMP that equips transport workers with the skills, knowledge, and attitudes necessary to operate safely within the high-risk road transport environment

Implementing effective safety training and awareness in the workplace involves several key steps. Initially, organisations must assess the specific hazards associated with their operations and identify the training needs of their employees. This assessment ensures that the training programs are tailored to address the unique risks present in the work environment. According to the Health and Safety Executive (HSE), a five-step approach to health and safety training includes deciding what training is needed, determining training priorities, choosing appropriate training methods, delivering the training, and evaluating its effectiveness.

Once training needs are identified, organisations should develop comprehensive training programs that incorporate various instructional methods, such as workshops, hands-on demonstrations, and e-learning modules. These programs should cover topics like hazard recognition, emergency response procedures, and the proper use of personal protective

equipment. The Occupational Safety and Health Administration (OSHA) emphasises that effective safety and health training should be a fundamental part of an organisation's safety management system, contributing to the overall well-being of employees.

Management plays a pivotal role in the successful implementation and sustainability of safety training and awareness initiatives. Leaders must demonstrate a commitment to safety by allocating necessary resources, setting clear safety objectives, and fostering an environment where employees feel encouraged to participate in safety programs and report hazards without fear of reprisal. The HSE's guidance on managing for health and safety highlights the importance of integrating safety management into the organisation's overall management system, ensuring that safety considerations are part of everyday business processes.

Regular evaluation and continuous improvement are essential to maintain the effectiveness of safety training programs. Organisations should routinely assess the impact of their training initiatives through methods such as employee feedback, observation, and analysis of incident records. This ongoing evaluation helps identify areas for improvement and adapt training content to evolving workplace conditions. By fostering a culture of continuous learning and vigilance, organisations can enhance employee competence and contribute to a safer work environment.

Protective measures

Protective measures constitute a critical component of comprehensive workplace safety systems designed to minimize risks and prevent occupational injuries and incidents. Protective measures, as described by Umoh and Torbira (2013), include the organized application of engineering controls, administrative practices, and personal protective equipment that together establish various levels of defense against hazards in the workplace, aimed primarily at preventing accidents or lessening their effects. Adebayo (2015) examines protective strategies from a human

factors perspective, describing them as intentional actions that consider human abilities, constraints, and behavioral patterns in the design of safety systems, thus fostering environments that are naturally resilient to human mistakes and encourage safe practices.

From a behavioural standpoint, Uzundu (2019) defines protective measures as systematic methods that shape driver choices through a mix of education, enforcement, engineering, and financial incentives aimed at minimizing risk-taking behaviours and encouraging defensive driving habits. Ani and Ani (2025) provide a definition focused on compliance, referring to protective measures as the convergence of regulatory standards, organizational policies, and personal adherence to established safety procedures, where their effectiveness is reliant on both the quality of the measures and the extent to which they are consistently implemented.

In the context of this study, protective measures refer to the structured combination of engineering controls, administrative controls, and personal protective equipment (PPE) adopted by inter-state transportation companies to minimise exposure to hazards, reduce accident risks, and safeguard the physical and psychological well-being of transport workers. These measures represent one of the core dimensions of Workplace Health and Safety Management Practices (WHSMP) and are essential for ensuring that transport workers can perform their duties safely within a high-risk operational environment.

The implementation of protective measures in workplace contexts follows a hierarchical approach, prioritizing the most effective interventions. Umoh and Torbira (2013) emphasise that engineering controls, which eliminate or contain hazards at their source, should be implemented first whenever feasible, as they provide protection independent of worker behaviour. These include physical barriers, machine guards, ventilation systems, and ergonomic workstation designs. Administrative controls, including work scheduling to limit exposure, standard

operating procedures, and training programmes, form the second layer of protection (Adebayo, 2015).

Personal protective equipment (PPE) represents the final line of defense, used when hazards cannot be adequately controlled through other means. Okafor et al. (2023) found that among long-distance bus drivers, protective measures that incorporated multiple control types, such as fatigue management systems combining schedule limitations (administrative), vehicle monitoring technologies (engineering), and driver alertness detection devices (PPE), demonstrated the greatest effectiveness in reducing accident rates.

Human factors considerations play a crucial role in determining the effectiveness of protective measures. Adebayo (2015:126) notes that "even the most sophisticated safety systems will fail if they do not account for cognitive biases, attention limitations, and decision-making patterns inherent in human operators". This perspective emphasises designing protective measures that are intuitive, minimize cognitive load, and align with natural human behaviours rather than working against them. Uzundu (2019) found that driver behaviour interventions were most effective when they addressed underlying psychological factors influencing risk perception and decision-making, rather than relying solely on rules and penalties. Similarly, Ani and Ani (2025:67) highlight that compliance with protective measures increases significantly when workers understand the rationale behind safety requirements and when measures are designed with user experience in mind, noting that "compliance improves by 47% when protective measures are perceived as practical and minimally disruptive to work processes".

The management of protective measures in workplace settings requires systematic processes for development, implementation, monitoring, and improvement. Okafor et al. (2023) identify five essential management components based on their study of long-distance bus operations: risk

assessment, measure selection, implementation planning, compliance monitoring, and effectiveness evaluation. Risk assessment involves identifying specific hazards and evaluating their potential consequences and likelihood. Measure selection requires choosing appropriate interventions based on the hierarchy of controls while considering operational feasibility. Implementation planning encompasses training, communication, resource allocation, and deployment scheduling. Compliance monitoring involves both formal audits and daily supervisory oversight. Effectiveness evaluation requires tracking leading and lagging indicators to determine whether measures are achieving desired safety outcomes (Umoh & Torbira, 2013). Ani and Ani (2025) emphasise that successful management systems create accountability at all organisational levels, with clear responsibilities for workers, supervisors, safety professionals, and executives.

Research consistently demonstrates that protective measures must be continuously adapted and improved to maintain effectiveness over time. Uzundu (2019) found that driver behaviour interventions typically experienced diminishing returns after 6-8 months without refresher training or new engagement strategies. Similarly, Okafor et al. (2023) observed that transportation companies with the strongest safety records conducted quarterly reviews of protective measures, analysing incident data, near-miss reports, and technological developments to identify improvement opportunities. Adebayo (2015:130) highlights the importance of worker participation in this process, noting that "frontline employees often identify practical limitations of protective measures before management becomes aware of implementation challenges". Umoh and Torbira (2013) conclude that the most successful organisations treat protective measures as dynamic systems rather than static requirements, creating feedback mechanisms that enable continuous adaptation to changing conditions, emerging risks, and organisational learning.

This approach transforms protective measures from mere compliance activities into strategic assets that simultaneously enhance safety performance and operational efficiency.

Welfare Scheme

A welfare scheme refers to a set of programs and policies implemented by organisations to promote the well-being and quality of life of their employees. According to George (2024), welfare schemes encompass "welfare packages such as medical benefits, paid leave, and financial aid" (p. 12). Similarly, Babbah (2024) describes welfare schemes as "initiatives that offer employees advantages and services aimed at improving their overall quality of life".

Sarah et al. (2023:15) broaden the definition of welfare schemes to include "welfare policies, including workplace safety, that aim to protect employees from harm and promote a healthy work environment". These definitions highlight the importance of welfare schemes in promoting employee well-being and organisational success.

In relation to this research on workplace health and safety management practices and employee well-being among interstate transportation workers in Benin City, welfare schemes refer to the structured set of organisational programs, policies and support initiatives designed to enhance employees' physical, psychological, social, and financial well-being within the workplace environment.

Welfare schemes are typically carried out and managed in the workplace through a combination of human resources (HR) policies and programs. For example, HR departments may be responsible for administering employee benefits, such as health insurance and retirement plans (George, 2024). Additionally, organisations may establish employee assistance programs (EAPs) to provide counseling and support services to employees dealing with personal or professional issues (Babbah, 2024).

In terms of management, welfare schemes often involve a collaborative effort between HR, management, and employees. For instance, organisations may establish a welfare committee to oversee the development and implementation of welfare programs (Sarah et al., 2023). This committee may include representatives from HR, management, and employee unions to ensure that welfare schemes meet the needs of all stakeholders.

Effective management of welfare schemes also requires regular monitoring and evaluation to ensure that programs are meeting their intended objectives. This may involve conducting employee surveys to assess satisfaction with welfare programs, as well as analysing data on program utilisation and outcomes (George, 2024). By regularly evaluating and refining their welfare schemes, organisations can ensure that they are providing the best possible support to their employees.

Work Fatigue Control

Work fatigue, also known as occupational fatigue, refers to a state of physical, mental, and emotional exhaustion caused by prolonged periods of work-related stress and strain. According to Singh and Kathauia (2023), work fatigue is a multifaceted condition that includes physical, mental, and emotional exhaustion stemming from extended exposure to work-related stressors. In the same vein, Useche et al. (2017) describe work fatigue as a condition characterized by reduced physical and mental performance, driven by continuous exposure to physical and mental demands.

Amoadu et al. (2024:15) broaden the definition of work fatigue to include "the depletion of an individual's physical, mental, and emotional resources, resulting from prolonged exposure to work-related demands". Furthermore, Amoadu et al. (2025:10) highlight the importance of considering the psychological and social aspects of work fatigue, defining it as "a

multidimensional construct that encompasses physical, mental, and emotional exhaustion, as well as psychological and social distress".

In relation to this study, work fatigue control refers to the set of organisational strategies, policies, and interventions designed to prevent, reduce, and effectively manage physical, mental, and emotional exhaustion among interstate transport workers to enhance their overall well-being and job performance.

Work fatigue can be addressed and managed in the workplace through various strategies. Firstly, employers can implement policies and procedures to prevent work fatigue, such as providing regular breaks, flexible work schedules, and employee wellness programs (Singh & Kathauia, 2023). Additionally, employers can provide training and resources to help employees manage work-related stress and fatigue, such as stress management workshops and employee assistance programs (Useche et al., 2017).

Effective management of work fatigue also requires monitoring and evaluating employee fatigue levels. This can be done through regular employee surveys, fatigue assessments, and performance monitoring (Amoadu et al., 2024). Employers can also use data analytics to identify patterns and trends in employee fatigue, and develop targeted interventions to address specific fatigue-related issues (Amoadu et al., 2025).

2.4 Relationship Between Workplace Health and Safety Management Practice and Employee Well-Being

Workplace health and safety management approaches are essential tools through which organizations can impact various aspects of employee well-being, including physical, emotional, mental, and financial health. In this theoretical framework, the independent factors—safety culture, safety training and awareness, protective measures, welfare programs, and fatigue

management—are proposed to have both direct and indirect effects on these well-being outcomes.

To begin with, safety culture is fundamental. Research indicates that robust safety cultures correlate with improved safety behavior and performance outcomes among employees. For instance, a study of workers in Nigeria's oil and gas sector revealed that safety culture was a significant predictor of safety behavior and performance (Ehiaguina et al., 2024). In the transportation industry, investigations into trucking firms demonstrated that higher safety culture levels were linked to a reduced risk of accidents; companies demonstrating superior structural safety boasted safety culture scores that were 12 points higher and faced half the accident risk of those with lower scores (Vestad, Blom, & Phillips, 2020). Additionally, a study involving highway maintenance personnel indicated that a strong safety culture positively impacted their perceptions of job safety, which are vital for psychological well-being (Marji, Zech, & Kirby, 2024).

Safety training and awareness empower employees to identify and implement safe practices. Although there is a limited number of direct transportation industry studies in Nigeria, existing literature confirms that training is one of the fundamental elements for effective Health and Safety Management System (HSMS) implementation and correlates with increased employee satisfaction and performance (HSMS Study, 2024). In high-risk environments, risk perception mediates the relationship between training or knowledge and safety behavior: workers with a clear understanding of risks tend to act more cautiously (Systematic Review, 2025).

Protective measures—such as personal protective equipment (PPE), safe machinery, and thorough maintenance protocols—provide immediate protection for physical well-being by mitigating exposure to hazards. Studies within the Nigerian healthcare sector reveal that proper

use of PPE significantly reduces infection risk (Kperogi et al., 2024). This principle can be applied to transportation; when protective gear is made available and enforced, employees experience a heightened sense of safety and face a lower risk of injuries, which enhances their emotional security and alleviates financial liabilities.

Welfare programs (like medical support, transportation stipends, and rest facilities) serve to buffer employees against financial and emotional pressures. A recent investigation at the Benue State Water Board in Nigeria found that welfare initiatives positively and significantly influenced employee performance (Zayum, Kasimu, & Jenis, 2025). This underscores the idea that investments in welfare can alleviate financial burdens and enhance job satisfaction. Broader studies also affirm that integrating wellness with occupational safety and health (OSH) can lead to improved well-being (Okojie, 2025).

Lastly, controlling work fatigue acts as a vital mediator connecting safety practices to overall well-being. An empirical examination of Nigerian articulated truck drivers showed that fatigue indicators (like rest time and travel duration) had a significant association with crash incidents (Omeiza et al., 2025). Furthermore, research focused on burnout among blue-collar workers suggests a negative relationship between fatigue (or burnout) and work commitment, indicating that increased fatigue diminishes emotional and mental well-being (Barkhuizen et al., 2023).

In conclusion, safety culture and training foster awareness, protective measures minimize hazards, welfare schemes offer financial and emotional support, and fatigue management maintains energy and health. Collectively, these practices contribute to enhancements in the physical, emotional, mental, and financial well-being of employees. This thesis aims to empirically assess and elaborate on this relationship within interstate transportation firms in Benin City, Edo State.

2.4.1 Conceptual Framework

Figure 2.1 below shows the potential relationship between workplace health and safety management practices and employee well-being.

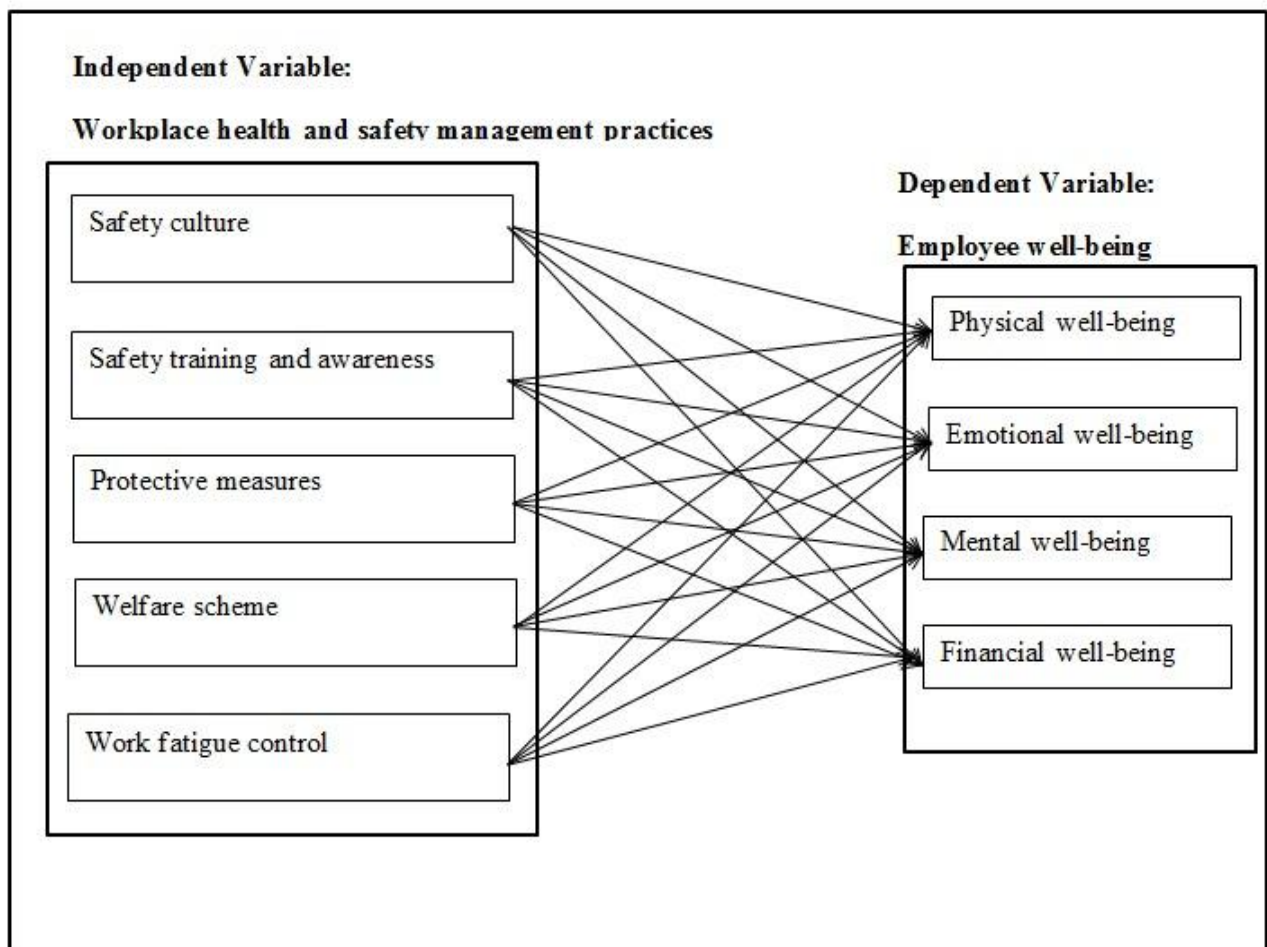


Figure 2.1: Conceptual Framework

Source: Researcher's Conceptualization (2025)

The conceptual model presented in Figure 2.1 illustrates the proposed relationship between workplace health and safety management practices and employee well-being within interstate

transport companies in Benin City. The model is premised on the assumption that the safety-related structures, behaviors, and policies implemented by an organisation significantly shape how employees experience their work environment. Specifically, five proxy variables safety culture, safety training and awareness, protective measures, welfare scheme, and work fatigue control represent the core dimensions through which workplace health and safety management practices operate. These variables collectively influence employee well-being, which is conceptualised in this study as a multidimensional construct comprising physical, emotional, mental, and financial well-being. Each of the five safety management components is expected to exert distinct effects on these well-being dimensions. For example, a strong safety culture and adequate protective measures enhance workers' physical and emotional security; safety training and awareness improve mental clarity and confidence, while welfare initiatives and fatigue control measures may directly support financial stability and reduce psychological strain.

Overall, the model positions employee well-being as the primary outcome that responds to variations in organisational safety practices. By linking specific managerial practices to differentiated well-being outcomes, the framework provides a holistic perspective on how the safety environment created by transport companies shapes the overall quality of life of their workers. This conceptualisation aligns with contemporary views that employee well-being is not merely the absence of harm but a positive state influenced by multiple workplace factors.

2.5 Overview of the Transportation Industry in Nigeria

Structure: The transportation industry in Nigeria is characterized by a complex organisational structure comprising formal and informal operational frameworks. As noted by Fadare and Adeniran (2021), the structure can be categorized into four principal segments: public sector

organisations, established private companies, small-scale enterprises, and individual operators. The public sector includes entities such as the Nigerian Railway Corporation (NRC), State Transport Corporations, and the Maritime Administration and Safety Agency, which provide varying levels of passenger and freight services often with significant government subsidy (Oluwole & Ojekunle, 2022). Meanwhile, organized private companies, including interstate bus operators like ABC Transport, GUO Transport, and God is Good Motors, operate with formal business structures, standardized services, and defined management hierarchies (Fadare & Adeniran, 2021). The industry structure also features numerous small-scale enterprises typically operating 5-15 vehicles, predominantly in urban and semi-urban routes, and individual operators who constitute the most numerous segments, characterized by ownership of one or a few vehicles operating primarily in intra-city transportation (Olubomehin, 2023). Afolabi et al. (2024) note that this structural diversity creates significant challenges for industry-wide standards implementation, as approximately 70% of Nigeria's transportation services are provided by small-scale enterprises and individual operators operating with minimal formal business infrastructure.

Mode of operation: The operational modalities of Nigeria's transportation industry vary significantly across different segments, reflecting both formal and informal approaches to service delivery. Olubomehin (2023) observes that public transportation in Nigeria operates primarily through a "fill and go" system, where vehicles depart terminals only when they reach full passenger capacity rather than following predetermined schedules. This model is particularly prevalent among small-scale operators and individual transport providers. In contrast, established private companies increasingly implement scheduled departure systems, advanced booking arrangements, and designated routes with predetermined stops, particularly for interstate services

(Okafor et al., 2023). The industry exhibits distinct operational patterns across urban, semi-urban, and rural areas, with greater formality in urban centers and more flexible, demand-responsive approaches in rural settings (Fadare & Adeniran, 2021). Notably, Afolabi et al. (2024) identify the prevalence of the "owner-driver" business model among small operators, where vehicle owners either drive their vehicles themselves or employ drivers who work on commission-based arrangements, typically remitting predetermined daily returns to the owner while retaining excess earnings as income. This operational framework creates inherent safety challenges, as it incentivizes drivers to maximize passenger loads and trip frequencies, often at the expense of safety considerations and vehicle maintenance (Oluwole & Ojekunle, 2022).

Route management: Route management in Nigeria's transportation industry demonstrates varying levels of sophistication and formality across different operator categories. According to Olubomehin (2023), route allocation and management in urban areas are officially under the jurisdiction of state transportation agencies and local governments, which designate terminals, approve routes, and collect various fees and levies. However, Fadare and Adeniran (2021) note that informal governance structures, primarily through transport unions such as the National Union of Road Transport Workers (NURTW) and Road Transport Employers Association of Nigeria (RTEAN), exert significant control over route access, terminal operations, and fare structures, particularly in the informal sector. These unions typically divide cities and interstate routes into operational zones, assigning route chairmen who collect daily fees from operators in exchange for terminal access and route protection (Oluwole & Ojekunle, 2022). For larger operators, route management involves more strategic approaches, including demand analysis, competition assessment, and infrastructure evaluation before establishing new service routes (Okafor et al., 2023). Afolabi et al. (2024) highlight the emerging role of digital platforms in

route management, with companies such as Uber, Bolt, and indigenous platforms like Plentywaka introducing technology-enabled route optimisation and demand-responsive routing, particularly in metropolitan areas, representing a significant evolution in the industry's approach to route management.

Regulations on workplace health and safety practices: The regulatory framework governing workplace health and safety in Nigeria's transportation industry comprises multiple legislative instruments and oversight bodies, creating a complex compliance environment. The Federal Road Safety Commission (FRSC), established through Decree 45 of 1988 and amended by FRSC Act 2007, serves as the primary regulatory agency for road safety enforcement, with mandates covering vehicle inspection, driver licensing, and road safety standards (Okafor et al., 2023). Additional regulatory authority comes from the Nigerian Institute of Transport Technology (NITT), Standards Organisation of Nigeria (SON), and state transportation agencies, creating a multilayered regulatory structure (Fadare & Adeniran, 2021). The Factories Act of 1987 (as amended) technically applies to transportation companies as workplaces, mandating employer responsibility for worker health and safety, though Oluwole and Ojekunle (2022) note that enforcement in the transportation sector remains inconsistent. The Employee's Compensation Act of 2010 establishes mechanisms for worker compensation in cases of occupational injuries or fatalities, while the Nigerian Labour Act outlines basic conditions for employment, including maximum working hours and rest periods that directly impact driver fatigue management (Olubomehin, 2023). Despite this robust regulatory framework, Afolabi et al. (2024) observe that actual implementation faces significant challenges, with their study finding that only 23% of transportation operators were fully compliant with applicable health and

safety regulations, attributable to limited enforcement capacity, regulatory knowledge gaps, and institutional weaknesses.

Nature of workplace health and safety practices: Workplace health and safety practices within Nigeria's transportation industry exhibit considerable variation across different operator categories. Okafor et al. (2023) found that formal private companies typically implement structured safety management systems, including pre-employment driver assessments, regular training programs, vehicle maintenance protocols, and journey management plans. These operators often maintain accident registers, conduct periodic health checks for drivers, and implement fatigue management policies, including maximum driving hour limitations (Afolabi et al., 2024). However, safety practices among small-scale operators and individual transport providers are generally less formalized, with Oluwole and Ojekunle (2022) reporting that only 17% of surveyed small operators conducted regular safety training, while vehicle maintenance was predominantly reactive rather than preventative. Common industry-wide safety practices include prayer sessions before journey commencement (observed in 78% of operators), basic vehicle checks focused primarily on tires and brakes, and reliance on driver experience rather than formal qualification verification (Fadare & Adeniran, 2021). Notably, Olubomehin (2023) identifies a cultural dimension to safety practices, with many operators supplementing or sometimes replacing formal safety measures with traditional protective rituals and religious practices, reflecting deeply held beliefs about accident causation that sometimes conflict with evidence-based safety approaches. This cultural dimension represents a significant consideration in designing contextually appropriate safety interventions for the industry.

Challenges: Nigeria's transportation industry faces numerous challenges that impact operational efficiency, service quality, and particularly workplace health and safety conditions. Infrastructure

deficiencies represent a fundamental challenge, with Fadare and Adeniran (2021) noting that approximately 70% of Nigeria's road network remains in poor condition, characterized by inadequate maintenance, poor design, and insufficient capacity relative to traffic volumes. Regulatory enforcement limitations present another significant challenge, as enforcement agencies lack adequate resources, technology, and personnel to effectively monitor compliance across the geographically dispersed industry (Okafor et al., 2023). The industry's predominantly informal structure creates substantial obstacles to standardisation, with Afolabi et al. (2024) reporting that 63% of transportation operators lack formal safety management systems, documented procedures, or designated safety personnel. Additional challenges include limited access to financing for fleet modernisation, resulting in an aging vehicle population with 68% of commercial vehicles exceeding 15 years in service, increasing both breakdown frequency and crash severity risk (Oluwole & Ojekunle, 2022). The commission-based driver compensation system creates perverse incentives that prioritize revenue generation over safety considerations, while insufficient driver training and licensing enforcement result in widespread skill deficiencies (Olubomehin, 2023). Furthermore, Afolabi et al. (2024) identify cultural factors, including fatalistic attitudes toward accidents and resistance to evidence-based interventions, as significant barriers to safety culture development, concluding that sustainable improvements will require addressing these multidimensional challenges through coordinated interventions targeting infrastructure, enforcement, operator formalisation, and cultural change.

2.6 Theoretical Review

2.6.1 Theories Underpinning Workplace Health and Safety

Heinrich's Domino Theory

Heinrich's Domino Theory, proposed by Herbert Heinrich in 1931, is a fundamental concept in occupational health and safety. According to Heinrich, accidents occur as a result of a sequence of factors, which he likened to a row of dominoes (Heinrich, 1931). The main proposition of the theory is that accidents are the result of a chain of events, where the removal of one factor can prevent the accident from occurring.

Heinrich's theory is based on several assumptions, including the idea that accidents are caused by a combination of factors, rather than a single cause (Heinrich, 1931). Additionally, the theory assumes that the removal of one factor in the chain of events can prevent the accident from occurring. The theory has been widely applied in occupational health and safety, particularly in the development of safety protocols and procedures (Manuele, 2017). It has also been used to investigate and analyse accidents, to identify and remove the underlying causes.

One of the strengths of Heinrich's Domino Theory is its simplicity and ease of understanding (Heinrich, 1931). The theory provides a clear and concise framework for understanding the causes of accidents and has been widely used in occupational health and safety for many years. However, the theory has also been criticized for its oversimplification of the causes of accidents (Hale & Glendon, 1987). Additionally, the theory has been criticized for its focus on individual factors, rather than broader organisational and systemic factors.

Despite these limitations, Heinrich's Domino Theory remains an important and influential concept in occupational health and safety (Manuele, 2017). The theory has been widely used and applied, and continues to provide a useful framework for understanding the causes of accidents and developing safety protocols and procedures.

Human Factors Theory

Human Factors Theory, formalized by Heinrich (1931) through his Domino Theory of accident causation, represents a pioneering framework for understanding workplace accidents as the result of a complex interplay between human behaviour and environmental conditions. The theory's fundamental proposition holds that human error, rather than mechanical failure or environmental hazards alone, constitutes the primary cause of accidents, suggesting that approximately 88% of workplace incidents result from unsafe acts by individuals, 10% from unsafe conditions, and 2% from unavoidable circumstances. This perspective assumes that human beings have inherent limitations in attention, perception, decision-making, and physical capabilities that make them susceptible to errors, particularly in complex or high-pressure environments. Furthermore, the theory posits that accidents typically result from a sequence of events similar to falling dominoes, where removing one factor (particularly the human error component) can prevent the accident chain from completing (Dekker, 2020). This sequential model emphasises the critical role of human decision-making within organisational contexts, suggesting that accidents represent symptoms of deeper system failures rather than isolated events attributable solely to individual carelessness.

The applications of Human Factors Theory span diverse industries and have evolved significantly since Heinrich's initial formulation. In transportation safety, the theory has informed the design of aircraft cockpits, train control systems, and automobile interfaces to accommodate human cognitive and physical limitations, reducing the likelihood of operator error in critical situations. Manufacturing environments have implemented human factors principles through workstation ergonomics, procedural simplification, and warning systems that account for human attentional constraints. More recently, healthcare systems have embraced human factors approaches to reduce medical errors by redesigning equipment, standardizing protocols, and

creating redundancy systems that anticipate potential human failures (Salmon et al., 2021). Contemporary applications extend beyond physical environment modifications to include organisational factors such as fatigue management programs, safety communication systems, and training approaches that acknowledge human cognitive limitations while building error detection and recovery capabilities, reflecting the theory's evolution from a focus on individual blame toward recognition of systemic contributions to error.

Despite its enduring influence, Human Factors Theory presents both significant strengths and notable limitations that affect its utility in modern safety management. Its primary strengths include practical applicability across diverse industries; recognition of human limitations as normal rather than exceptional; emphasis on proactive intervention through system design; and ability to inform concrete modifications to equipment, procedures, and environments (Dekker, 2020). However, critics highlight several weaknesses, including the original theory's tendency toward oversimplification of accident causation; potential overemphasis on proximate human errors while undervaluing organisational and cultural factors; difficulties in quantifying human the contrary (Salmon et al., 2021). More recent evolutionary perspectives within Human Factors Theory address many of these criticisms by adopting systems thinking approaches that view human error as a consequence rather than a cause, recognizing that human performance exists within complex socio-technical systems where multiple factors interact in ways that can either enhance safety or create vulnerability to failure (Theophilus et al., 2022).

Occupational Safety and Health (OSH) Theory

The Occupational Safety and Health (OSH) Theory, also known as the Decent Work Theory, was proposed by the International Labour Organisation (ILO) in 2006. The main proposition of the theory is that a safe and healthy work environment is a fundamental human right and a key

component of decent work (ILO, 2006). The theory assumes that work-related injuries and illnesses are preventable through the implementation of effective safety and health management systems. It also assumes that employers, governments, and workers all have a role to play in preventing work-related injuries and illnesses.

The OSH Theory has been widely applied in occupational health and safety practice, particularly in the development of national and international OSH policies and standards (ILO, 2006). The theory has also been used to guide the development of safety and health management systems in organisations (Huges et al., 2016). One of the strengths of the OSH Theory is its emphasis on the importance of prevention in reducing work-related injuries and illnesses. However, the theory has also been criticized for its lack of specificity and guidance on how to implement effective safety and health management systems (Katsakioris, 2017).

Despite this limitation, the OSH Theory remains an important and influential concept in occupational health and safety (Huges et al., 2016). The theory has been widely adopted and applied in many countries around the world, and has played a key role in reducing work-related injuries and illnesses. As noted by Takala et al. (2014), the OSH Theory provides a valuable framework for understanding the importance of occupational safety and health in promoting decent work and preventing work-related injuries and illnesses.

Systems Theory of Accident Causation

The Systems Theory of Accident Causation, developed by Leveson (2004), posits that workplace accidents and safety incidents result from failures within an interconnected system rather than isolated human errors. The theory proposes that accidents occur due to deficiencies in the interaction between different system components, including employees, equipment, environment, and organisational policies. It assumes that safety is an emergent property of the system as a

whole and that effective accident prevention requires addressing risks at multiple levels, such as management decisions, regulatory frameworks, and worker behaviours (Leveson, 2011). This theory is particularly relevant in high-risk industries like transportation, where complex interdependencies exist between human operators, vehicles, and safety regulations.

A key assumption of the theory is that accidents are preventable through systemic interventions, rather than merely focusing on individual worker compliance. It assumes that safety violations often stem from inadequate system design, unclear communication, or policy shortcomings rather than deliberate employee negligence (Salmon et al., 2012). In practice, this theory is applied in occupational health and safety management by developing comprehensive safety cultures, implementing risk assessments, and designing fail-safe systems to minimize workplace hazards (Hollnagel, 2014). In transportation companies, for example, adopting structured safety training, enforcing protective measures, and implementing fatigue control mechanisms align with this theory's propositions, as they help create a safer system overall.

One of the strengths of the Systems Theory of Accident Causation is its holistic approach, which acknowledges that accidents result from systemic failures rather than placing sole blame on individuals (Leveson, 2018). This perspective enables organisations to implement proactive safety measures rather than reactive penalties. However, a notable weakness is that it may overlook the role of personal responsibility, assuming all failures are systemic rather than considering individual negligence or human error (Salmon et al., 2012). Additionally, implementing system-wide safety interventions may require significant resources, making it challenging for smaller companies with limited budgets. Despite these limitations, the theory remains a valuable framework for enhancing workplace safety and reducing accident risks in transportation and other high-risk sectors.

2.6.2 Theories on Employee-Well-being

Self-determination theory

The Self-Determination Theory (SDT) was proposed by Edward Deci and Richard Ryan in 1985. The main proposition of the theory is that human behaviour is motivated by three innate psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 1985). Autonomy refers to the need to feel a sense of control and volition over one's actions, competence refers to the need to feel effective and capable, and relatedness refers to the need to feel connected and valued by others.

The SDT assumes that these three needs are universal and essential for human growth, well-being, and life satisfaction (Deci & Ryan, 2000). The theory also assumes that social contexts can either support or undermine these needs, leading to varying levels of motivation, engagement, and well-being. The SDT has been widely applied in various fields, including education, healthcare, and organisational behaviour, to promote motivation, engagement, and well-being (Deci & Ryan, 2000).

One of the strengths of the SDT is its ability to explain the underlying psychological mechanisms that drive human behaviour. The theory provides a comprehensive framework for understanding the role of autonomy, competence, and relatedness in motivation and well-being. However, one of the weaknesses of the SDT is its limited generalisability to certain cultural contexts, where individualism and autonomy may not be valued as highly as collectivism and interdependence (Chirkov et al., 2003).

Despite this limitation, the SDT remains a widely influential and well-supported theory in the field of motivation and well-being. Its applications in various fields have been shown to promote

positive outcomes, such as increased motivation, engagement, and life satisfaction. As research continues to explore the SDT in various contexts, its contributions to our understanding of human behaviour and well-being are likely to endure.

Job demands-resources model

The Job Demands-Resources (JD-R) Model, proposed by Demerouti et al. (2001), explains how workplace conditions impact employee well-being, job performance, and burnout. The model posits that every job has two main components: job demands (e.g., workload, time pressure, emotional strain) and job resources (e.g., autonomy, social support, training). It suggests that excessive job demands lead to burnout and stress, while sufficient job resources promote motivation, engagement, and well-being (Bakker & Demerouti, 2017). The JD-R model highlights that employee well-being depends on the balance between demands and resources, meaning that when job demands are high, employees require adequate resources to maintain performance and prevent exhaustion (Schaufeli & Taris, 2014).

A core assumption of the JD-R model is that job demands are not inherently negative but become harmful when they exceed employees' capacity to cope (Bakker & Demerouti, 2018). Conversely, job resources act as motivational factors that help employees perform efficiently and recover from stress. The model is widely applied in workplace health interventions, particularly in industries with high physical and psychological demands, such as healthcare, education, and transportation. For instance, in transportation companies, reducing work fatigue, providing safety training, and implementing welfare schemes serve as key job resources that enhance employee well-being and job satisfaction. The model is also used to design organisational policies that optimize the work environment by minimizing excessive demands and strengthening support systems (Taris & Schaufeli, 2016).

One of the major strengths of the JD-R model is its flexibility, as it applies to various occupations and allows organisations to customize interventions based on industry-specific challenges (Bakker & Demerouti, 2017). Additionally, it integrates both negative (burnout) and positive (engagement) aspects of employee well-being, providing a balanced perspective on workplace health. However, a limitation of the model is that it does not specify which job demands or resources are most critical, making it difficult to prioritize interventions in complex work settings.

(Schaufeli & Taris, 2014). Moreover, individual differences in coping mechanisms are not fully accounted for, meaning that what constitutes a stressor for one employee may not affect another in the same way. Despite these weaknesses, the JD-R model remains a widely used framework for improving employee well-being and organisational performance.

Conservation of resources theory

Conservation of Resources (COR) Theory, proposed by Stevan Hobfoll (1989), represents a comprehensive framework for understanding how individuals experience and respond to stress through the lens of resource acquisition and preservation. The theory's central proposition maintains that people strive to obtain, retain, protect, and foster resources—defined broadly as objects, personal characteristics, conditions, or energies that are valued in their own right or serve as means for obtaining valued ends—and that psychological stress occurs when these resources are threatened, lost, or when individuals fail to gain resources after significant investment. A key principle of COR Theory is the primacy of resource loss, which suggests that resource loss is disproportionately more salient and impactful than resource gain of similar magnitude. Additional propositions include resource spirals, wherein initial resource loss increases vulnerability to future losses while resource gain facilitates further gains; resource

caravans, describing how resources tend to aggregate and travel together; and resource investment, which posits that people must invest resources to protect against loss, recover from losses, and gain new resources (Hobfoll et al., 2018). The theory assumes that humans have evolved to acquire and conserve resources both individually and collectively, that resource loss constitutes the primary ingredient in the stress process, and that resources must be examined in ecological context rather than as purely individual possessions or traits.

COR Theory has been extensively applied across numerous domains, demonstrating remarkable versatility in explaining stress processes and coping mechanisms. In organisational psychology, the theory has informed research on burnout, work engagement, and work-family conflict by examining how resource depletion and conservation operate within occupational contexts (Chen et al., 2021). Trauma researchers have utilized COR Theory to understand responses to disasters, military deployment, and interpersonal violence, exploring how resource loss contributes to psychological distress and how resource replacement facilitates recovery. Additionally, health psychologists have applied the theory to understand chronic illness management, health behaviour change, and caregiver burden by conceptualizing health and adaptive functioning as resources that individuals strive to maintain. The theory has proven particularly valuable in elucidating cross-cultural stress dynamics, as its resource-based approach transcends Western-centric individualistic conceptualisations of stress by acknowledging collective resources and cultural variations in resource valuation (Hobfoll et al., 2018). Recent applications have extended to technologically mediated environments, examining how digital resources function within the broader COR framework and how virtual interactions contribute to resource gain or depletion. Despite its substantial contributions to stress research, COR Theory exhibits both notable strengths and limitations that influence its theoretical standing and practical utility. Its primary

strengths include comprehensive integration of both environmental and internal factors; empirical support across diverse populations and stressors; practical applicability in designing stress interventions; and conceptual flexibility that allows adaptation across cultural contexts (Chen et al., 2021). However, critics have identified several weaknesses, including definitional challenges regarding what constitutes a "resource" and how to establish resource value across different cultural contexts; measurement complexities in quantifying resource loss and gain; limited attention to individual differences in resource appraisal and utilisation; and potential circularity in reasoning when resources are defined too broadly (Hobfoll et al., 2018). Additionally, some argue that the theory's emphasis on resource conservation may be insufficient account for situations where risk-taking and resource expenditure represent adaptive responses, particularly in developmental contexts where learning often requires temporary resource investment without guaranteed returns. Despite these limitations, COR Theory continues to evolve through empirical refinement and theoretical extension, maintaining its position as one of the most influential frameworks for understanding stress and coping across diverse human experiences.

PERMA model of well-being

The PERMA Model of Well-being was proposed by Martin Seligman in 2011. The main proposition of the theory is that well-being consists of five core elements: Positive Emotions (P), Engagement (E), Relationships (R), Meaning (M), and Accomplishment (A) (Seligman, 2011). Seligman argues that these five elements are essential for achieving a state of flourishing and overall well-being.

The PERMA Model assumes that well-being is not just the absence of mental illness, but rather a positive and dynamic state that can be cultivated and strengthened through intentional effort

(Seligman, 2011). The theory also assumes that each of the five elements of PERMA is interconnected and influences the others. The PERMA Model has been widely applied in various fields, including psychology, education, and business, to promote well-being and positive mental health (Seligman, 2011). One of the strengths of the PERMA Model is its comprehensive and holistic approach to well-being, which recognizes the importance of multiple factors in achieving overall well-being.

Despite its strengths, the PERMA Model has also been criticized for its lack of empirical evidence supporting the specific combination of the five elements (Hone et al., 2014). Additionally, some critics have argued that the model may not be universally applicable across different cultures and contexts (Tay & Diener, 2011). Nevertheless, the PERMA Model remains a widely influential and well-known theory of well-being, and its applications continue to grow and expand into various fields.

2.7 Theoretical Framework

This study is anchored on the Systems Theory of Accident Causation and the Job Demands-Resources (JD-R) Model to examine the relationship between workplace health and safety management practices and employee well-being in transportation companies in Benin City. The Systems Theory of Accident Causation (Leveson, 2004) posits that workplace accidents result from failures within a system comprising employees, tasks, environment, and technology. This theory is relevant to transportation companies, where safety culture, training, protective measures, and fatigue control interact to influence workplace safety. By addressing system-wide hazards and implementing structured safety management practices, organisations can mitigate risks and enhance employee well-being. Meanwhile, the JD-R Model (Demerouti et al., 2001) explains that employee well-being is influenced by the balance between job demands (e.g., long working

hours, fatigue, and workplace hazards) and job resources (e.g., welfare schemes, training, and protective measures). This model provides a framework for understanding how workplace safety initiatives support employees' physical and mental health, ultimately improving their overall well-being.

Synthesizing these theories, the Systems Theory of Accident Causation emphasises the organisational and structural aspects of workplace safety, while the JD-R Model focuses on the individual employee's experience of workplace conditions. Together, they offer a comprehensive perspective on how safety culture, training, protective measures, welfare schemes, and fatigue control collectively shape employee well-being in transportation companies. By integrating both theories, this study bridges macro-level safety management with micro-level employee experiences, providing a holistic understanding of the relationship between workplace safety and well-being. For example, research carried out by Lambart, Elechi and Out (2021) on testing the job demand-resource model in explaining the life satisfaction of Nigerian correctional staff and also a study by Onifade and Ehigie (2024) on perceived workplace safety, workload and pay satisfaction as predictors of mental health among employees in a Nigerian health related organization are instances that based their work on these theories.

2.8 Empirical Review

Safety culture and employee well-being

Omofowa et al. (2021) examined best practices for workplace health and safety and the mediating role of organisational culture in a glass manufacturing company. Using responses from 350 employees at BETA Glass Company in Nigeria, the study employed regression analysis and PLS structural equation modelling to test four hypotheses. Results indicated that training and development, leadership quality, and safe work procedures positively impact

employee health and safety. Additionally, organisational culture was found to mediate the relationship between best practices and workplace health and safety, highlighting the linear and indirect nature of this association. However, this study is limited by its focus on a single organisation, which restricts the generalisability of the findings. The use of both regression and PLS-SEM is not well justified, raising questions about the methodological robustness. Additionally, the study adopts a narrow view of workplace health and safety by focusing on only a few predictors and provides a limited explanation of how organisational culture mediates these relationships. As a result, the study does not fully capture the complexity of workplace health and safety dynamics.

Chukwuma (2023) explored the impact of safety culture on workers' safety performance in the Nigerian oil and gas industry. A mixed-method approach was adopted, integrating both qualitative and quantitative data collection. A survey questionnaire was distributed to frontline workers in various oil and gas companies to assess their perceptions of safety culture and its effect on safety behaviour. The findings highlighted the importance of safety management techniques in promoting safety participation and compliance, with work experience playing a significant role in safety involvement. The study emphasised the need for effective safety communication and incentive systems to enhance workplace safety.

Although Chukwuma (2023) provides valuable insights into safety culture within the oil and gas sector, the study's reliance on frontline workers alone limits the diversity of perspectives, particularly from management or supervisory staff who shape safety policies. The mixed-method approach is mentioned but not clearly explained in terms of how qualitative and quantitative data were integrated to strengthen the findings. Additionally, the study focuses mainly on behavioural

outcomes and overlooks broader organisational or environmental factors that may influence safety performance.

Ehiaguina et al. (2024) assessed safety culture and its impact on workers' safety performance in the Nigerian oil and gas industry. A cross-sectional survey was conducted among 462 frontline workers from fifteen oil and gas companies in the Niger Delta region, using an online questionnaire. The study found a significant relationship between safety management and both safety participation and compliance. Work experience significantly influenced safety participation but had no direct impact on safety climate, while age significantly affected safety compliance. The study underscored the need for a strong workplace safety culture, proactive management approaches, and policy realignment to improve safety standards in the industry. Despite its large sample size, the study by Ehiaguina et al. (2024) relies solely on self-reported data from frontline workers, which may introduce response bias and limit the objectivity of the findings. Additionally, the cross-sectional design prevents any causal interpretation of the relationships between safety culture, worker characteristics, and safety performance.

Amirah et al. (2024) investigated the impact of safety behaviour on safety culture within the manufacturing sector. The study employed a quantitative approach, distributing questionnaires to 342 employees in manufacturing firms. Structural equation modeling (SEM) using IBM-SPSS-AMOS 24.0 was applied for data analysis. Findings revealed that safety compliance and safety leadership significantly influence safety culture, emphasizing the importance of prioritizing safety behaviour to enhance occupational safety and health. The study contributed to the literature by utilizing an integrated higher-order construct model, predicting safety culture by 53%, and reinforcing the role of leadership in fostering a safety-centric work environment. Although the study provides useful insights, the study focuses exclusively on manufacturing

firms, which limits the generalisability of the findings to other high-risk sectors such as transportation or oil and gas. Furthermore, the reliance on self-reported questionnaires may introduce common method bias, potentially inflating the observed relationships between safety behaviour, leadership, and safety culture.

Anyabor, Agbionu, Nwokeiwu, and Ani (2024) examined safety culture and employees' performance in safety-related units of the teaching hospitals in south southeast of Nigeria. It employed a descriptive and correlational research design. The population of the study comprised three teaching hospitals in the region. A total of 176 questionnaires were distributed to healthcare workers, with 127 responses received. The study's findings revealed significant positive correlations between the variables examined, with correlation coefficients of 0.475, 0.818, and 0.482. These results suggest that providing basic job resources, maintaining steady communication, and conducting safety training programs are crucial for enhancing healthcare workers' perceived value of safety.

Leje and Abdullahi (2025), investigates various factors that affect the safety performance of artisans working in local construction firms in Abuja. A purposive sample consisting of 130 responses was gathered from Quantity Surveyors, Engineers, Architects, and Project Managers. Normality testing and the Relative Importance Index (RII) were utilized to assess the distribution of the dataset and understand the perceptions of respondents. Additionally, multiple regression analysis was performed to determine if there was a significant relationship between organizational culture and the safety performance of artisans. The main findings indicate that, on average, respondents regard employee training, inadequate safety equipment, and the levels of communication and trust as relatively significant, suggesting an overall positive perception among the participants. Furthermore, the results highlight a strong link between a positive safety

culture and improved safety performance, while also revealing ongoing issues like inadequate training, a lack of proper safety equipment, and communication failures. Recommendations for enhancing safety performance include implementing regular training sessions, improving the availability of safety gear, and fostering a strong safety culture within construction companies.

Rosid, Sundari, Sofyan and Hartoto (2024) explores the relationship between financial health management and employee well-being in the petrochemical and chemical industries. Using a case study method and a mixed-methods approach, the study analyzes how effective financial management affects various aspects of employee well-being, including job satisfaction, mental health, and personal financial stability. Quantitative data were obtained from a survey measuring the relationship between financial management practices and employee well-being, while qualitative data were obtained through in-depth interviews with financial managers, HR managers, and employees. The findings indicate that companies with good financial management tend to have more satisfied, mentally healthy, and financially stable employees. In addition, transparent and participatory financial management improves corporate culture and the relationship between management and employees. This study emphasizes the importance of integrating good financial practices and employee well-being policies in creating a productive and harmonious work environment.

Safety training and awareness and employee well-being

Ishola (2017) explored the connection between safety management practices and psychological well-being in the workplace. The research employed a correlational design and surveyed 252 employees from three production companies in Nigeria's Oluyole Industrial Estate. The data, collected through self-report questionnaires, were analysed using descriptive statistics and Pearson correlation analysis. The findings indicated that safety training and equipment design

had no significant impact on employees' well-being. However, a positive correlation was found between regular equipment maintenance and employees' well-being. The study concluded that routine maintenance contributes to improved well-being among factory employees. The research emphasized the importance of effective safety management practices in reducing industrial accidents, boosting productivity, and minimising worker compensation claims and lost work hours due to poor well-being.

Adim and Mezeh (2020) examined the relationship between health and safety training and employee performance in oil and gas companies in South-South Nigeria. The study adopted a cross-sectional survey research design, with primary data collected through a structured questionnaire based on a 5-point Likert scale. The population consisted of 250 employees from seven selected oil and gas servicing companies, and a sample size of 154 was determined using Taro Yamane's formula. Reliability was ensured through Cronbach Alpha, with all items scoring above 0.70. Hypotheses were tested using the Spearman Rank Order Correlation Coefficient with the aid of SPSS version 23.0 at a 95% confidence interval and a 0.05 level of significance. The findings revealed a significant and positive relationship between health and safety training and employee performance in the oil and gas industry in South-South Nigeria.

Okechukwu and Onyia (2022) investigated the relationship between occupational health safety practices and employee performance in manufacturing firms in Enugu State. The study focused on senior and junior staff of selected food and beverage manufacturing firms. Using the Bill Godden (2004) formula, a sample size of 486 was determined from a population of 2,554 employees, and 392 questionnaires were correctly filled and returned. Pearson correlation coefficient was used to assess reliability, yielding a coefficient of 0.84, while regression analysis was used for data analysis. The findings indicated a positive and significant relationship between

safety planning and manufacturing output, as well as between training programs and service quality in the food and beverage manufacturing sector in Enugu State, Nigeria.

Bello et al. (2024) examined the role of health and safety programs in curbing occupational accidents at Tin Can Port, Apapa, Lagos. The study employed a proportionate random sampling technique to select 200 employees, with data collected using a researcher-designed questionnaire. Multiple regression analysis was used to analyse the data. The findings showed that stress management programs, safety training programs, emergency preparedness and response, and compliance with regulations significantly reduced occupational accidents at the port. The study recommended prioritizing stress management programs, investing in comprehensive safety training, regularly updating emergency procedures, and ensuring strict adherence to safety regulations and standards.

Onunwor (2025) explored the relationship between workplace safety management strategies and employee performance at the National Agency for Food and Drug Administration and Control (NAFDAC) in Port Harcourt. The study used an explanatory research design with a population of 44 employees across four NAFDAC offices, from which a sample of 40 was drawn using Krejcie and Morgan's formula. A modified Likert scale questionnaire with four response options was used for data collection, and 36 (90%) responses were successfully retrieved. Data analysis involved mean and standard deviation for research questions, while Spearman Rank Correlation Coefficient was used to test hypotheses. The findings revealed a significant relationship between workplace safety management strategies (safety training, safety incentive programs, and safety communication) and employee performance (task completion, quality of work, and creativity). The study concluded that safety strategies enhance employee performance and recommended

prioritizing precautionary safety training, making safety incentives engaging, and fostering a positive safety culture to improve work quality.

Duru and Henry (2024), employs a Mixed Methods Research (MMR) design to investigate the connections between teachers' perceptions of financial well-being, the safety and environment of schools, burnout, self-efficacy, and job satisfaction. The quantitative aspect of this research utilized structural equation modeling (SEM), a multivariate statistical analysis method, to analyze the structural relationships among the various constructs. For the qualitative aspect, a phenomenological approach was taken, interviewing teachers to gather insights about their experiences regarding financial well-being, school safety and working conditions, burnout, self-efficacy, and job satisfaction. A total of 152 teachers participated in an online Qualtrics survey for the quantitative analysis, while five teachers were interviewed for the qualitative portion. The quantitative findings indicated a statistically significant relationship between teachers' financial well-being (TFWB) and teachers' job satisfaction (TJS). Furthermore, a significant relationship was also identified between teachers' school safety and work environment (TSSWE), teachers' self-efficacy (TSE), teachers' burnout (TBO), and teachers' job satisfaction (TJS). Qualitative analysis results revealed that teachers felt confident about the programs implemented to ensure school safety, and they demonstrated a strong intrinsic motivation for job satisfaction.

Protective measures and employee well-being

Umoh and Torbira (2013) examined the relationship between safety practices and employee productivity in the manufacturing industry in Nigeria. The study was conducted among 10 manufacturing firms in Port Harcourt using a survey research design. A structured questionnaire was distributed to 330 respondents, with 292 copies retrieved for analysis. Data were analysed using inferential statistics to test three formulated hypotheses. The findings revealed a positive

and significant relationship between the provision of safety equipment and employee productivity; legal, institutional safety policies and production output; and employer compliance with safety rules and employee man-hours contributed. The study concluded that workplace safety significantly influences employee effort in production. Lastly, the study provides useful evidence but is limited by its focus on only 10 firms in one city, which restricts the generalizability of its findings. Additionally, it relies solely on self-reported survey data, which may introduce bias and does not capture objective safety or productivity measures.

Adebayo (2015) assessed human factors as determinants of road traffic accidents among commercial vehicle drivers in Gbonyin Local Government Area, Ekiti State, Nigeria. A survey research design was employed, with 210 structured questionnaires administered to commercial drivers at motor parks in selected towns. Descriptive statistics (frequency counts and percentages) were used for demographic analysis, while inferential statistics (linear regression) were employed for hypothesis testing. Findings indicated that 60% of drivers were below 45 years, and over 70% had no more than a secondary education. The study identified driving under the influence of alcohol as the most significant determinant of road traffic accidents, followed by excessive speeding, indiscriminate parking, impressionistic driving, and sleepiness. The study recommended eradicating alcohol sales at motor parks, proactive driver education, and effective law enforcement to reduce road accidents. The study offers valuable insights but is limited by its focus on a single local government area, which reduces the wider applicability of its findings. Its reliance on self-reported data from drivers may also introduce social desirability bias, particularly concerning sensitive behaviours like alcohol use. Furthermore, the study does not control for contextual factors such as road conditions or vehicle maintenance, which could also contribute significantly to accidents.

Uzondu (2019) investigated the influence of road safety culture on driver behaviour among Nigerian drivers. The study used a multi-method approach, including an exploratory phase using the Traffic Conflict Technique (TCT) to observe driver behaviour, a driving simulator experiment comparing Nigerian and UK drivers under different regulatory conditions, and a focus group discussion with the Federal Road Safety Corps (FRSC). The study found that Nigerian drivers with no experience in highly regulated road environments engaged in more unsafe driving behaviours than other groups, and road infrastructure improvements did not significantly change their behaviour. However, awareness-raising interventions showed some positive changes. Findings indicated that traffic safety culture had a greater influence on driver behaviour than road environment changes, highlighting the need for locally adapted road safety interventions in Nigeria. The study is robust in design, but the comparison between Nigerian and UK drivers may introduce cultural and contextual differences that complicate interpretation beyond regulatory exposure. Additionally, the findings rely heavily on simulated and observational data, which may not fully capture the complexity of real-world driving behaviour in Nigeria.

Okafor, Okogie, and Ogboghodo (2023) assessed safety practices among commercial long-distance bus drivers in Benin City, Edo State, Nigeria. A descriptive cross-sectional study design was employed, and data were collected from 315 commercial bus drivers using structured interviewer-administered questionnaires and focus group discussions. Systematic random sampling was used for respondent selection, and data were analysed using SPSS version 20. Findings revealed that 36.2% of drivers were aged 31-40 years, 86.3% were married, and 98.7% were male. Educational levels varied, with 54.6% having secondary education. Speeding was common, with 68.6% driving above 100 km/h. Safety practices included seat belt use (74.6%),

daily vehicle checks (86.3%), and obeying traffic rules (90.2%), while unsafe practices included mobile phone use while driving (48.9%), violating traffic signs (48.4%), and drinking alcohol while driving (2.5%). The study recommended regular safety training and enforcement of compliance with traffic rules. The study provides useful descriptive insights, but, as a cross-sectional design, it cannot establish causal relationships between safety practices and actual driving outcomes. Additionally, the reliance on self-reported behaviours—especially for sensitive practices like alcohol use—may lead to underreporting and bias in the findings.

Ani and Ani (2025) assessed health, safety, and environmental measures among commercial bus drivers in Lagos State, Nigeria. The study employed a descriptive research design, using structured questionnaires to collect data from commercial bus drivers across various motor parks. Data analysis involved descriptive and inferential statistics. Findings revealed that poor compliance with health and safety measures contributed to frequent road accidents. The study highlighted factors such as inadequate enforcement of road safety regulations, lack of driver education on health and safety, and risky driving behaviours. Recommendations included stricter enforcement of safety regulations, increased public awareness campaigns, and improved driver training programs to enhance road safety and reduce accidents.

Juba (2024) investigates how investments in workplace safety within aged care facilities contribute to financial gains, employee retention, and operational efficiency. A mixed-methods strategy employing secondary data analysis was conducted on 332 aged care facilities in the United Kingdom and Western Europe. The research involved a thorough systematic qualitative examination of organizational documents from the years 2020 to 2024. The findings indicated a significant statistical correlation between safety-related investments and improved performance outcomes within organizations. Facilities that dedicated 5-7% of their operational budget to

safety investments experienced a 12.6% increase in profit margins, a 47.3% reduction in staff turnover, and a 22.8% enhancement in operational performance. The analysis revealed a return on safety investment of 2.8 times the initial expenditure, challenging the common perception that safety expenses are solely burdensome. This study proposes a novel analytic framework for assessing safety expenditures by merging financial assessments with evaluations of organizational and workforce well-being. It creates measurement tools for evaluating the outcomes of safety strategies, providing a comprehensive framework that recognizes safety investments as vital strategic actions for organizations.

Welfare scheme and employee well-being

Umurokoro, Omonzejele, and Ogbogbo (2023) investigated the relationship between employee welfare and organisational effectiveness in oil and gas firms in Bonny Island, Rivers State. The study focused on three welfare factors—vacation policy, insurance policy, and workplace safety—and their impact on organisational effectiveness. A survey research design was used, with a sample size of 312 employees drawn from a population of 1,425 across three firms. Pearson Product Moment Correlation Coefficient was used to analyse the data. Findings showed a significant positive relationship between all three welfare factors and organisational effectiveness. The study concluded that implementing favourable welfare policies is crucial for improving organisational effectiveness and recommended that oil and gas firms prioritize employee welfare for long-term sustainability and economic growth. The study highlights important welfare factors but is limited by its exclusive focus on three firms in a single location, which restricts the broader applicability of the results. Additionally, the use of correlation analysis alone does not account for potential confounding variables, making it difficult to determine whether welfare policies directly cause improvements in organisational effectiveness.

George (2024) examined the impact of employee welfare packages on organisational performance in Waterclean Nig Ltd, Akwa Ibom State. The study employed the equity theory of motivation as its framework and adopted a correlational research design with a population of 200 staff, using a census method to determine the sample size. Data were collected through questionnaires, with 132 valid responses retrieved. Simple percentage analysis was used for demographic data, while mean and standard deviation were applied to research questions. Pearson Product Moment Correlation (PPMC) was used to test the hypotheses at a 95% confidence level. The findings revealed a significant relationship between staff welfare packages and organisational performance, concluding that welfare packages enhance motivation, which in turn leads to higher productivity. The study recommended that Waterclean Nig Ltd should implement valuable welfare packages for its staff. The study provides useful organisational insights but is limited by its use of a single-company census, which reduces the generalisability of its findings to other contexts. Moreover, relying solely on self-reported questionnaire data and correlational analysis limits the ability to infer a causal link between welfare packages and organisational performance.

Babbah (2024) assessed the effect of welfare packages on employee productivity in selected establishments within Bida Local Government, Niger State. The study employed a descriptive research design and used a multistage sampling technique, where stratified sampling categorized organisations into public and private sectors, and probability sampling selected 50 respondents from four organisations. Data were collected through questionnaires and oral interviews, with 192 valid responses analysed. Descriptive and inferential analysis was used, including correlation tests. The study found that medical benefits and paid leave received high satisfaction ratings, while financial aid and performance-based bonuses were rated lower. A strong positive

relationship was identified between welfare packages and productivity (Pearson correlation coefficient = 0.637, $p < 0.01$), and sufficient welfare packages were linked to organisational development (coefficient = 0.541, $p < 0.01$). Enhanced welfare benefits were associated with increased motivation, reduced absenteeism, and improved job satisfaction. The study recommended refining and expanding welfare packages to address employee needs, particularly in transportation allowances, subsidized meals, and educational support.

Johnson, (2024) examined the effect of welfare schemes on employee well-being in the Nigerian banking sector. The study adopts a quantitative research design to establish the relationship between welfare programs and employees' physical, mental, and job-related well-being. The population consists of employees from selected commercial banks in Lagos State, Nigeria, with a sample size of 300 respondents determined using stratified random sampling. Data was collected using a structured questionnaire and analysed using descriptive statistics and multiple regression analysis to assess the impact of various welfare components, such as health benefits, work-life balance policies, financial incentives, and career development programs, on employee well-being. The findings reveal that comprehensive welfare schemes significantly enhance employees' overall well-being, reducing stress levels and increasing job satisfaction. The study recommends that banks expand welfare programs to promote a healthier work environment and improve employee retention.

According to research done by Oni-Eseleh and Badaiki (2024), Nigeria's pension system has faced significant challenges over the years, including issues related to fraud, incompetence, and ineffective implementation. As a result, older citizens often do not receive the support they need from the system, leading to a high level of poverty among this demographic. Despite this, there has been limited scholarly focus on the economic and social difficulties faced by older adults in

Nigeria. Through a snowball sampling method, we conducted interviews—both in person and via phone—with 45 retired individuals living in 10 states across all six geopolitical zones of Nigeria. The results showed variations in the experiences, financial status, and quality of life between those who retired under the pension system prior to the Pension Reform Act of 2014 and those who retired afterward. Additionally, the findings suggest that pension amounts are insufficient to meet the basic needs of older adults, causing struggles such as the inability to afford adequate food and healthcare. It is crucial for Nigeria’s leaders to formulate policies aimed at tackling financial vulnerability and improving the quality of life for older adults, while also providing them with essential support systems.

Work fatigue control and employee well-being

Useche, Ortiz, and Cendales (2017) explored the association between stress-related work conditions and risky driving behaviour among Bus Rapid Transit (BRT) drivers in Bogotá, Colombia. This cross-sectional study surveyed 524 male BRT operators from four transport companies using adapted versions of the Driver Behaviour Questionnaire (DBQ) and other psychological scales. Structural Equation Modeling (SEM) analysis revealed that job strain, effort-reward imbalance, and social support influenced risky driving behaviours. Fatigue and need for recovery fully mediated the relationships between job strain, social support, and risky driving but did not mediate effort-reward imbalance. The study suggested that improving working conditions and reducing fatigue could mitigate risky driving behaviours among BRT operators. The study offers valuable insights by using a robust SEM approach, but its cross-sectional design limits causal interpretations of the relationships identified. Additionally, relying solely on self-reported measures and an all-male sample reduces the generalisability and may introduce response bias.

Singh and Kathuria (2023) examined the human factors affecting aberrant driving behaviour among professional Bus Rapid Transit (BRT) drivers. Using a self-reported survey with 135 drivers responding to the Driver Behaviour Questionnaire (DBQ), the study applied Exploratory Factor Analysis (EFA) to identify three behavioural factors: violations, errors, and positives. Results indicated that behavioural factors, along with demographic variables such as education, driving experience, and alcohol consumption, significantly predicted crash involvement. However, age and marital status showed no association with crashes. The study highlighted the importance of promoting positive driver behaviours in training programs to enhance road safety. The study provides useful behavioural insights but is limited by its small sample size, which may affect the stability and generalisability of the EFA results. Its reliance on self-reported data and cross-sectional design also raises concerns about response bias and the inability to infer causality.

Owoeye, Gbadamosi, Omole, and Akanbi (2024) assessed the impact of overloading and safety issues in intercity public transport along the Minna-Suleja Road, Nigeria. Employing a mixed-method approach, the study gathered data from 150 motorists through structured questionnaires and field surveys, with secondary data sourced from passenger manifests and Federal Road Safety Corps (FRSC) accident records. Findings indicated that youths aged 21-40 comprised most travellers, with business and work trips being the most common. Overloading was perceived as a significant issue, with nonchalant driver attitudes ranking highest among causes, while vehicle integrity was the primary effect. The study recommended stricter enforcement of vehicle load limits and penalties for violations by FRSC and transport authorities. The study provides relevant local insights but its relatively small sample size and reliance on perceptions may limit the accuracy and representativeness of its findings. Furthermore, the mixed-method

design is not fully leveraged, as the integration of qualitative and quantitative data appears limited, reducing the depth of its conclusions.

Amoadu, Ansah, & Sarfo (2024) examined the influence of psychosocial work factors (job demands and job resources) on safety incidents among long-distance bus drivers in Ghana, with a focus on the mediating role of psychological well-being. Conducted within the transport industry, this cross-sectional survey involved 7,315 long-distance bus drivers commuting from Accra and Tema to other parts of Ghana and the West African sub-region. Data were analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Findings revealed that job demands and job resources significantly influenced safety incidents, with psychological well-being playing a partial mediating role. The study emphasised the importance of supportive work environments, effective communication strategies, and periodic assessments to enhance driver safety and well-being.

Amoadu, Tetteh Commey and Ansah (2025) investigated how driving fatigue mediates the relationship between job demands, job security, and safety incidents among long-distance bus drivers in Ghana. This survey-based study used a sample of 7,315 drivers selected through convenience sampling. Data were analysed using PLS-SEM with SmartPLS version 4. Results showed significant positive associations between job demands, job security, and safety incidents, with driving fatigue acting as a partial mediator. The study underscored the crucial link between job stressors and driving performance, advocating for improved working conditions and fatigue management programs. It recommended collaborative efforts among transport authorities, policymakers, and stakeholders to enforce supportive work environments and enhance road safety.

Ujoatuonu, Ahmed, Kanu, Amazue and Anene (2018), examined the relationship between fatigue severity and financial self-efficacy as predictors of anxiety related to pre-retirement among nurses in Nigeria. A total of 254 staff nurses, including 60 men and 194 women, participated from six hospitals located in South-eastern Nigeria. The ages of participants varied between 50 and 60 years (Mean = 55, SD = 8.93 years). Data collection utilized three instruments: the Fatigue Severity Scale, the Financial Self-efficacy Scale, and the Pre-retirement Anxiety Scale. Two hypotheses were formulated for this study. The analysis results indicated that fatigue severity significantly predicted pre-retirement anxiety. Nigerian nurses experiencing higher levels of fatigue severity also reported higher levels of pre-retirement anxiety. Financial self-efficacy did not show a significant correlation with pre-retirement anxiety and did not serve as a significant predictor. This paper provides a unique contribution to the research focused on mental health in occupational settings within healthcare. It is plausible that there may be moderating variables that could mitigate the influence of fatigue severity on pre-retirement anxiety, suggesting a potential avenue for future research in this field.

Oderinde, Ajala and Akintunde (2024), investigates how work overload affects the well-being of lecturers at Obafemi Awolowo University in Ile-Ife, Nigeria. Work overload is a prevalent challenge for academic staff, and it can result in adverse effects on their physical and mental health. To explore the influence of work overload on lecturers' well-being, the article delves into the concepts of stress and work overload. The paper also examines possible strategies for managing and reducing work overload among lecturers. Utilizing a qualitative methodology, the study gathers data from secondary sources, including newspapers, academic journals, textbooks, theses, and dissertations, among others. The results reveal that lecturers experience significant levels of work overload, which negatively affects their physical and mental health. The study

emphasizes the necessity for intervention strategies to tackle work overload and enhance the well-being of lecturers at Obafemi Awolowo University. In conclusion, this research finds that work overload adversely impacts the well-being of lecturers at Obafemi Awolowo University in Ile-Ife, Nigeria.

Table 2.1. Summary of empirical review

S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings
Safety culture and employee well-being				
1	Ishola (2017). Workplace safety management as correlates of wellbeing among factory workers in Oluyole industrial estate, Ibadan, Oyo State Nigeria.	Manufacturing companies in Oyo State, Nigeria's	Survey, Descriptive statistics and Pearson correlation analysis	Safety training and equipment design had no significant impact on employees' well-being. However, a positive correlation was found between regular equipment maintenance and employees' well-being.
2	Omofowa et al. (2021). Safety culture maturity: Assessment approaches and implications for organizational performance.	Nigeria/Glass manufacturing	Regression analysis, PLS-SEM	Training, leadership quality, and safe work procedures positively impact employee health and safety; organizational culture mediates this relationship.
S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings
3	Chukwuma (2023). The impact of safety culture on workers' safety performance in the Nigerian oil and gas industry	Nigeria/Oil and gas	Mixed-method approach (qualitative and quantitative)	Safety management techniques promote safety participation and compliance; work experience influences safety involvement; effective safety

				communication and incentives are crucial.
4	Ehiaguina et al. (2024). Safety culture and its impact on workers' performance in the Nigerian oil and gas industry	Nigeria/Oil and gas	Cross-sectional survey	Safety management significantly relates to safety participation and compliance; work experience influences safety participation; age affects safety compliance.
5.	Leje, M. I., & Abdullahi, A. H. (2025). Assessment of organisation culture on artisans' safety performance in indigenous construction firms in Abuja.	Construction firms in Abuja.	Normality testing and the Relative Importance Index (RII), multiple regression analysis.	A strong link between a positive safety culture and improved safety performance, while also revealing ongoing issues like inadequate training, a lack of proper safety equipment, and communication failures.
6.	Rosid, Sundari, Sofyan and Hartoto (2024), Financial Health Management and Its Impact on Company Employee Welfare: Case Study in the Manufacturing Industry.	Manufacturing Industry.	Mixed-methods approach	The findings indicate that companies with good financial management tend to have more satisfied, mentally healthy, and financially stable employees.
S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings

7	Amirah et al. (2024). The impact of leadership commitment on safety culture and organizational performance in manufacturing industries.	Manufacturing sector	Quantitative approach, SEM	Safety compliance and safety leadership significantly influence safety culture; prioritizing safety behaviour enhances occupational safety and health.
Safety training and awareness and employee wellbeing				
8.	Adim & Mezeh (2020). Health and safety training and employee performance in oil and gas companies in south-south Nigeria	Nigeria/Oil and gas	Cross-sectional survey, Spearman Rank Order Correlation	Significant positive relationship between health and safety training and employee performance.
9.	Duru, H. (2024). Exploring the Relationships between Teachers' Perceptions of their Financial Well-Being, School Safety and Work Environment, Burnout, Self-Efficacy, and Job Satisfaction: A Mixed Methods Study	Education.	Mixed Methods Research (MMR).	The findings indicated a statistically significant relationship between teachers' financial well-being (TFWB) and teachers' job satisfaction (TJS).
10.	Okechukwu & Onyia (2022). Occupational health, safety practices and employee performance in manufacturing firms in Enugu State.	Nigeria/Manufacturing (food and beverage)	Survey, Pearson correlation coefficient, Regression analysis	Positive and significant relationship between safety planning and manufacturing output, and between training programs and service quality.
S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings

11.	Bello et al. (2024). The role of Health and Safety programs in curbing occupational accidents at Tin Can Port, Apapa, Lagos.	Nigeria/Tin Can Port	Proportionate random sampling, Multiple regression analysis	Stress management programs, safety training programs, emergency preparedness, and compliance with regulations significantly reduce occupational accidents.
12.	Anyabor et al (2024). Safety culture and employees' performance in safety-related units of south-east teaching hospitals.	Teaching hospitals in south east in Nigeria.	It employed a descriptive and correlation research design	The study's findings revealed significant positive correlations job resources, maintaining steady communication, and conducting safety training programmes are crucial for enhancing healthcare workers' perceived value on safety.
13.	Onunwor (2025). Workplace safety management strategies and employee performance at the National Agency for Food, Drug and Administrative Control.	Nigeria/NAFDAC	Explanatory research design, Spearman Rank Correlation Coefficient.	Significant relationship between workplace safety management strategies (safety training, safety incentives, and safety communication) and employee performance.
Protective measures and employee wellbeing				
14.	Umoh & Torbira (2013). Safety practices and employee productivity in manufacturing industries in Nigeria.	Nigeria/Manufacturing	Survey research, Inferential statistics	Positive relationship between safety practices (safety equipment, legal policies, employer compliance) and employee productivity
S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings

15.	Adebayo (2015). Human factors integration in workplace safety: Bridging the gap between system design and operational reality	Nigeria/Commercial driving	Survey research, Linear regression	Driving under the influence of alcohol, excessive speeding, and other factors contribute to road traffic accidents among commercial drivers.
16.	Uzundu (2019) Understanding the influence of driver behaviour on accident risks: A critical review of models and interventions.	Nigeria/Driving	Multi-method approach (TCT, driving simulator, focus group)	Road safety culture influences driver behaviour more than road environment changes; locally adapted interventions are necessary.
17.	Okafor et al. (2023). Assessment of safety practices among commercial long distance bus drivers in Benin City.	Nigeria/Commercial bus driving	Descriptive cross-sectional study, Questionnaires, Focus group	Common safety practices (seat belt use, daily checks) and unsafe practices (speeding, phone use) among commercial bus drivers; regular training and enforcement recommended.
18.	Ani & Ani (2025). Health, safety and Environmental measures among bus drivers in Lagos State, Nigeria.	Nigeria/Commercial bus driving	Descriptive research, Questionnaires =	Poor compliance with health and safety measures contributes to road accidents; stricter enforcement, public awareness, and driver training recommended.
19	Juba, O. O. (2024). The Economic Impact of Workplace Safety Investments in Aged Adult Care: Balancing Carer Well-Being and Organisational Profitability.	Health Sector	mixed-methods	The findings indicated a significant statistical correlation between safety-related investments and improved performance outcomes within organizations.
S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings

Welfare scheme and employee well-being				
20.	Usumokoro et al. (2023). Employee welfare and organizational effectiveness in oil and gas firms in Bonny Island, Rivers State.	Nigeria/Oil and gas	Survey research, Pearson correlation	Significant positive relationship between employee welfare (vacation policy, insurance policy, workplace safety) and organisational effectiveness.
21	George (2024). Employee welfare package on organizational performance in Waterclean Nig. Ltd. Akwa Ibom State.	Nigeria/Water treatment	Correlational research, Pearson correlation	Significant relationship between staff welfare packages and organisational performance, with welfare packages enhancing motivation and productivity.
22.	Babbah (2024). Welfare packafe and Employee productivity in selected establishement in Bida Local Govt, Niger State.	Nigeria/Selected establishments	Descriptive research, Multistage sampling, Correlation tests	Strong positive relationship between welfare packages and productivity; sufficient welfare packages linked to organisational development; enhanced welfare benefits associated with increased motivation and job satisfaction.
23.	Oni-Eseleh, O. D., & Badaiki, A. D. (2024). The financial well-being and quality of life of older adults in Nigeria.	Administrative sector.	Qualitative Approach.	The results showed variations in the experiences, financial status, and quality of life between those who retired under the pension system prior to the Pension Reform Act of 2014 and those who retired afterward.
S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings
Work fatigue control and employee well-being				

24.	Useche et al. (2017). Work fatigue and its impact on employee performance: A systematic review.	Colombia/Bus Rapid Transit	Cross-sectional survey, SEM	Job strain, effort-reward imbalance, and social support influence risky driving behaviours; fatigue and need for recovery mediate relationships.
25.	Singh & Kathuria (2023). Opportunity, motivation and bus drivers' intention to commit traffic violations	India/Bus Rapid Transit	Survey, EFA	Behavioural factors (violations, errors, positives), education, driving experience, and alcohol consumption predict crash involvement.
26.	Owoeye et al. (2024). Assessment of Overloading and Safety Problems of Intercity Public Passenger Transport Along Minna-Suleja Road, Niger State	Nigeria/Intercity public transport	Mixed-method approach	Overloading is a significant issue; nonchalant driver attitudes and vehicle integrity are primary causes and effects; stricter enforcement.
27.	Amoadu et al. (2024). Psychosocial work factors affecting safety incidents of long-distance bus drivers in Ghana: Mediating role of psychological well-being	Ghana/Long-distance bus driving	Cross-sectional survey, PLS-SEM	Job demands and job resources influence safety incidents; psychological well-being plays a partial mediating role.
28.	Amoadu et al. (2025). Mediating role of fatigue driving in the influence of job demand and insecurity on safety incidents among bus drivers	Ghana/Long-distance bus driving	Survey, PLS-SEM	Driving fatigue partially mediates relationships between job demands, job security, and safety incidents; improved working conditions and fatigue management recommended.
S/N	Author (year)/Title of Research	Location/industry	Methodology	Findings

29.	Ujoatuonu, I. V., Ahmed, B. K., Kanu, G. C., Amazue, L. O., & Anene, C. C. (2018). Fatigue severity and financial self-efficacy as predictors of pre-retirement anxiety among Nigerian Nurses.	Health Sector.	Quantitative Analysis: survey research.	The analysis results indicated that fatigue severity significantly predicted pre-retirement anxiety. Nigerian nurses experiencing higher levels of fatigue severity also reported higher levels of pre-retirement anxiety.
30.	Oderinde, Ajala and Akintunde (2024). A critical analysis of the impact of work overload on lecturers' well-being: a case of Obafemi Awolowo University, Ile-Ife, Nigeria	Education.	Qualitative methodology.	The results reveal that lecturers experience significant levels of work overload, which negatively affects their physical and mental health.

2.9 Gaps in the Literature

The existing body of research has explored various dimensions of workplace safety, including safety culture, training and awareness, protective measures, welfare schemes, and work fatigue across multiple sectors such as manufacturing, oil and gas, transportation, and regulatory industries. Studies on safety culture (Amirah et al., 2024; Omofowa et al., 2021; Chukwuma, 2023; Ehiaguina et al., 2024) have predominantly examined its influence on safety behaviour, organizational culture, and safety performance, with a focus on the manufacturing and oil and gas industries. Similarly, research on training and awareness (Adim & Mezeh, 2020; Okechukwu & Onyia, 2022; Bello et al.; Onunwor, 2025) has emphasised its role in enhancing employee performance and accident prevention, particularly in sectors such as food and beverage, port operations, and regulatory agencies. Studies on protective measures (Umoh & Torbira, 2013; Adebayo, 2015; Uzundu, 2019; Ani & Ani, 2025; Okafor et al., 2023) have largely focused on

compliance, road safety culture, and driver behaviour, while research on welfare schemes (George, 2024; Babbah, 2024; Sarah et al., 2023) has analyzed their impact on employee productivity and organizational effectiveness. Additionally, work fatigue studies (Amoadu, Ansah, & Sarfo, 2024; Amoadu, Tetteh Commey, & Ansah, 2025; Owoeye et al., 2024; Useche, Ortiz, & Cendales, 2017; Singh & Kathuria, 2023) have examined job demands, fatigue, and risky driving behaviours among bus and BRT drivers in Ghana, Nigeria, and Colombia.

Despite these contributions, significant methodological, conceptual, and locational gaps persist in the literature. Methodologically, previous studies have predominantly relied on quantitative approaches, often overlooking the practical, on-ground realities and personal interpretations of safety and well-being that drivers actually live through. While quantitative methods provide statistical insights, they fail to capture the subjective perspectives of drivers regarding safety culture and well-being. Conceptually, most studies have linked safety culture to compliance, accident prevention, and safety performance without directly examining its impact on drivers' physical, mental, and emotional well-being. Similarly, training and awareness programs have been studied in relation to employee performance and accident reduction, yet their influence on driver well-being remains unexplored. Research on protective measures has primarily focused on road safety compliance and accident determinants, neglecting a holistic assessment of drivers' well-being. Furthermore, welfare scheme studies have analyzed organizational benefits without considering how safety culture influences drivers' health outcomes.

Locationally, most existing research has been conducted in other Nigerian states or international contexts, leaving a critical gap in understanding the specific experiences of drivers in Benin City. To address these shortcomings, a mixed-methods approach is essential. A combination of quantitative and qualitative methods will allow for a more comprehensive exploration of the

relationship between WHSMP and drivers' well-being. The quantitative component will provide measurable insights into the prevalence and impact of safety culture, while the qualitative component will offer in-depth narratives on drivers' lived experiences. By employing this approach, the study will bridge methodological limitations in existing research and generate a more nuanced understanding of how WHSMP affects drivers' well-being in Benin City's transportation sector.

CHAPTER THREE

METHODOLOGY

3.1 Preamble

This chapter presents the study's research method. It gives an overview of the methodology and strategies that will be used in the course of this research work. Specifically, the chapter discusses the study research design, target population, research instrument used, sampling size technique, data collection instrument, reliability and validity and data analysis and presentation.

3.2 Research Design

This study employed a mixed method research design, combining quantitative survey data with qualitative insights using interviews with an emphasis on quantitative method to pursue a challenging and in-depth analysis of employees of transportation companies in relation to workplace health and safety management practice and their well-being. The survey design enabled the collection of data from a large sample of participants using standardised research instruments such as questionnaires (Creswell & Creswell, 2017), and interview follow up on notable findings to explain mechanisms or lived experiences (Creswell and Plano-Clark, 2018) thereby allowing the researcher to obtain a comprehensive understanding of the nature of workplace health and safety management practiced in these transportation companies and the level of employee well-being. Since the study will be carried out within a year, it is, therefore, a cross-sectional study.

3.3 Population of the Study

The study was carried out among selected private interstate transportation companies in Benin City, Edo State. The population of the study focused on drivers of transport companies in Benin City, Edo State. Data obtained from the Edo State Ministry of Transport, Edo State, reveals that there are eighteen (18) registered transport companies in Benin City as of December 2024. Ten

(10) transportation companies whose operations have spanned over a decade in the transportation business were selected from the list. They include Big Joe Motors, God is Good Motors (GIGM), Iyare Motors, Peace Mass Transit, Faith Motors, Muyi Line, Efex Executive, Edegbe Motors, Ameosa Motors, and Eagle Line. The justification for selecting these transportation companies was to ensure quality and reliable data and ease of access for the researcher. The population of interest will be the drivers in these various transportation companies because these workers are always in the field and constantly faced with health and safety hazards. The data for the population of the selected transport companies are presented in the table below.

Table 3.1 Selected transport companies in Benin City.

S/N	Transport company	Years of operation	No of Drivers
1.	Big Joe motors	35 years	110
2.	Iyare motors	Over 25 years	80
3.	Faith motors	22 years	125
4.	God is good motors	37 years	89
5.	Peace mass transit	30 years	90
6.	Muyi line	Over 15 years	69
7.	Edegbe Motors	35 years	88
8.	Efex executive motors	Over 20 years	85
9.	Ameosa Motors	14 years	65
10.	Eagle line	Over 25 years	87
	Total		888

Source: Management of the transport companies (2025)

3.4 Sample Size

For the quantitative analysis, the sample size to which this study generalized its findings is on drivers of transport companies. The study borders on WHSMP, and employee well-being. For the purpose of this research, the researcher will adopt the Yamane (1967) formula.

The sample size was arrived at using the formula as suggested by Yamane (1967) as

$$n = \frac{N}{1 + Ne^2}$$

Where:

n = Sample size;

N = Total population;

e = margin of error i.e., desired level of significance, (in this case is 5%).

$$n = 888/1+[888x(0.05 x 0.05)]$$

$$= 888/3.22$$

$$= 275\text{Appr.}$$

$$n = 275$$

In survey research, it's a standard practice to increase the calculated sample size by a certain percentage (often between 10% to 30%) to account for non-response, incomplete responses, or attrition. This helps ensure that the final number of usable responses still meets the minimum required for statistical analysis (Dilman, Smyth, & Christian, 2014).

To account for potential non-response and incomplete returns, the researcher increased the total number of questionnaires distributed by an additional 20% beyond the calculated sample size. This approach follows established recommendations in survey methodology to mitigate the impact of attrition on data quality and representativeness (Creswell & Creswell, 2018).

$$n = \text{Sample size} + (20\% \text{ of sample size}) = 276 + (0.20 * 276)$$

$$n = 276 + 55.2$$

$$n = 331.2$$

$$= 331 \text{ approximately}$$

For the qualitative analysis, approximately 4 to 8 participants, or until data saturation is reached.

3.5 Sampling Technique

In order to ensure that there is a proportional representation of employees across the selected transportation companies, a stratified random sampling was performed to obtain proper representation. For this to be possible, Pandey and Verma (2008) formula for proportional allocation was applied. It states as follows:

$$n_i = n \left(\frac{N_i}{N} \right)$$

Where n_i = sample size estimate;

N_i = population size for stratum i ;

N = Total population

The Table shows the sample size determination for each of the companies using the Pandey and Verma (2008) formula

Table 3.2: Sample size determination of selected transport companies in Benin City

S/N		Population	$n_i = n \left(\frac{N_i}{N} \right)$	Sample Estimate
01	Big joe	110	$= 331 \times \left(\frac{110}{888} \right)$ $= 41.044$	41
02	Iyare motors	70	$= 331 \times \left(\frac{80}{888} \right) = 29.820$	30
03	Faith motors	125	$= 331 \times \left(\frac{125}{888} \right) = 46.593$	47
04	God is good	89	$= 331 \times \left(\frac{89}{888} \right) = 33.174$	33
05	Peace mass transit	90	$= 331 \times \left(\frac{90}{888} \right) = 33.447$	33
06	Muyi line	69	$= 331 \times \left(\frac{69}{888} \right) = 25.720$	26
07	Edegbe Motors	85	$= 331 \times \left(\frac{88}{888} \right) = 32.801$	33
08	Efex executive motors	75	$= 331 \times \left(\frac{85}{888} \right) = 31.684$	32
09	Ameosa Motors	55	$= 331 \times \left(\frac{65}{888} \right) = 24.229$	24
10	Eagle line	87	$= 331 \times \left(\frac{87}{888} \right) = 32.429$	32
	Total	888		331

Source: Researcher’s Compilation (2025)

3.6 Model Specification

The study’s model was stated in its functional and econometric form. The functional form provides the perceived relationship between the independent variable (workplace health and safety management practices such as safety culture, safety training, welfare scheme, and work fatigue control) and the dependent variable (employee well-being). Hence employee-well-being is a function of the various dimensions of workplace health and safety management practices.

This is stated functionally as:

$$EMW = f(SFC, SFT, PRM, WFS, WFC) \tag{1}$$

Since employee well-being is proxy by physical, mental, emotional, and financial well-being, four (4) models showing the relationship between the various proxies of the dependent variable in relation to the independent variables are derived in the econometric form as follow:

Model 1: Relationship between physical well-being and workplace health and safety management practices

$$PWB = \alpha_0 + \alpha_1 SFC + \alpha_2 SFT + \alpha_3 PRM + \alpha_4 WFS + \alpha_5 WFC + e \quad (2)$$

Model 2: Relationship between mental well-being and workplace health and safety management practices

$$MWB = \beta_0 + \beta_1 SFC + \beta_2 SFT + \beta_3 PRM + \beta_4 WFS + \beta_5 WFC + t \quad (3)$$

Model 3: Relationship between emotional well-being and workplace health and safety management practices

$$EWB = \lambda_0 + \lambda_1 SFC + \lambda_2 SFT + \lambda_3 PRM + \lambda_4 WFS + \lambda_5 WFC + v \quad (4)$$

Model 4: Relationship between financial well-being and workplace health and safety management practices

$$FWB = \Omega_0 + \Omega_1 SFC + \Omega_2 SFT + \Omega_3 PRM + \Omega_4 WFS + \Omega_5 WFC + u \quad (5)$$

Where;

SFC = Safety culture

SFT = Safety training

PRM = Protective measure

WFS = Welfare scheme

WFC = Work fatigue control

EMW = Employee wellbeing

PWB = Physical wellbeing

MWB = Mental wellbeing

EWB = Emotional wellbeing

FWB= Financial Well-being

$\alpha_0, \beta_0, \lambda_0, \Omega_0$ = Constant Intercept for each model

$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \lambda_1, \lambda_2, \lambda_3, \lambda_4, \lambda_5, \Omega_1, \Omega_2, \Omega_3, \Omega_4, \Omega_5$ = Regression coefficient of independent variables

e, t, v, u = Error terms for each model

The *a priori* expectation are stated thus: ω

$$\text{Model 1: } \alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5 > 0 \quad (6)$$

$$\text{Model 2: } \beta_1, \beta_2, \beta_3, \beta_4, \beta_5 > 0 \quad (7)$$

$$\text{Model 3: } \lambda_1, \lambda_2, \lambda_3, \lambda_4, \lambda_5 > 0 \quad (8)$$

$$\text{Model 4: } \Omega_1, \Omega_2, \Omega_3, \Omega_4, \Omega_5 > 0 \quad (9)$$

3.7 Measurement of Variables

For this study, proxy variables for workplace health and safety management practices will be measured by adopting the measurement from various sources such as safety culture (Cooper & Phillips, 2004); safety training and awareness (Burke, Sarpy, Tesluk, & Smith-Crowe, 2006); Protective measures (Hahn & Murphy 2008); welfare scheme (Eisenberger, Huntington, Hutchison, & Sowa, 1986); and work fatigue control (Dawson & McCulloch, 2005). Similarly, employee well-being will be measured by adopting measurement scales such as physical well-being (Diener et al. 2010); mental well-being (Keyes et al 2008); and emotional well-being (Watson et al 1988). The workplace health and safety management practices will be 20-item, 5-point Likert scale, while the employee-wellbeing variables will be 12-item, 5-point Likert Scale. The details of how the variables will be measured are presented in table 3.3.

Table 3.3 Operationalisation and measurement of variables

S/N	Variables	Operationalisation	Measured Scale	No.in Questionnaire	
1.	Marital Status	Whether the respondents are married or not	3 Point Category Scale	Q1	
2.	Age	The respondents age as at their last birthday	4 Point Category Scale	Q2	
3.	Educational Qualification	The literacy level of the respondents	4 Point Category Scale	Q3	
4.	Years of Experience	The duration of working in the company	6 Point Category Scale	Q4	
5.	Number of trips daily	The number of trips a driver is involved in daily.	3 Point Category	Q5	
Independent Variables					Source
6.	Safety culture	Safety culture refers to the shared values, attitudes, and practices that prioritize safety within an organization	5 Point Likert Scale	Q6-8	Cooper & Phillips, 2004
7.	Safety training and awareness	The provision and participation in training programmes, workshops, and activities that educate employees on safety procedures and protocols.	5 Point Likert Scale	Q9-11	Burke, Sarpy, Tesluk, & Smith-Crowe, 2006
8.	Protective measures	The policies, procedures, and equipment in place to prevent or mitigate workplace accidents and injuries.	5 Point Likert Scale	Q12-14	Hahn & Murphy 2008
9.	Welfare scheme	Programs, policies, and benefits provided by an organisation to support the physical, emotional, and mental well-being of its employees	5 Point Likert Scale	Q15-17	Eisenberger, Huntington, Hutchison, & Sowa, 1986
10.	Work fatigue control	The strategies, policies, and practices implemented by an organization to prevent, manage, and reduce employee fatigue.	5 Point Likert Scale	Q18-20.	Dawson & McCulloch, 2005

Independent Variables					
S/N	Variables	Operationalisation	Measured Scale	No.in Questionnaire	Source
11.	Physical well-being	Overall physical health, including their energy levels, physical functioning, and freedom from illness and injury.	5 Point Likert Scale	Q21-23.	Diener, Writz, Tov, Kim-Prieto, Choi, Oishi & Biswas-diener, 2010
12.	Mental well-being	Overall mental health, including cognitive functioning, and ability to cope with stress.	5 Point Likert Scale	Q24-26.	Keyes, Wissing, Potgieter, Temane, Kruger & Van Rooy, 2008
13.	Financial well-being	Individuals overall financial health both current and future financial obligations	5 Point Likert Scale	Q27-29.	Consumer Financial Protection Bureau, 2017.
14.	Emotional well-being	Ability to recognize and manage their emotions, maintain positive relationships, and respond to challenges in a resilient and adaptive way.	5 Point Likert Scale	Q30-32.	Watson, Clark, Tellegen, 1988

Source: Researcher's Compilation (2025)

3.8 Sources of Data Collection

The data that will be used in this study is primary data and will be obtained with the aid of a questionnaire. The questionnaire will consist of two sections, Section A and B. Section A captures demographic characteristics, Section B captures dimensions of the study independent variables (WHSMP), and the dependent variable (Employee well-being) within selected transportation companies in Benin City. The questionnaire is a 5-point Likert scale measurement with Strongly Agree (5), Agree (4), Undecided (3), Disagree (2) and Strongly Disagree (1). Semi-structured interviews will be used to explore the personal experiences with workplace safety with the well-being of the respondents.

3.9 Validity and Reliability of the Survey Research Instrument

Since the items used in the research instrument were adopted from several other studies, other researchers have made effort to standardize the research items. To further ensure face validity, the words originally used for the different items was given to my supervisor to critically examine the structure of the questions, especially those related to the objectives of the study. All the necessary suggestions have been effected accordingly. To further ensure the reliability of the questionnaire, a pilot survey was conducted. A total of 23 (twenty-three) copies of the questionnaire was administered to respondents who are not be part of the sample size but constitute the population. The pre-test conducted was coded and subjected to Cronbach alpha reliability test using the statistical package for social science (SPSS) version 25. Cronbach-Alpha test developed by Lee Cronbach in 1951. Field (2009) suggested minimum Cronbach-Alpha of 0.70 (70%) as appropriate for any questionnaire administration.

Table 3.4. Reliability of research instrument

S/N	Questionnaire Items	Number of items	No in questionnaire	Cronbach's Alpha Value
1	Safety culture	3	Q.6 – 8	0.716
2	Safety training and awareness	3	Q.9-11	0.730
3	Protective measures	3	Q.12-14	0.844
4	Welfare scheme	3	Q.15-17	0.792
5	Work fatigue	3	Q.18-20	0.811
6	Physical well-being.	3	Q.21-23	0.789
7	Mental well-being	3	Q.24-26	0.712
8	Financial well-being	3	Q.27-29	0.755
9	Emotional well-being	3	Q.30 – 32	0.833

Source: Researcher, 2025.

Therefore, the Cronbach's Alpha value for each construct as shown in the table above are greater than 0.7. This means that the instruments are reliable enough to elicit the necessary information from the respondents

3.10 Method of Analysis

3.10.1 Quantitative Analysis

The usable retrieved questionnaire was subjected to descriptive and inferential statistics, Descriptive statistics included frequency, percentages, mean and mean indexes while the inferential statistics was multiple regression analysis. To do this, the questionnaires that have been filled out went through a process of sorting, checking, and editing to ensure their completeness and hence usability. The usable questionnaire was subjected to analysis using the Statistical Package for Social Science (SPSS) software version 25. While the questionnaire five (5) Likert scale question adopted strongly agree as 5, agree as 4, undecided as 3, disagree as 2 and strongly disagree as 1. To interpret the regression output, the study adopted a 0.05 level of significance.

3.10.2 Qualitative Analysis

Also, the recorded interview was translated into a document, transcribed, and coded using the NVIVO software. Furthermore, thematic analysis was used to identify recurring patterns, themes, and unique insights related to safety culture and worker experiences.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Preamble

The results of the analysis of the information gathered from the questionnaires that were sent to respondents and successfully returned are presented in this chapter. Surveys that were successfully recovered using computer software (Statistical Packages for Social Sciences, SPSS version 25) were used to collect estimates. Before being examined and assessed, they were divided into headers and subheadings. This covers data presentation and interpretation, hypothesis testing, and a discussion of the outcomes.

4.2 Response Rate

Table 4.1: Response rate

Questionnaire administration	Frequency	Percentage %
Number issued	275	100
Number of invalid responses	-	-
Number of valid responses	275	100

Source: Fieldwork (2025)

The response rate in Table 4.1 indicates that all 275 questionnaires administered were duly completed and returned, representing a 100% valid response rate with no invalid responses recorded. This exceptionally high response rate suggests strong cooperation and commitment from the respondents in the transportation companies surveyed, thereby enhancing the reliability and credibility of the data collected for examining the relationship between workplace health and safety management practices and employee well-being.

4.3 Presentation of Data on Demographic Background

This section sought to establish the background information of the respondent. This information was useful in determining the answers of the respondents in relation to their demography. This section also intended to use this data to investigate if the sample was representative of the population.

Table 4.2: Demographic profile of respondents

S/N	Demographic Characteristics	Attributes	No	Percentages
1	Marital status	Single	100	36.4
		Married	155	56.4
		Divorced	20	7.3
		Total	275	100.0
2	Age category	18-29	56	20.4
		30-39	126	45.8
		40-49	60	21.8
		50 and above	33	12.0
		Total	275	100.0
3	Educational qualification	Primary school certificate	27	9.8
		Secondary school certificate	94	34.2
		Diploma	61	22.2
		Graduate	93	33.8
		Total	275	100.0
4	Years of experience	Less than 5 years	88	32.0
		6- 10 years	134	48.7
		11 – 15 years	41	14.9
		15-20 years	6	2.2
		20 years and above	6	2.2
		Total	275	100.0
5	Number of trips daily	1 trip	64	23.3
		2 trips	100	36.4
		3 trips and above	48	17.5
		Relative	63	22.9
		Total	275	100.0

Source: Fieldwork (2025)

Marital Status: Table 4.2 shows that the majority of respondents (56.4%) were married, followed by 36.4% who were single, while only 7.3% were divorced. This indicates that most employees in the transportation companies surveyed are married, which may influence their perception of workplace health and safety management practices and their overall well-being, given the family responsibilities they bear.

Age Category: The distribution by age reveals that the largest proportion of respondents (45.8%) fell within the 30–39 age bracket, followed by 21.8% aged 40–49, and 20.4% between 18–29 years. Only 12.0% were 50 years of age or older. This suggests that the workforce is relatively youthful and in their active working years, which is important for understanding how different age groups experience workplace safety and well-being.

Educational Qualification: The educational profile of respondents indicates that 34.2% had secondary school certificates, 33.8% were graduates, and 22.2% held diplomas, while only 9.8% had primary school certificates. This shows that the majority of employees possess at least a secondary education, suggesting that they have a fair level of literacy and understanding, which could enhance their awareness and perception of workplace health and safety practices.

Years of Experience: Regarding work experience, the highest proportion of respondents (48.7%) had between 6–10 years of experience, followed by 32.0% with less than 5 years. Meanwhile, 14.9% had 11–15 years of experience, while only 2.2% each had between 15–20 years and above 20 years. This reflects a workforce that is relatively experienced but still dominated by those in the early to mid-stages of their careers, which may shape their attitudes toward safety and well-being.

Number of Trips Daily: In terms of workload, 36.4% of respondents reported making 2 trips daily, followed by 23.3% who made 1 trip, and 17.5% who made 3 trips or more. Additionally,

22.9% indicated “relative,” which reflect irregular or flexible trip patterns. This variation in trip frequency provides insight into the level of physical and mental demands placed on employees, which could have implications for workplace safety and well-being.

Table 4.3: Respondents’ perception of safety culture

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
6	My company has written and communicated safety policies that we adhere to.	99 36.0%	135 49.1%	28 10.2%	7 2.5%	6 2.2%	4.14	.86
7	Emergency response plans (e.g., fire evacuation, first aid) are well-established and tested periodically.	104 37.8%	117 42.5%	41 14.9%	9 3.3%	4 1.5%	4.12	.88
8	Employees are encouraged to report hazard/accident cases without fear of reprisal.	81 29.5%	142 51.6%	43 15.6%	7 2.5%	2 0.2%	4.07	.78
Grand mean and standard deviation							4.11	0.84

Source: Researcher’s fieldwork (2025)

The results in Table 4.3 indicate that respondents generally agreed with the statements on safety culture in their companies, as all mean scores were above the threshold of 3.0. Specifically, the statement “*My company has written and communicated safety policies that we adhere to*” recorded the highest mean score of 4.14 (SD = 0.86), showing strong agreement that safety policies are in place and well communicated. Similarly, the statement on “*Emergency response plans (e.g., fire evacuation, first aid) are well-established and tested periodically*” had a mean of 4.12 (SD = 0.88), suggesting that most employees believe emergency measures are properly organized and regularly tested. Furthermore, the item “*Employees are encouraged to report hazard/accident cases without fear of reprisal*” scored a mean of 4.07 (SD = 0.78), indicating agreement that an open reporting culture exists, though with slightly lower consensus compared to the other items.

The grand mean of 4.11 with a standard deviation of 0.84 reinforces that employees positively perceive the safety culture in their organizations, with relatively consistent views across respondents. This suggests that transportation companies in Benin City maintain proactive safety measures and a supportive environment that encourages adherence to policies, preparedness for emergencies, and transparent reporting of hazards.

Table 4.4: Respondents’ perception of safety training

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
9	I have received formal training on road safety and defensive driving	82 29.8%	139 50.5%	28 10.2%	16 5.8%	10 3.6%	3.97	.98
10	I know how to properly use the vehicle's safety features (e.g., seat belts, airbags).	93 33.8%	105 38.2%	43 15.5%	18 6.5%	16 5.8%	3.88	1.1 3
11	I feel confident in my ability to identify and report safety hazards.	72 26.2%	134 48.7%	42 15.3%	21 7.6%	6 2.2%	3.89	.95
Grand mean and standard deviation							3.91	1.02

Source: Researcher’s fieldwork (2025)

The findings in Table 4.4 reveal that respondents generally agreed on the adequacy and effectiveness of safety training provided by their companies, as all the mean scores are above the benchmark of 3.0. The highest-rated statement was “*I have received formal training on road safety and defensive driving*” with a mean of 3.97 (SD = 0.98), indicating that most employees acknowledged receiving structured training in safe driving practices. The statement “*I feel confident in my ability to identify and report safety hazards*” followed closely with a mean of 3.89 (SD = 0.95), showing that training initiatives have also enhanced employees’ awareness and confidence in recognizing and reporting potential risks. Similarly, the statement “*I know how to properly use the vehicle’s safety features (e.g., seat belts, airbags)*” recorded a mean of 3.88 (SD = 1.13), suggesting that while employees generally understand the use of safety features, there is slightly more variation in responses, as reflected in the relatively higher standard deviation.

The grand mean of 3.91 with a standard deviation of 1.02 indicates that respondents, on average, agreed positively with the adequacy of safety training programs in their organizations, though with some variations in individual experiences. This implies that transportation companies in Benin City have put in place relevant safety training mechanisms, but there may still be gaps in ensuring uniform participation and consistent knowledge transfer across all employees.

Table 4.5: Respondents' perception of protective measure

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
12	My company provides adequate personal protective equipment (PPE), such as reflective vests, back-support belts, hearing aids and first-aid kits for all employees	73 26.5%	111 40.4%	51 18.5 %	22 8.0%	18 6.5%	3.7 2	1.14
13	My company promptly replaces defective or missing safety tools, such as faulty seatbelts, bad spare tyres, when reported.	100 36.4%	116 42.2%	30 10.9 %	21 7.6%	8 2.9%	4.0 1	1.02
14	Regular safety inspections are conducted to identify potential hazards on vehicles and other equipment.	71 25.8%	129 46.9%	48 17.5 %	23 8.4%	4 1.5%	3.8 7	.94
Grand mean and standard deviation							3.87	1.03

Source: Researcher's fieldwork (2025)

The results in Table 4.5 show that employees generally agreed that their organizations implement protective measures, with all mean values above the decision benchmark of 3.0. The statement *“My company promptly replaces defective or missing safety tools, such as faulty seatbelts, bad spare tyres, when reported”* recorded the highest mean of 4.01 (SD = 1.02), suggesting that respondents strongly acknowledged management's responsiveness in maintaining functional safety equipment. The statement *“Regular safety inspections are conducted to identify potential hazards on vehicles and other equipment”* followed closely with a mean of 3.87 (SD = 0.94), indicating a positive perception that routine checks are carried out to prevent risks, though some

respondents expressed uncertainty or disagreement. Conversely, the lowest-rated statement was “*My company provides adequate personal protective equipment (PPE), such as reflective vests, back-support belts, hearing aids and first-aid kits for all employees*” with a mean of 3.72 (SD = 1.14). This suggests that while many respondents agreed PPE is provided, there were wider variations in responses, reflecting possible inadequacies or inconsistencies in PPE distribution. The grand mean of 3.87 with a standard deviation of 1.03 confirms an overall positive perception of protective measures, although variations across responses indicate that improvements are still needed particularly in ensuring consistent provision of personal protective equipment to all employees.

Table 4.6: Respondents’ perception of welfare scheme

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
15	Regular medical check-ups, such as vision tests, mental health support, are being provided as welfare.	54 19.6 %	92 33.5 %	35 12.7%	69 25.1 %	25 9.1%	3.2 9	1.29
16	My company has a well-structured retirement plan for its employees that is fully implemented	50 18.2 %	95 34.5 %	40 14.5%	53 19.3 %	37 13.5 %	3.2 5	1.32
17	This company provides adequate support for us with work-life balance issues.	75 27.3 %	88 32.0 %	34 12.4%	53 19.3 %	25 9.1%	3.4 9	1.32
Grand mean and standard deviation							3.34	1.31

Source: Researcher’s fieldwork (2025)

The findings in Table 4.6 indicate that respondents expressed only moderate agreement with the welfare schemes provided by their companies, as the mean scores are slightly above the 3.0 threshold. The highest-rated statement was “*This company provides adequate support for us with work-life balance issues*” with a mean of 3.49 (SD = 1.32), suggesting that employees generally acknowledge some level of organizational support in balancing work and personal life, though significant variation in responses reflects differing experiences among staff. The statement

“Regular medical check-ups, such as vision tests, mental health support, are being provided as welfare” recorded a mean of 3.29 (SD = 1.29), showing that while some employees benefit from medical welfare initiatives, many remain uncertain or dissatisfied with the adequacy of such provisions. Similarly, the lowest-rated statement was “My company has a well-structured retirement plan for its employees that is fully implemented” with a mean of 3.25 (SD = 1.32), highlighting that retirement benefits are perceived as weakly structured and inconsistently implemented across organizations.

The grand mean of 3.34 with a relatively high standard deviation of 1.31 reflects that employees’ perceptions of welfare schemes are mixed, with some acknowledging available support while others experience gaps, particularly in medical check-ups and retirement planning. This suggests that transportation companies in Benin City still need to strengthen their welfare programs to enhance employee well-being and long-term satisfaction.

Table 4.7: Respondents’ perception of work fatigue control

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
18	I can take some days off from work trips as needed to rest and recharge.	50 18.2 %	99 36.0 %	55 20.0%	45 16.4 %	26 9.5%	3.3 7	1.22
19	I feel that my workload is manageable and does not contribute to fatigue.	76 27.6 %	112 40.7 %	29 10.5%	37 13.5 %	21 7.6%	3.6 7	1.23
20	My work hours are properly tracked and monitored to prevent overworking.	58 21.1 %	121 44.0 %	34 12.4%	35 12.7 %	27 9.8%	3.5 4	1.23
Grand mean and standard deviation							3.53	1.23

Source: Researcher’s fieldwork (2025)

The results in Table 4.7 show that respondents moderately agreed that their organizations put measures in place to manage work-related fatigue, as reflected in mean values above the threshold of 3.0. The highest-rated statement was “I feel that my workload is manageable and does not contribute to fatigue” with a mean of 3.67 (SD = 1.23), suggesting that many

employees perceive their workload as balanced, though some still experience challenges given the relatively high standard deviation. The statement “*My work hours are properly tracked and monitored to prevent overworking*” followed with a mean of 3.54 (SD = 1.23), indicating that respondents generally believe time management practices exist, even though there are variations in implementation across companies. The lowest-rated statement, “*I can take some days off from work trips as needed to rest and recharge*” (mean = 3.37, SD = 1.22), suggests that while employees can sometimes rest, the level of flexibility and consistency in allowing breaks remains limited.

The grand mean of 3.53 with a standard deviation of 1.23 reflects an overall moderate agreement that transportation companies in Benin City have mechanisms for fatigue control, but with noticeable variations in employee experiences. This implies that while workload and working hours are fairly managed, greater improvements are needed in granting rest days and ensuring consistent fatigue management practices across organizations.

Table 4.8: Respondents’ perception of physical well-being

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
21	I have access to regular medical check-ups provided by my employer	27 9.8%	78 28.4 %	73 26.5 %	73 26.5 %	24 8.7%	3.0 4	1.14
22	I experience frequent body pains or fatigue due to prolonged sitting, driving, or carrying heavy loads.	71 25.8 %	100 36.4 %	48 17.5 %	35 12.7 %	21 7.6%	3.6 0	1.21
23	I feel that my physical health is good enough to support my well-being.	51 18.5 %	118 42.9 %	61 22.2 %	30 10.9 %	15 5.5%	3.5 8	1.08
Grand mean and standard deviation							3.41	1.14

Source: Researcher’s fieldwork (2025)

The findings in Table 4.8 indicate mixed perceptions of employees regarding their physical well-being. The statement “*I experience frequent body pains or fatigue due to prolonged sitting,*

driving, or carrying heavy loads” recorded the highest mean of 3.60 (SD = 1.21), suggesting that many respondents acknowledged health challenges arising from the physical demands of their work, though responses varied considerably. Similarly, the statement *“I feel that my physical health is good enough to support my well-being”* had a mean of 3.58 (SD = 1.08), showing that a majority believe their physical health is generally adequate despite the strains of their job. On the other hand, the lowest-rated statement was *“I have access to regular medical check-ups provided by my employer”* with a mean of 3.04 (SD = 1.14), indicating limited agreement that employers consistently provide health screening services, which may represent a gap in workplace health support.

The grand mean of 3.41 with a standard deviation of 1.14 suggests that while employees moderately agree that their physical well-being is maintained, there are notable concerns around work-induced body pains and insufficient employer-provided medical check-ups. This highlights the need for transportation companies in Benin City to improve access to regular health monitoring and introduce interventions aimed at reducing work-related physical strain.

Table 4.9: Respondents’ perception of mental well-being

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
24	My job does not cause excessive stress and anxiety.	37 13.5 %	104 37.8 %	55 20.0 %	51 18.5%	28 10.2 %	3.2 6	1.20
25	I can focus and concentrate on tasks without feeling overwhelmed.	51 18.5 %	114 41.5 %	39 14.2 %	62 22.5%	9 3.3%	3.4 9	1.13
26	I feel that I am in control of my life and able to make positive choices.	75 27.3 %	90 32.7 %	57 20.7 %	44 16.0%	9 3.3%	3.6 5	1.14
Grand mean and standard deviation							3.47	1.16

Source: Researcher’s fieldwork (2025)

The results in Table 4.9 show that respondents moderately agreed that their mental well-being is supported at work, with mean scores slightly above the benchmark of 3.0. The highest-rated

statement, “*I feel that I am in control of my life and able to make positive choices*” (mean = 3.65, SD = 1.14), suggests that many employees maintain a sense of personal control and resilience despite workplace challenges. The statement “*I can focus and concentrate on tasks without feeling overwhelmed*” recorded a mean of 3.49 (SD = 1.13), indicating that respondents generally feel capable of maintaining concentration, though a sizeable proportion expressed difficulty in managing mental strain. The lowest-rated item, “*My job does not cause excessive stress and anxiety*” (mean = 3.26, SD = 1.20), reveals that while some employees experience manageable stress, others face considerable anxiety linked to their job demands, as reflected in the wider spread of responses.

The grand mean of 3.47 with a standard deviation of 1.16 suggests that, on average, employees have a moderate level of mental well-being, but significant variations exist among respondents. This implies that while some employees effectively cope with stress and maintain focus, others remain vulnerable to job-related anxiety, highlighting the need for transportation companies in Benin City to strengthen mental health support systems such as counseling services, stress management programs, and workload adjustments.

Table 4.10: Respondents’ perception of financial well-being

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
27	I can meet my monthly expenses without difficulty	37 13.5 %	75 27.3%	60 21.8 %	73 26.5 %	30 10.9 %	3.0 5	1.23
28	I have a savings plan for emergencies	42 15.3 %	99 36.0%	52 18.9 %	53 19.3 %	29 10.5 %	3.2 6	1.23
29	I feel financially secure working in this company	58 21.1 %	113 41.1%	45 16.4 %	35 12.7 %	24 8.7%	3.5 3	1.21
Grand mean and standard deviation							3.23	1.22

Source: Researcher’s fieldwork (2025)

The results in Table 4.10 indicate that employees moderately agreed that their financial well-being is supported by their current employment. The highest-rated statement, “*I feel financially secure working in this company*” (mean = 3.53, SD = 1.21), suggests that a fair proportion of respondents consider their job stable enough to provide a sense of financial security, though the wide spread of responses shows varying levels of confidence among employees. The statement “*I have a savings plan for emergencies*” recorded a mean of 3.26 (SD = 1.23), indicating that while some employees are able to save, many are either uncertain or unable to set aside funds regularly. The lowest-rated statement, “*I can meet my monthly expenses without difficulty*” (mean = 3.05, SD = 1.23), reflects that many employees struggle to comfortably meet their monthly financial obligations, pointing to challenges in balancing income with living expenses. The grand mean of 3.23 with a standard deviation of 1.22 reveals an overall moderate but fragile perception of financial well-being among respondents. This suggests that while employment in transportation companies provides a measure of financial security, employees face difficulties with consistent savings and meeting basic expenses, underscoring the need for improved remuneration, financial planning support, and welfare initiatives to enhance workers’ financial stability.

Table 4.11: Respondents’ perception of emotional well-being

S/N	Statements	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	\bar{X}	Std. dev.
30	I feel enthusiastic and excited about my work and life.	66 24.0%	115 41.8%	58 21.1%	31 11.3%	-	3.74	1.01
31	I can manage my emotions well during stressful driving situations and other tasks.	60 21.8%	137 49.8%	59 21.5%	19 6.9%	-	3.87	.83
32	I can form and maintain positive relationships with others.	61 22.2%	137 49.8%	48 17.5%	29 10.5%	-	3.83	.923
Grand mean and standard deviation							3.81	0.92

Source: Researcher's fieldwork (2025)

The findings in Table 4.11 show that respondents generally agreed that their emotional well-being is supported, with all mean scores above 3.0. The highest-rated statement, *“I can manage my emotions well during stressful driving situations and other tasks”* (mean = 3.87, SD = 0.83), suggests that most employees demonstrate emotional resilience and self-control in high-pressure situations, which is crucial in the transportation sector. The statement *“I can form and maintain positive relationships with others”* followed closely with a mean of 3.83 (SD = 0.92), indicating that employees perceive themselves as capable of building supportive interpersonal relationships, which can positively influence teamwork and workplace harmony. The item *“I feel enthusiastic and excited about my work and life”* had the lowest mean of 3.74 (SD = 1.01), reflecting moderate enthusiasm toward both work and personal life, though variations in responses point to differing levels of motivation and job satisfaction among employees. The grand mean of 3.81 with a relatively low standard deviation of 0.92 indicates an overall strong and consistent perception of emotional well-being among respondents. This implies that transportation workers in Benin City generally maintain positive emotions, resilience, and interpersonal relationships, making emotional well-being one of the stronger dimensions of their overall well-being compared to physical, mental, and financial aspects.

4.4 Relationship between workplace health and safety management practices and employee well-being

4.4.1 Diagnostic Tests

To ascertain the relationship among the variables using the multiple regression analysis, three tests that align with the assumptions of multiple regression analysis were carried out. Two tests

were carried out. They include the multicollinearity and autocorrelation tests. The outcomes are presented below.

4.4.1.1 Multicollinearity Tests

To assess whether the independent variables are highly correlated the following procedures were carried out: Variance inflation factor (VIF) and correlation matrix

Table 4.12 *Variance inflation factor (VIF)*

Independent variables	Collinearity Statistics	
	Tolerance	VIF
Safety culture	.763	1.311
Safety training and awareness	.752	1.329
Protective measures	.762	1.313
Welfare scheme	.933	1.071
Work fatigue control	.904	1.107

Source: SPSS Output (2025)

The Variance Inflation Factor (VIF) results in Table 4.12 were used to test for multicollinearity among the independent variables (safety culture, safety training and awareness, protective measures, welfare scheme, and work fatigue control). The tolerance values for all variables are above 0.70, while the corresponding VIF values range between 1.071 and 1.329. These values are far below the common threshold of 10.0 (and even the stricter cutoff of 5.0), indicating that multicollinearity is not a concern in this model. This means that none of the independent variables are excessively correlated with each other, and each contributes uniquely to explaining

variations in the dependent variable. Therefore, the regression estimates derived from the model are reliable and can be interpreted without bias due to multicollinearity.

Table 4.13: Pearson Correlation

Variables		Safety culture	Safety training and awareness	Protective measures	Welfare scheme	Work fatigue control
Safety culture	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	275				
Safety training and awareness	Pearson Correlation	.446**	1			
	Sig. (2-tailed)	.000				
	N	275	275			
Protective measures	Pearson Correlation	.327**	.320**	1		
	Sig. (2-tailed)	.000	.000			
	N	275	275	275		
Welfare scheme	Pearson Correlation	.032	-.056	.208**	1	
	Sig. (2-tailed)	.593	.359	.001		
	N	275	275	275	275	
Work fatigue control	Pearson Correlation	.109	.135*	.297**	.133*	1
	Sig. (2-tailed)	.072	.025	.000	.027	
	N	275	275	275	275	275

** . Correlation is significant at the 0.05 level (2-tailed).

Note: $p < .05^*$, $*p < .01$ (2-tailed).

All correlations are based on $N = 275$.

The Pearson correlation matrix shows varying degrees of association among the independent variables. Safety culture demonstrated a moderate, positive, and statistically significant relationship with safety training and awareness ($r = .446$, $p < .01$) and protective measures (r

= .327, $p < .01$), indicating that organizations with stronger safety cultures tend to provide better safety training and maintain more effective protective measures. Safety training and awareness also showed a significant positive relationship with protective measures ($r = .320, p < .01$), suggesting that increased safety training is associated with greater implementation of protective strategies. Welfare scheme was weakly but significantly correlated with protective measures ($r = .208, p < .01$) and work fatigue control ($r = .133, p < .05$), indicating minor but meaningful associations. Work fatigue control further showed a small positive association with safety training and awareness ($r = .135, p < .05$) and protective measures ($r = .297, p < .01$). Overall, the correlations are generally low to moderate, suggesting limited multicollinearity among the variables and supporting their suitability for regression analysis. This supports the internal consistency of the constructs and validates their joint use in explaining employee well-being in transportation companies in Benin City.

4.4.2 Durbin Watson Test

Table 4.14: Durbin Watson Test for Regression Models

Model	DW
Model 1: Workplace safety management practices and physical well-being	1.622
Model 2: Workplace safety management practices and mental well-being	1.539
Model 3: Workplace safety management practices and financial well-being	1.722
Model 4: Workplace safety management practices and emotional well-being	1.490

The Durbin–Watson test results in Table 4.14 indicate that all four models fall within an acceptable range (1.5–2.5), suggesting no serious concern of autocorrelation in the residuals. Among them, Model 3 (DW = 1.722) is closest to the ideal value of 2, showing the least evidence of autocorrelation, followed by Model 1 (1.622) and Model 2 (1.539). Model 4 (1.490)

is slightly lower but still within tolerable limits, implying mild positive autocorrelation. Overall, the results affirm the reliability of the regression estimates across the models, with Model 3 demonstrating the most statistically robust outcome.

4.5 Determination of the relationship between workplace health and safety management practice and employee well-being

In establishing relationships among the different variables, multiple regression analyses were conducted. This was done with respect to the 4 models that were specified. The results are shown in the Tables Below.

Table 4.15: Regression coefficient for model 1-Workplace health and safety management practice and physical well-being

Model 1	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.968	.980		2.008	.046
Safety culture	.054	.075	.040	.717	.474
Safety training and awareness	.035	.056	.035	.625	.533
Protective measures	.095	.058	.092	1.647	.101
Welfare scheme	.177	.036	.247	4.893	.000
Work fatigue control	.407	.046	.455	8.860	.000

R = .598^a; R² = .358; Adjusted R² = .346; F-Statistic = 30.013; F-Statistic (Prob.) = .000^b; N = 275;

a. Dependent Variable: Physical well-being

The regression results in Table 4.15 indicate that among the workplace health and safety management practices, welfare scheme ($B = .177$, $t = 4.893$, $p < .05$) and work fatigue control ($B = .407$, $t = 8.860$, $p < .05$) have significant positive effects on physical well-being, meaning that improvements in these areas substantially enhance employees' physical health. On the other hand, safety culture ($B = .054$, $t = .717$, $p > .05$), safety training and awareness ($B = .035$, $t = .625$, $p > .05$), and protective measures ($B = .095$, $t = 1.647$, $p > .05$) do not significantly predict physical well-being at the 5% level. Collectively, the predictors account for 35.8% of the variation in physical well-being ($R^2 = .358$; Adjusted $R^2 = .346$), and the model as a whole is statistically significant ($F = 30.013$, $p < .05$), confirming that workplace safety management practices jointly influence physical well-being, with welfare schemes and fatigue control being the most critical drivers.

Table 4.16: Regression coefficient for model 2-Workplace health and safety management practice and mental well-being

Model 2	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4.253	1.234		3.446	.001
Safety culture	-.065	.094	-.043	-.690	.491
Safety training and awareness	.145	.071	.126	2.039	.042
Protective measures	.007	.073	.006	.101	.920
Welfare scheme	.050	.045	.061	1.099	.273
Work fatigue control	.441	.058	.432	7.631	.000

$R = .471^a$; $R^2 = .222$; Adjusted $R^2 = .208$; F-Statistic =; F-Statistic (Prob.) = 15.354 .000^b; $N = 275$;

a. Dependent Variable: Mental well-being

The regression results in Table 4.16 show the individual and combined effects of workplace health and safety management practices on employees' mental well-being. Starting with the

individual relationships, the constant term ($B = 4.253$, $t = 3.446$, $p = .001$) is significant, indicating that mental well-being has a positive baseline level when other predictors are held constant. Among the predictors, safety culture ($B = -0.065$, $t = -0.690$, $p = .491$), protective measures ($B = 0.007$, $t = 0.101$, $p = .920$), and welfare schemes ($B = 0.050$, $t = 1.099$, $p = .273$) are not statistically significant at the 0.05 level, suggesting that these factors do not meaningfully predict mental well-being in this model. However, safety training and awareness ($B = 0.145$, $t = 2.039$, $p = .042$) shows a positive and significant effect, meaning that training and awareness initiatives contribute to improving employees' mental well-being. Most importantly, work fatigue control ($B = 0.441$, $t = 7.631$, $p = .000$) is highly significant and has the strongest positive effect, indicating that measures aimed at controlling fatigue substantially enhance mental well-being.

Collectively, the model shows a significant relationship between workplace safety management practices and mental well-being ($R = .471$, $R^2 = .222$, $\text{Adj. } R^2 = .208$, $F = 15.354$, $p < .001$), with about 22.2% of the variance in mental well-being explained by the predictors. This implies that while some aspects of workplace safety management are less influential, training, awareness, and fatigue control are critical drivers of mental well-being among employees.

Table 4.17: Regression coefficient for model 3-Workplace health and safety management practice and financial well-being

Model 3	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4.262	1.455		2.929	.004
Safety culture	.054	.111	.031	.486	.627
Safety training and awareness	-.027	.084	-.021	-.328	.743
Protective measures	.083	.086	.062	.965	.335

Welfare scheme	.322	.054	.348	6.004	.000
Work fatigue control	.100	.068	.086	1.464	.144

R = .394^a; R² = .156; Adjusted R² = .140; F-Statistic = 9.914; F-Statistic (Prob.) = .000^b; N = 275;

a. Dependent Variable: Financial well-being

The regression results in Table 4.17 show the individual contributions of workplace health and safety management practices to financial well-being. Safety culture (B = 0.054, t = 0.486, p = .627), safety training and awareness (B = -0.027, t = -0.328, p = .743), protective measures (B = 0.083, t = 0.965, p = .335), and work fatigue control (B = 0.100, t = 1.464, p = .144) all show statistically insignificant effects on financial well-being, as their p-values exceed the 0.05 threshold. In contrast, welfare scheme demonstrates a strong and significant positive effect on financial well-being (B = 0.322, t = 6.004, p = .000), suggesting that improvements in welfare provisions substantially enhance employees' financial well-being. Collectively, the model explains 15.6% of the variance in financial well-being (R² = .156, Adjusted R² = .140), and the overall regression model is statistically significant (F = 9.914, p < .05), confirming that workplace health and safety management practices, when combined, exert a meaningful influence on employees' financial well-being.

Table 4.18 Regression coefficient for model 4-Workplace health and safety management practice and emotional well-being

Model 4	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	8.403	.923		9.107	.000
Safety culture	.184	.054	.221	3.396	.001
Safety training and awareness	-.254	.061	-.376	-4.142	.000
Protective measures	.487	.095	.594	5.104	.000
Welfare scheme	-.169	.059	-.232	-2.870	.004

Work fatigue control	.119	.053	.148	2.237	.026
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R = .409^a; R² = .167; Adjusted R² = .152; F-Statistic = 10.792; F-Statistic (Prob.) = .000^b; N = 275;

a. Dependent Variable: Emotional well-being

The regression results in Table 4.18 show that workplace health and safety management practices have varying effects on emotional well-being. Safety culture has a positive and significant effect on emotional well-being (B = 0.184, t = 3.396, p = .001), while protective measures also exert a strong positive influence (B = 0.487, t = 5.104, p = .000). Work fatigue control similarly has a positive and significant relationship (B = 0.119, t = 2.237, p = .026). On the other hand, safety training and awareness (B = -0.254, t = -4.142, p = .000) and welfare scheme (B = -0.169, t = -2.870, p = .004) have negative but significant effects on emotional well-being, suggesting that poorly implemented or inadequate practices in these areas may undermine employee emotional stability. Taken together, the model demonstrates a moderately strong combined effect of workplace health and safety management practices on emotional well-being, with an R of .409 and an R² of .167, indicating that about 16.7% of the variance in emotional well-being is explained by the predictors. The model is statistically significant (F = 10.792, p = .000), confirming its overall validity.

4.6 Hypotheses Testing

The results in Tables 4.15 to 4.18 were used to test the formulated hypotheses of the study. Workplace health and safety management practices include safety culture, safety training and awareness, protective measures, welfare schemes, and work fatigue control, employee well-being include physical, financial, psychological, and emotional well-being.

Hypothesis One: Safety culture has no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.

The results indicate that safety culture had no significant effect on physical well-being ($B = 0.054$, $t = 0.717$, $p = .474$), mental well-being ($B = -0.065$, $t = -0.690$, $p = .491$), and financial well-being ($B = 0.054$, $t = 0.486$, $p = .627$), as all p-values exceeded the 0.05 threshold. However, safety culture showed a positive and significant relationship with emotional well-being ($B = 0.184$, $t = 3.396$, $p = .001$).

Based on the results, the hypothesis that safety culture had positive and significant relationship with emotional well-being is rejected, while the hypotheses that safety culture had no significant relationship with physical well-being, mental well-being, and financial well-being are not rejected.

Hypothesis Two: Safety training and awareness have no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.

The results indicate that safety training and awareness had no significant effect on physical well-being ($B = 0.035$, $t = 0.625$, $p = .533$), financial well-being ($B = -0.027$, $t = -0.328$, $p = .743$), and mental well-being ($B = 0.145$, $t = 2.039$, $p = .042 < 0.05$) significant at 0.05, though minimal). However, safety training and awareness showed a negative and significant relationship with emotional well-being ($B = -0.254$, $t = -4.142$, $p = .000$).

Based on the results, the hypothesis that safety training and awareness had a significant relationship with emotional well-being is rejected, while the hypotheses that safety training and awareness had no significant relationship with physical, financial, and mental well-being are not rejected.

Hypothesis Three: Protective measures have no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.

The results indicate that protective measures had no significant effect on physical well-being ($B = 0.095$, $t = 1.647$, $p = .101$), mental well-being ($B = 0.007$, $t = 0.101$, $p = .920$), and financial well-being ($B = 0.083$, $t = 0.965$, $p = .335$), as all p-values exceeded the 0.05 threshold. However, protective measures showed a positive and significant relationship with emotional well-being ($B = 0.487$, $t = 5.104$, $p = .000$).

Based on the results, the hypothesis that protective measures had a positive and significant relationship with emotional well-being is rejected, while the hypotheses that protective measures had no significant relationship with physical, mental, and financial well-being are not rejected.

Hypothesis Four: Welfare scheme have no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.

The results indicate that welfare scheme had a positive and significant effect on physical well-being ($B = 0.177$, $t = 4.893$, $p = .000$), but had no significant effect on mental well-being ($B = 0.050$, $t = 1.099$, $p = .273$) and financial well-being ($B = 0.322$, $t = 6.004$, $p = .000$ —significant). However, welfare scheme showed a negative and significant relationship with emotional well-being ($B = -0.169$, $t = -2.870$, $p = .004$).

Based on the results, the hypothesis that welfare scheme had a significant relationship with physical well-being and financial well-being is rejected, while the hypothesis that welfare scheme had no significant relationship with mental well-being is not rejected. The hypothesis

that welfare scheme had a significant negative relationship with emotional well-being is also rejected.

Hypothesis Five: Work fatigue control have no significant effect on the employee (physical, mental, financial and emotional) well-being of drivers in selected interstate transportation companies in Benin City, Edo State.

The results indicate that work fatigue control had a positive and significant effect on physical well-being ($B = 0.407$, $t = 8.860$, $p = .000$), mental well-being ($B = 0.441$, $t = 7.631$, $p = .000$), and emotional well-being ($B = 0.119$, $t = 2.237$, $p = .026$). However, it had no significant effect on financial well-being ($B = 0.100$, $t = 1.464$, $p = .144$), as the p-value exceeded the 0.05 threshold. Based on the results, the hypothesis that work fatigue control had a positive and significant relationship with physical, mental, and emotional well-being is rejected, while the hypothesis that work fatigue control had no significant relationship with financial well-being is not rejected.

4.7 Qualitative Analysis

The outcome of the interview sessions from the participants with respect to workplace health and safety management practice and employee well-being in transportation companies are discussed in this section. Themes and sub-themes were developed as follows

4.7.1 Safety culture

The safety culture within the company appears to be a priority, with participants indicating that safety is taken seriously. Participant 1 stated that "For Faith Motor company, passengers are our first safety," suggesting that the company prioritizes passenger safety above all else. This prioritization is further reinforced by Participant 2, who mentioned that "They don't joke with it,"

referring to the importance of safety. However, the extent to which safety is prioritized may vary, as Participant 4 described the safety culture as "average."

In terms of safety training, participants reported varying frequencies and qualities of training. Participant 2 mentioned that "They give us training at least... every six months," indicating a regular training schedule. Participant 5 also reported that "We do training every year, section by section." However, Participant 3 stated that "They don't organize training for their drivers," suggesting that training may not be consistently provided across all drivers or sections.

The company's provision of protective measures, such as seat belts and other safety equipment, is also an important aspect of safety culture. Participant 1 mentioned that "The most important thing they give us is spare tire... and our seat belts are all intact." Participant 4 also reported that "We do have safety equipment in our vehicles such as every vehicle here before you drive, you must put on your seat belt." These quotes suggest that the company provides essential safety equipment, but Participant 4's hesitation ("though I will not generalise but I think few of the vehicles have such") implies that there might be inconsistencies in the provision of safety equipment across all vehicles.

Overall, while the company appears to prioritize safety and provide some level of safety training and equipment, there are indications of inconsistencies and potential areas for improvement. Participants' quotes highlight the importance of regular training, adequate provision of safety equipment, and consistent prioritization of safety across all aspects of the company's operations.

4.7.2 Welfare

The company's approach to driver welfare is different, with varying degrees of support for medical check-ups and health benefits. Participant 5 mentioned that "We have HMO, we have it," suggesting that the company provides some level of health benefits. However, Participant 4

noted that "I think that very exercise is being conducted at the entrance... if you are a driver and you are coming into the company," implying that medical check-ups might be limited to the recruitment process rather than ongoing. Participant 2 also stated that "If the driver is sick, we are not responsible for... the medical," indicating that drivers might not receive comprehensive medical support.

Regarding retirement plans, participants' responses suggest that the company does not have a robust system in place. Participant 2 bluntly stated that "We don't have any agreement on that," while Participant 3 echoed this sentiment, saying "My dear, I can't have any say for that." Participant 4 also expressed uncertainty, stating "I don't think there is any provision for that." These quotes indicate a lack of formal retirement planning for drivers.

Burnout and fatigue management is another critical aspect of driver welfare. Participant 5 mentioned that "If you know you are tired, you can hand over your motor to another person," suggesting some flexibility in managing fatigue. Participant 1 also noted that "We have spare drivers. When a driver is tired... there are drivers on ground to take over." However, Participant 3 highlighted potential issues with taking time off, stating that "If you say you don't want to go to work, for you to go and rest, when you come back another person can collect your vehicle." This suggests that while the company might have some measures in place to manage fatigue, there could be challenges in implementing them effectively.

Overall, the company's approach to driver welfare appears to have a mixed record. While there are some provisions for health benefits and managing fatigue, there are gaps in retirement planning and potentially in medical support. These findings highlight areas where the company might focus on improving its support for drivers' welfare.

4.7.3 Employee Well-being

The company's impact on drivers' financial well-being is a concern, with participants expressing mixed sentiments. Participant 4 stated that "I think we are a little bit underpaid," indicating that drivers might not be financially satisfied with their compensation. Participant 2 mentioned that "The company are trying because, you know, in Nigeria now there's no job, so at least the company cannot be give you all you need." This sentiment is echoed by Participant 4, who noted that "Generally the economy is not balanced but if I have to narrow it where I work I think we are a little bit underpaid." These quotes suggest that while the company might be doing its best given the economic context, drivers may still feel financially strained.

In terms of physical well-being, participants reported varying levels of support from the company. Participant 3 mentioned that "If you complain about it they will do it for you," suggesting that the company responds to drivers' physical needs when brought to their attention. Participant 5 also stated that "We dey try, them dey try," implying that the company makes an effort to support drivers' physical well-being. However, Participant 4 highlighted potential issues with medical check-ups, stating that "We don't have regular medical check-ups." This inconsistency might impact drivers' overall physical health.

Mental well-being is also an important aspect of overall well-being, and participants' quotes suggest that drivers might experience stress and pressure. Participant 3 mentioned that "Your high pressure may rise, your mind and spirit can't settle down" when discussing vehicle maintenance issues, implying that work-related stress can affect drivers' mental health. Participant 4 stated that "I don't think I am working in my dreams," suggesting that drivers might not be entirely fulfilled in their roles. These quotes highlight the potential mental health implications of drivers' work environment and responsibilities.

Overall, while the company appears to make some efforts to support drivers' well-being, participants' quotes suggest that there are areas for improvement, particularly in terms of financial well-being and potentially in physical and mental well-being. Addressing these concerns could lead to better overall well-being for drivers.

4.8 Discussion of Findings

This section presents study's findings regarding the relationship between workplace health and safety management practice and employee well-being in transportation companies. First, it was found that safety culture had a positive and significant effect on emotional well-being ($B = 0.184$, $t = 3.396$, $p = .001$), but had no significant effect on physical well-being ($B = 0.054$, $t = 0.717$, $p = .474$), mental well-being ($B = -0.065$, $t = -0.690$, $p = .491$), and financial well-being ($B = 0.054$, $t = 0.486$, $p = .627$). This suggests that while safety culture may not directly impact physical or financial outcomes, it enhances employees' emotional health by fostering a psychologically safe environment.

The interview findings align with the safety culture results, particularly in terms of emotional well-being. Participant 1's emphasis on prioritizing passenger safety and Participant 2's statement that "They don't joke with it" suggest a strong safety culture that could positively impact emotional well-being. However, the lack of significant effect on physical well-being is reflected in Participant 4's comment that "I think that very exercise is being conducted at the entrance... if you are a driver and you are coming into the company," implying that medical support might be limited. The insignificant effect on mental well-being is also echoed by Participant 3, who mentioned that "Your high pressure may rise, your mind and spirit can't settle down" due to work-related stress, suggesting that safety culture might not directly mitigate mental health concerns. Overall, the interview findings support the quantitative results, highlighting the

complex relationship between safety culture and employee well-being. Anyabor et al (2020) emphasised that a strong safety culture improves employees' emotional and psychological outcomes by creating trust and reducing anxiety at work. Similarly, Leje and Abdullahi (2025) argued that safety culture boosts organizational commitment and employee morale, indirectly influencing emotional well-being. Additionally, Amirah et al. (2024) highlighted that safety culture promotes positive behavioural attitudes, which strengthen employees' confidence and emotional resilience. Collectively, these findings indicate that emotional well-being is more responsive to the psychological and relational aspects of safety culture, while physical and financial dimensions require complementary interventions.

Second, safety training and awareness had a positive and significant effect on mental well-being ($B = 0.145$, $t = 2.039$, $p = .042 < 0.05$), and negative and significant effect on emotional well-being ($B = -0.254$, $t = -4.142$, $p = .000$), but had no significant effect on physical well-being ($B = 0.035$, $t = 0.625$, $p = .533$), financial well-being ($B = -0.027$, $t = -0.328$, $p = .743$). This implies that while training improves procedural knowledge, excessive focus on compliance may create pressure or stress that undermines emotional well-being. The interview findings support the quantitative results on safety training and awareness. The positive effect on mental well-being is reflected in Participant 2's statement that "They give us training at least... every six months," suggesting that regular training might contribute to improved mental well-being. However, the negative effect on emotional well-being is echoed by Participant 4's comment that the safety culture is "average," implying that safety training might not be entirely effective in promoting emotional well-being. Participant 3's statement that "They don't organize training for their drivers" also raises concerns about the consistency of safety training, which could

negatively impact emotional well-being. Overall, the interview findings highlight the complex relationship between safety training and employee well-being.

Onunwor (2025) found that mandatory safety training can increase perceived job demands and stress if not paired with supportive measures. Similarly, Ishola (2017) observed that overly frequent or rigid training schedules can inadvertently reduce employee motivation and emotional satisfaction. On the other hand, Bello et al. (2024) argued that effective safety training increases competence and confidence, yet its psychological impact depends on the work environment's support mechanisms. Therefore, the negative effect observed on emotional well-being in this study suggests that safety training needs to be balanced with supportive organizational practices.

Next, protective measures had a positive and significant effect on emotional well-being ($B = 0.487$, $t = 5.104$, $p = .000 < 0.05$), but had no significant effect on physical ($B = 0.095$, $t = 1.647$, $p = .101$), mental ($B = 0.007$, $t = 0.101$, $p = .920$), or financial well-being ($B = 0.083$, $t = 0.965$, $p = .335$). This indicates that while protective equipment may not immediately influence tangible outcomes such as health or income, it positively affects employees' emotional perceptions of safety. The interview findings support the quantitative results on protective measures. The positive effect on emotional well-being is reflected in Participant 1's statement that "The most important thing they give us is spare tire... and our seat belts are all intact," suggesting that provision of safety equipment can promote emotional well-being. Participant 4 also mentioned that "We do have safety equipment in our vehicles," further supporting the importance of protective measures. The lack of significant effect on physical well-being is echoed by Participant 3's comment that "If you complain about it, they will do it for you," implying that while protective measures are provided, their impact on physical well-being might be limited or

dependent on individual actions. Overall, the interview findings highlight the significance of protective measures in promoting emotional well-being.

Uzundu (2019) noted that the presence of effective protective measures fosters confidence and reduces anxiety among employees. Likewise, Hale et al. (2019) argued that protective tools signal organizational care, which reinforces employees' sense of value and emotional security. Furthermore, Hofmann et al. (2021) found that emotional well-being is closely linked to perceived safety rather than only physical protection, explaining why protective measures impact emotional health more significantly than other well-being dimensions.

Moreover, welfare schemes positively influenced physical well-being ($B = 0.177$, $t = 4.893$, $p = .000$) and financial well-being ($B = 0.322$, $t = 6.004$, $p = .000$), but had no significant effect on mental well-being ($B = 0.050$, $t = 1.099$, $p = .273$) and a negative effect on emotional well-being ($B = -0.169$, $t = -2.870$, $p = .004$). This suggests that while medical and retirement benefits improve tangible health and financial security, they do not necessarily enhance emotional or mental satisfaction. The interview findings support the quantitative results on welfare schemes. The positive influence on physical well-being is reflected in Participant 5's mention of having an HMO, which suggests that the company provides some level of medical support. Participant 1 also mentioned that the company took care of a driver's medical bill, indicating that welfare schemes can positively impact physical well-being. The positive effect on financial well-being is not strongly supported, as participants like Participant 4 felt underpaid. The lack of significant effect on mental well-being is echoed by Participant 3's concerns about work-related stress. The negative effect on emotional well-being is supported by Participant 2's statement that "The company are trying," implying that while the company makes efforts, drivers might still have

unmet emotional needs. Overall, the interview findings highlight the complex relationship between welfare schemes and driver well-being.

Umurokoro et al. (2023) emphasised that welfare benefits improve employees' objective well-being, such as health and income stability. Similarly, Kim et al. (2020) observed that welfare schemes reduce financial stress but have limited effect on emotional engagement unless paired with interpersonal support. Moreover, George (2024) highlighted that organizational welfare must be accompanied by inclusive and participatory policies to positively affect emotional well-being. Collectively, these results indicate that welfare programs are critical for physical and financial stability, but additional psychosocial interventions are needed to enhance emotional and mental outcomes.

Furthermore, work fatigue control positively and significantly affected physical ($B = 0.407$, $t = 8.860$, $p = .000 < 0.05$), mental ($B = 0.441$, $t = 7.631$, $p = .000 < 0.05$), and emotional well-being ($B = 0.119$, $t = 2.237$, $p = .026 < 0.05$), but had no significant effect on financial well-being ($B = 0.100$, $t = 1.464$, $p = .144 > 0.05$). These results indicate that regulating work hours, providing rest periods, and controlling fatigue substantially improve employees' physical health, mental clarity, and emotional stability.

The interview findings support the quantitative results on work fatigue control. The positive effect on physical, mental, and emotional well-being is reflected in Participant 5's statement that "If you know you are tired, you can hand over your motor to another person," suggesting that the company's system for managing fatigue can help mitigate its negative impacts. Participant 1 also mentioned that "We have spare drivers" to take over when a driver is tired, further supporting the importance of work fatigue control. However, the lack of significant effect on financial well-being is echoed by Participant 4's concerns about being underpaid, implying that work fatigue

control might not directly impact financial satisfaction. Overall, the interview findings highlight the benefits of effective work fatigue control for driver well-being.

Useche, et al (2017) highlighted that fatigue control interventions significantly reduce physical strain and cognitive errors. Similarly, Amoadu et al (2024) observed that proper rest management enhances mental alertness and emotional resilience. Additionally, Ujoatuonu, et al (2018) found that fatigue management policies are more effective in improving subjective well-being than financial outcomes, explaining the non-significant effect on financial well-being. Overall, these findings underscore the importance of fatigue control in supporting holistic employee health.

4.9 Theoretical Implications

The findings provide strong support for the systems theory of accident causation in the context of workplace health and safety management practices. The theory posits that accidents and unsafe outcomes arise from interrelated system failures rather than isolated human errors. This study demonstrates that elements such as safety culture, protective measures, and work fatigue control interact to influence employee well-being, particularly emotional and physical health. The significant relationships between welfare schemes, fatigue control, and employee well-being confirm that system-level interventions policies, procedures, and resources are critical for promoting a safer and healthier work environment, reinforcing the applicability of the systems theory in contemporary transportation settings.

From the perspective of the job demands-resources (JD-R) model, the findings highlight how workplace safety practices function as both resources and demands affecting employee well-being. Safety culture, protective measures, and welfare schemes act as job resources that can

enhance emotional, physical, and mental well-being, while poorly managed training or excessive workloads act as demands that may induce stress and reduce emotional health. The differential effects observed across physical, mental, financial, and emotional well-being indicate that the balance between demands and resources is crucial, supporting the central premise of the JD-R model that resources mitigate the negative impact of job demands and promote positive outcomes.

Additionally, the study extends theoretical understanding by showing the interdependent nature of safety practices and employee well-being. While certain safety measures (such as protective equipment, and fatigue control) had direct positive effects, others (such as overly rigid safety training) had unintended negative consequences on emotional well-being. This finding underscores the need for theoretical models to account for nuanced effects of organizational interventions, suggesting that the JD-R model and systems theory can be integrated to explain both the direct and indirect pathways through which workplace health and safety management practices influence multidimensional employee well-being.

4.10 Practical Implications of the Findings

The findings on safety culture indicate that it significantly enhances employees' emotional well-being but does not directly affect physical, mental, or financial well-being. Practically, transportation companies should focus on cultivating a strong safety culture that not only communicates safety policies but also prioritizes employees' psychological safety. This can include open communication channels, recognition of safe behaviours, and support systems to reduce workplace anxiety, thereby improving emotional engagement and job satisfaction.

Regarding safety training and awareness, the negative effect on emotional well-being suggests that training programs need to be thoughtfully designed. Companies should implement training that is supportive rather than overwhelming, incorporating interactive methods, practical demonstrations, and reasonable schedules. By balancing training intensity with employee support, organizations can enhance knowledge and competence without inadvertently increasing stress levels.

The results on protective measures show that provision of safety tools and equipment positively affects emotional well-being. Practically, organizations should ensure that personal protective equipment (PPE) is not only available but also regularly maintained, updated, and communicated as part of a broader safety initiative. This visible commitment to safety helps employees feel valued and secure, reducing anxiety and enhancing morale.

Finally, the significant effects of welfare schemes and work fatigue control on well-being suggest that companies must prioritize both tangible and procedural support. Implementing health benefits, retirement plans, and fatigue management systems such as regulated working hours and adequate rest periods can improve physical, mental, and emotional health. Organizations that actively monitor workloads, provide medical support, and encourage work-life balance will likely experience higher productivity, reduced absenteeism, and better overall employee satisfaction.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Preamble

The study sought to determine the relationship between workplace health and safety management practice and employee well-being in transportation companies in Benin City. The population of the study comprised drivers of selected transport companies in Benin City. The chapter present the summary of the findings, the conclusion, recommendation, contribution to knowledge and suggestions for further studies.

5.2 Summary of Findings

The following make up the major findings of the study:

1. Safety culture significantly enhanced emotional well-being but had no significant impact on physical, mental, or financial well-being, suggesting that psychological and relational aspects of safety culture are most influential.
2. Safety training and awareness positively affected mental well-being but negatively influenced emotional well-being, and showed no significant effect on physical or financial well-being, indicating that overly rigid or frequent training may cause stress.
3. Provision of personal protective equipment and safety tools significantly improved emotional well-being but had no direct effect on physical, mental, or financial well-being, highlighting the importance of perceived safety and organizational support.
4. Welfare schemes, such as medical support and retirement plans, significantly enhanced physical and financial well-being but had limited impact on mental well-being and negatively affected emotional well-being, indicating the need for complementary psychosocial interventions.

5. Work fatigue control positively and significantly influenced physical, mental, and emotional well-being, but had no significant effect on financial well-being, underscoring the importance of regulated work hours, rest periods, and workload management for holistic employee health.

5.3 Conclusion

The study concludes that workplace health and safety management practices play a critical role in enhancing the well-being of employees in transportation companies in Benin City. Specifically, safety culture, safety training and awareness, protective measures, welfare schemes, and work fatigue control were examined for their effects on physical, mental, financial, and emotional well-being. The findings revealed that different aspects of safety management practices have varying levels of influence on employee well-being, emphasizing the multidimensional nature of occupational health and safety interventions.

Safety culture was found to significantly improve employees' emotional well-being but had limited or no effect on physical, mental, and financial well-being. This suggests that fostering a supportive and communicative safety culture is particularly important for promoting psychological and emotional health in employees. However, safety culture alone may not be sufficient to address other aspects of well-being, highlighting the need for complementary measures such as protective equipment and welfare schemes.

Safety training and awareness were shown to have a positive effect on mental well-being but a negative effect on emotional well-being, with no significant impact on physical or financial well-being. This indicates that while training enhances knowledge and cognitive competence, poorly structured or excessive training may inadvertently increase stress or reduce motivation.

Organizations must therefore design training programs that are balanced, practical, and employee-centered to maximise benefits across multiple dimensions of well-being.

The findings of this study align closely with the theoretical underpinnings. The systems theory of accident causation is supported by the evidence that organizational safety measures, such as protective equipment, welfare schemes, and fatigue control, collectively influence employee well-being. Similarly, the JD-R model is validated, as the study shows that safety resources mitigate negative work demands and enhance physical, mental, and emotional well-being. Together, the theories provide a robust framework to explain how systemic safety interventions and resource allocation contribute to positive employee outcomes.

Overall, the study highlights that comprehensive workplace health and safety management practices are essential for promoting the well-being of employees in the transportation sector. Companies that strategically combine safety culture, training, protective measures, welfare programs, and fatigue management are more likely to foster a healthy, productive, and motivated workforce. The findings provide valuable insights for policymakers, organizational leaders, and occupational health professionals seeking to enhance employee well-being and reduce workplace risks in transportation companies.

5.4 Recommendations

Based on the findings of the study regarding the effects of market orientation on customer satisfaction among deposit money banks (DMBs) in Edo State, the following recommendations can be proposed:

1. **Enhance safety culture:** Organisations should strengthen their safety culture to improve employees' emotional well-being. This can be achieved by regularly communicating safety policies, recognizing safe behaviors, establishing open channels for hazard

reporting, and fostering a non-punitive environment where employees feel comfortable raising safety concerns.

2. **Optimise safety training and awareness:** Companies should ensure safety training programs positively impact employees' mental well-being. This can be done by designing interactive training sessions, incorporating simulations and practical demonstrations, scheduling training appropriately to avoid overloading employees, and providing continuous support and feedback.
3. **Provide and maintain protective measures:** Employers should ensure the availability and effectiveness of personal protective equipment (PPE) and other safety tools. This can be accomplished by regularly inspecting and replacing defective equipment, providing clear usage guidelines, and maintaining adequate stocks of safety materials to instill confidence and emotional security among employees.
4. **Implement comprehensive welfare schemes:** Organisations should strengthen welfare programs to enhance physical and financial well-being. This can be achieved by providing regular medical check-ups, offering retirement plans, delivering mental health support, and promoting work-life balance initiatives tailored to employees' needs.
5. **Manage work fatigue effectively:** Companies should implement measures to reduce work-related fatigue and protect employees' physical, mental, and emotional health. This can be done by monitoring workloads, regulating driving hours, scheduling mandatory rest periods, and encouraging employees to take leave when needed to recharge and prevent burnout.

5.5 Contribution to Knowledge

The study on workplace health and safety management practice and employee well-being in transportation companies in Benin City makes several significant contributions to knowledge:

1. **Empirical evidence on safety practices and well-being:** The study provides empirical evidence linking workplace health and safety management practices such as safety culture, training, protective measures, welfare schemes, and fatigue control to multiple dimensions of employee well-being (physical, mental, financial, and emotional) in transportation companies, filling a contextual gap in Nigerian occupational health research.
2. **Differential impact of safety interventions:** It highlights that different safety management practices have varying effects on well-being, demonstrating that not all interventions influence all well-being dimensions equally. This nuanced understanding adds depth to existing literature and informs theory development in occupational safety and employee health.
3. **Integration of theoretical frameworks:** The study integrates the systems theory of accident causation and the job demands-resources (JD-R) model to explain how systemic safety measures and job resources collectively influence employee well-being, providing a theoretical basis for understanding complex interactions between organizational safety practices and multidimensional well-being.
4. **Context-specific insights for the transportation sector:** The study offers context-specific insights that can guide policy, safety interventions, and managerial practices not only in the transportation companies in Benin City, but for similar settings, thereby

contributing practical and generalisable knowledge to both academic research and industry applications.

5. **Methodological Contribution through Mixed-Methods Approach:** the study has demonstrated how triangulation (quantitative, qualitative, and a combination of both) has deepened the understanding of the concept of workplace health and safety management practice and employee well-being, thereby contributing a holistic framework for future research in occupational health and the transportation industry.

5.6 Limitations of the study

First, the study examined only a limited set of workplace health and safety management dimensions such as, safety culture, safety training and awareness, protective measures, welfare schemes, and work fatigue control. While these variables are relevant and supported by literature, employee well-being is influenced by a broader range of organizational and personal factors that were not included in this model. Variables such as management commitment, hazard reporting systems, ergonomic design, job autonomy, and personal coping strategies may also play significant roles. The exclusion of these additional factors means that the study provides a partial view of the determinants of well-being. Future research should expand the conceptual framework to incorporate a more holistic set of predictors.

Second, the study relied heavily on self-reported data from employees, which may have been subject to social desirability bias or recall bias. Respondents might have underreported negative experiences or overstated positive perceptions, thereby affecting the accuracy of the findings. Although triangulating quantitative and qualitative data helped to reduce this limitation, the possibility of biased responses cannot be entirely ruled out.

Third, the study was limited in scope, focusing primarily on employees within the transportation sector. While this provided a strong contextual basis for analysis, it also restricts the generalizability of the findings to other industries. Different sectors may face unique workplace health and safety challenges, meaning that the results of this study may not fully apply outside the transportation context.

5.7 Suggestions for Further Studies

First, future research could conduct a comparative sectoral analysis by examining workplace health and safety management practices and employee well-being across multiple industries such as construction, healthcare, and manufacturing. While this study focused on the transportation sector, extending the scope would help to identify sector-specific patterns and determine whether the findings are generalizable or unique to transportation companies. Such comparative studies would deepen understanding of how contextual factors influence the safety–well-being relationship.

Second, researchers are encouraged to adopt a longitudinal research design to track the long-term effects of workplace health and safety interventions on employee well-being. This study employed a cross-sectional approach, which provided useful insights but limited the ability to infer causality. Longitudinal data would allow scholars to observe changes over time and establish stronger causal links between workplace practices and employee well-being outcomes.

Finally, further studies could focus on specific dimensions of employee well-being; physical, mental, financial, and emotional, rather than treating well-being as a broad construct. A dimension-specific analysis would reveal which health and safety practices have the most significant impact on each aspect of well-being. For example, while protective measures may strongly influence physical well-being, welfare schemes may be more closely tied to financial or

emotional stability. This level of detail would provide organizations with clearer guidance for targeted interventions.

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APPENDIX I
QUESTIONNAIRE

Department of Human Resource Management,
Faculty of Management Sciences,
University of Benin,
Benin City, Edo State, Nigeria

Dear Respondent,

REQUEST FOR QUESTIONNAIRE COMPLETION

My name is Tuoyo Eresanra AGIREN, a Ph.D. student in the Department of Human Resource Management, University of Benin. I am soliciting your assistance in completing this questionnaire. I am conducting research titled “**Workplace Health and Safety Management Practice and Employee Well-being in selected transport companies in Benin City**”. Please, I will greatly appreciate honest responses only. Be assured that your anonymity is guaranteed, as your name or identity is not required. Thank you.

Workplace Health and Safety Management Practice Employee Well-being in selected inter-state transport companies in Benin City

QUESTIONNAIRE

SECTION A

BACKGROUND AND DEMOGRAPHIC INFORMATION

- 1. Marital status:** Single [], Married [], Divorced []
- 2. Age category:** 18-29 [], 30-39 [], 40-49 [], 50 and above []

3. Educational qualification: Primary school certificate [], Secondary school certificate [], Diploma [], Graduate [].

4. Years of experience: Less than 5 years [], 6- 10 years [], 11 – 15 years [], 15-20 years [], 20 years and above [].

5. Number of trips daily: 1 trip [], 2 trips [], 3 trips and above [], relative[].

SECTION B: INSTRUCTION- For each item below, please put an X under the heading that indicates your level of agreement using the scale below

SA: Strongly Agree A: Agree U: Undecided D: Disagree SD: Strongly Disagree

S/N	Safety culture	SA	A	U	D	SD
6.	My company has written and communicated safety policies that we adhere to.					
7.	Emergency response plans (e.g., fire evacuation, first aid) are well-established and tested periodically.					
8.	Employees are encouraged to report hazard/accident cases without fear of reprisal.					
	Safety training and awareness					
9.	I have received formal training on road safety and defensive driving.					
10.	I know how to properly use the vehicle's safety features (e.g., seat belts, airbags).					
11.	I feel confident in my ability to identify and report safety hazards.					
	Protective measures					
12.	My company provides adequate personal protective equipment (PPE), such as reflective vests, back-support belts, hearing aids and first-aid kits for all employees.					
13.	My company promptly replaces defective or missing safety tools, such as faulty seatbelts, bad spare tyres, when reported.					

14.	Regular safety inspections are conducted to identify potential hazards on vehicles and other equipment.					
	Welfare scheme					
15.	Regular medical check-ups, such as vision tests, mental health support, are being provided as welfare.					
16.	My company has a well-structured retirement plan for its employees that is fully implemented.					
17.	This company provides adequate support for us with work-life balance issues.					
	Work fatigue					
18.	I can take some days off from work trips as needed to rest and recharge.					
19.	I feel that my workload is manageable and does not contribute to fatigue.					
20.	My work hours are properly tracked and monitored to prevent overworking.					
	Physical well-being.					
21.	I have access to regular medical check-ups provided by my employer.					
22.	I experience frequent body pains or fatigue due to prolonged sitting, driving, or carrying heavy loads.					
23.	I feel that my physical health is good enough to support my well-being.					

	Mental well-being					
24.	My job does not cause excessive stress and anxiety.					
25.	I can focus and concentrate on tasks without feeling overwhelmed.					
26.	I feel that I am in control of my life and able to make positive choices.					
	Financial well-being					
27.	I can meet my monthly expenses without difficulty					
28.	I have a savings plan for emergencies					
29.	I feel financially secure working in this company					
	Emotional well-being					
30.	I feel enthusiastic and excited about my work and life.					
31.	I can manage my emotions well during stressful driving situations and other tasks.					
32.	I can form and maintain positive relationships with others.					

Thanks for your cooperation.

APPENDIX II

Reliability Results

Reliability

[DataSet0]

Scale: ALL VARIABLES

RELIABILITY

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Reliability Statistics

Cronbach's Alpha	N of Items
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Reliability Statistics

Cronbach's Alpha	N of Items
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Reliability Statistics

Cronbach's Alpha	N of Items
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Reliability Statistics

Cronbach's Alpha	N of Items
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Reliability Statistics

Cronbach's Alpha	N of Items
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RELIABILITY

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/MODEL=ALPHA.

Reliability Statistics

Cronbach's Alpha	N of Items
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RELIABILITY

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Reliability Statistics

Cronbach's Alpha	N of Items
.712	3

RELIABILITY

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Reliability Statistics

Cronbach's Alpha	N of Items
.755	3

RELIABILITY

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/MODEL=ALPHA.

Reliability Statistics

Cronbach's Alpha	N of Items
.833	3

APPENDIX III

Introduction Letter

Tuoyo Eresanara Agiren,
Ph.D. Student,
Department of Human Resource Management,
University of Benin, Benin City.

Sir/Ma,

Re: Interview for Research Study on Workplace Health and Safety Management Practices and Employee Well-being in Selected Transportation Companies in Benin City.

I hope this letter finds you well. My name is Tuoyo Eresanara Agiren, and I am a Ph.D. project student at the University of Benin. I am conducting a research study on the above topic. The purpose of this study is to explore the relationship between these variables in transportation companies. Your organisation has been selected as a participant in this study due to its reputation for prioritizing employee safety and well-being.

As part of this study, I would like to conduct an in-depth interview with you to gather more information about your experiences and perceptions regarding safety culture, safety training, protective measures, welfare schemes, work fatigue control, and employee well-being in your organization.

The interview will last approximately 40 minutes and will be conducted at your office location on a convenient date and time. The interview will be audio-recorded, and all responses will be kept confidential and anonymous.

Your participation in this study is voluntary, and you may withdraw at any time without penalty. Your insights and experiences will be invaluable to this study, and I appreciate your willingness to participate.

If you have any questions or concerns, please do not hesitate to contact me. I look forward to speaking with you soon.

Thank you for your time and consideration.

Interview:

1. Can you describe the safety culture in your organisation? That is talking about the shared values, attitudes, and practices that prioritise safety within an organisation.
2. What kind of safety training have you received in your current role? That is talking about the provision and participation in training programmes, workshops, and activities that educate employees on safety procedures and protocols. How effective do you think the training has been in preparing you for potential hazards?
3. What protective measures are in place in your organisation to prevent injuries and illnesses? I mean, are there policies, procedures, and equipment in place to prevent or mitigate workplace accidents and injuries? Do you feel that these measures are adequate and effective?
4. Are there any welfare schemes or programmes in place in your organization to support employee well-being? If so, can you describe them and how they have impacted your well-being?
5. How does your organisation manage work fatigue and prevent burnout? Are there any policies or procedures in place to ensure that employees get adequate rest and time off?
6. How do you think your overall well-being is impacted by your work environment and the measures in place to support your safety and well-being? Are there any areas where you think your organization could improve?

Thank you for taking the time to participate in this interview. Your insights are invaluable to this study. Is there anything else you would like to add or discuss?

APPENDIX IV

Interview Sessions

PARTICIPANT 1

1. Can you describe the safety culture in this company? How does your company prioritize drivers' safety?

Response: "For Faith Motor company, passengers are our first safety. For them to be safe is our first concern."

2. What type of safety training do they give the drivers here and how often do drivers go for safety training?

Response: "I realised that since I joined the company last year, I discovered that FRSC — that is road safety — do come here and give us induction training and ever since, they are giving us their rules and regulations on road and how we need to drive. I think they have improved in the area of safety."

3. Does your company provide protective measures for drivers? Do they ensure proper seat belts are in your vehicle? Do they ensure that all tools are provided?

Response: "Of course yes. The most important thing they give us is spare tire, no Faith Motor goes to highway without spare tire. Secondly fire extinguisher and the rectangular. They provide those ones and our seat belts are all intact. For safety they are number one."

4. Does your company ensure that medical and health benefits are provided for the driver? If a driver is sick or maybe he has eye problems, do they assist?

Response: "Yes, whenever they give us fuel — because they are the ones providing fuel for us — they ask us to drop ₦500 (naira) for driver welfare. Whatever happens to any driver, recently they took care of a driver — almost ₦226,000 (naira) I am aware of that — they used it to discharge the driver."

Does your company have a retirement plan?

Response: "Of recent when I came, I discovered that people who started with Faith Motors, our general manager (GM) called them to ask if they wanted to resign or retire willingly. If they retire them, they did them well."

5. When a driver is experiencing weakness, tiredness, or body pains and complains to the company, does the company ensure that there is a regular break from trips?

Response: "On that, we have spare drivers. When a driver is tired from stress or someone wants to take off, there are drivers on ground to take over. In the area of tiredness, if I drive for instance to Enugu within 5 hours and I am tired, I can decide to rest and there are drivers to take over."

6. What would you say about the overall well-being of drivers — their financial, physical, and mental well-being? Would you say the company is trying?

Response: "They are trying."

7. What area do you think they need to improve on for their drivers and other workers in terms of safety and well-being?

Response: "They are trying in all aspects but for drivers who need financial help, companies can look into that. I will be very grateful."

PARTICIPANT 2

1. When it comes to safety, safety culture, how would you say your company and prioritize safety? Does it take it as something very important, safety of drivers and passengers

Response: "It's very important." Okay, there's something they take very important. They don't joke with it.

" They don't joke with it. You don't joke with the life of your passenger and your own life. And when you, when you say safety your passenger and yourself, then, which means you acquire a company name will trend."

2. How often do does your company give safety training to their drivers? And do they do they also give it? How often do you does your company give safety training?

Response: They give us training at least. Let's just call it six months. Every six months, sometimes it's less than six months"

3. Does your company ensure that the vehicles that drivers put on the roads have all the things they need, all the safety equipment, like the seat belt, your fire extinguisher, everything

Response: "we do have, we have Marsha that checks, do checks, all those things, spare tire, particulars, fire extinguisher, as well as a road safety, we have Marsha, Wenhave a booklet, If anyone you don't have the company will book you before the road safety will book you."

4. If the vehicle has issues bad, like bad spare tyres or damage equipment. Does the company replace it on time?

Response: "Yes, that is early as you call the company and depend on where you are, because if you cannot be on the maybe, let me say your vehicle breakdown on a bush. They will, when you

call them, they will tell you to look any alternative and exclude the passengers and when you come to your office, they will do it"

5. Now let's talk about the welfare of the drivers. Do they? Does the company take care of the welfare like let's talk about medical and checkups. They ensure that drivers go for medical checkup if a driver is sick. Does the company assist them?

Response: "If the driver is sick, we are not responsible for the medical but if you tell them that you are sick, they will give you time to treat yourself."

5b. So retirement plan, the driver is getting older. You want to stop work Do they pay them?

Response: "We don't. We don't have any agreement on that, except if the owner of the if the MD wish they can say, okay, sometimes ago they brought, some vehicles and dash some people, that is some old drivers. So it's not that it's written or it's sure that you get it. Maybe when they can, when they decide they can say, okay, these 20 busses I want to dash you free, you are old drivers, that's the only thing.

6. Now what's of driver's fatigue? Let's say driver is tired. Now, you see, I want to take some breaks. So who does the company normally give breaks? Maybe if you've taken you notice, you've done a lot of trips, they allow you to go on break or it affects your salary?

Response: "company will not tell you to go to break? Is you that will tell company? Now look at how I was work for the month, please. I want to rest for the two or three days they will grant you. Okay, let me like, for instance, I come from like I may decide today, manager, I'm not dead. I cannot go to work today. You know, say it's must, it's okay, rest tomorrow.

7. So generally how would you say you've very well been a few as a driver, your mental health, your physical health, even your financial wellbeing. Will you say the company are trying the way they are taking care of you?

Response: "Yeah, the company are trying because, you know, in Nigeria now there's no job, so at least the company cannot give you all you need. They will give you, you how to support yourself. You know, if there's a company will give you, there's a hand. They will give all drivers. Some people start, misbehaving any how give you the one they will support yourself.

8. If you get to advise the management and the general the general manager, management of the company, to embrace the kind driver safety and welfare. What would you address?

Response: "I can advise them to a thing, because this is the country of Nigeria. Everything is Nigeria is too cost So everything now in Nigeria is talking, so they should come up with the one they are giving us before, so that you can make up."

Yeah, increase the salary of the People. Any other thing you want to add?

"I don't have much to add, except for them to make us to be happy, so that we, that work with them, will be happy, and nothing they will make us to be happy, except increasing our salary. So that is only the thing that can make me happy, because when they when you see, when you work, and they have enough money, it will motivate you to work tomorrow and you can take care of yourself and take care of your family, and you'll be healthy to work for them."

PARTICIPANT 3

1. How would you describe the safety culture of your company when it comes to the safety of drivers? How does your company prioritize it?

Response: "The safety about the drivers and the company. They are doing well for the safety of the drivers and the passengers. It couldn't be the vehicle. They are trying their best to make sure we are saved both the passengers and the drivers. So the only issue we are having here is that our drivers, some of our drivers, are they are not taking the rules of the company, the company is given to us. Yes, every company may have, may have a fault, but they can't take it because the company have a fault. You will put yourself into problem you can't come out in next 10 years.

You have to follow the rules company is giving to you so that it can be well with you and the company. Everything, can work together with you. The company and you. But when you're taking your own decision on your own self, he will put you into a trouble you can't survive on it. So that is what I have to say."

2. Does your company organize training for their drivers? How often do they do this?

Response: "From my own side, they don't organize training for their drivers. Like me, I am well trained from company on our left, the man, will give you a driver training, even though he don't take you to school, but he lecture us. Sometimes he normally call us, give us some advice and some decision we should take that will give us right to the decision to be if you are moving on the way, both road safety, safety and every other thing. They normally give it to us. But in this place, everyone focus on we focus on money, both the drivers, both the management."

3. Does the management ensure that the seat belts and other protective tools are adequately available in all vehicles?

Response: "Yes we have somebody that I think that is in charge of that."

- 3b. And when the vehicle has issues like a bad spare tire, do they replace it on time?

Response: "If you as a driver, you need to complain about it. If you complain about it they will do it for you when you are after money. If you do not complain, nobody will answer you."

4. Do they conduct medical checkups for drivers or assist with medical bills when drivers are sick?

Response: "They normally do so. Once they have done the one, if you are somebody that's conscious on your work, they will answer you until you get well."

4b. Do they have any retirement plan for drivers who want to stop working when they get old?

Response: "My dear, I can't have any say for that."

5. Do they give drivers time to rest when they are exhausted from trips?

Response: "You are the one who can choose it. Make a time, provide a time for you to rest. They can. You can say I don't want to go to work today. I want to have a rest. But the problem we're having if you say you don't want to go to work, for you to go and rest, when you come back another person can collect your vehicle that's the problem we are having here. They will say 'you want to go drop the key when you come back, you collect your vehicle.' For you to come back, they will say, Okay, you should wait until about another vehicle is available you will collect. They will not return your own vehicle that you left to go to get yourself ready. They will not give you they will not return it back to you again."

6. Does the company take the overall well-being of drivers seriously — physical, financial, and mental well-being?

Response: "Now before, the companies, they are putting interest on the waybill, but now, because of the problem we are having on the waybill, company withdrew themselves, unless if the waybill is used to block a seat."

Not the waybill, I mean your well-being, your physical well-being, your health, your finances — does the company make sure the driver is okay overall?

Response: "No."

7. If you were to advise the general manager and management, which areas would you ask them to improve in terms of driver safety and well-being?

Response: "Everybody know that all of us, we are here, we are. We are here to find, we are here for money. I can't say companies should put interest on the anything concerning way drivers' well-being. What we are in after is that they should keep the vehicle in order. But when your vehicle started disturbing you, your mind can't rest. Like me, as I'm talking to you now, I have spent, in two months now, getting to three months now, on ground, my vehicle spoilt. So if they are ready to work as a company, they should put all the vehicles in order. If you are going and coming, you don't have any headache, you are okay. But when your vehicle is giving you problems time to time, from one problem to another, you can't be well. You will be, maybe you get to your house for you to relax against tomorrow, you'll be thinking, you'll be thinking about concerning your vehicle. Your high pressure may rise, your mind and spirit can't settle down. So when your vehicle is okay, you are okay too. So if the company can arrange the whole vehicle

for all drivers, when you load your vehicle, you go to your destination, come back safely, with no disturbance, you come back, park your vehicle, and go to your house — your temperature will come down. But if after all that stress, you go to your house and say, 'Ah, I'm stressed,' you'll be thinking how to bring that vehicle down, where you can take it off, your temperature — everything will be scattered. Your mind will not settle until that vehicle comes back to the office. So that's the problem. I'm talking about that area."

Anything else you want to add?

Response: "Another thing, what I want to say is if management can provide somebody that will give us lectures. Like me now, I need it, even though I know everything, I still need it. Everybody cannot know everything. If they can provide someone, even from outside, to give us advice — we need it, even on how to dress. Not everybody knows how to dress here. Because when you dress well, passengers will not talk to you anyhow. They should get somebody to be giving us advice, giving that lecture. We need it here. So that's what I have."

Thank you very much, sir. God bless you, sir. Thank you for your time.

PARTICIPANT 4

1. How would you describe the safety culture of the company?

Response: "Well if I have to describe that, I will say, I give an average result. Subsequently, they call us together for a pep talk and they address us on the necessity and more of good conduct to enhance safety measures."

2. How often does the company conduct safety training or courses for drivers?

Response: "I will be limited to that question because I'm a year and 6 months so I don't know how much duration they give before they go for a safety course or a safety class but from my little knowledge the only safety class is an internal safety class which comprises of the drivers and employers."

3. Does the company ensure that safety equipment like seat belts and other gadgets are provided in the vehicles?

Response: "We do have safety equipments in our vehicles such as every vehicle here before you drive, you must put on your seat belt and again we have other safety gadgets, though I will not generalise but I think few of the vehicles have such."

4. Does the company conduct medical checkups before employment or periodically?

Response: "Yah in that aspect I think that very exercise is being conducted at the entrance, let me use, in the process of recruitment. If you are a driver and you are coming into the company, these are things they have to check. But I think, in my own opinion, there are things you have to

check subsequently because as you are driving as the day passes by, we get aged and there are a lot of factors, health factors that can affect even your vision within a short while which the management won't be able to figure out so it is necessary we do check up occasionally may be once half annually or annually but what we do currently here is that, I know that before you come in, you must have a good sight, you must be medically fit and you must have gotten at least a lot of experiences, driving experiences in other places as well."

5. Is there any retirement plan for drivers?

Response: "Yah retirement plans, I can't really say no like I told you, I am just a year and 6 months here but I've not got any positive rumour on that retirement plan. But if I would have to say, I don't think there is any provision for that."

6. Do they allow drivers to take a break when they are exhausted or sick?

Response: "Yah, what they do is not, we don't have anything like medical regular check up and the rest which would have been able to checkmate that very... but what they do is your personal... It has to do with the individual, you as a driver, you know your health personally, if you are feeling much fatigue you are exhausted, you are worn-out, you can go to the management and say 'please I going to pack for some days I want to go for a medical test or treatment' that will not bring any query at all."

7. How would you rate your welfare, both financially and mentally, as a driver?

Response: "Well it's a two-way question you just asked, you are happy and financial is a different thing to me sorry because some could just find himself doing a tough body job which is very vigorous but because he is not happy yet his financial life is stable just like those high risk job so I will answer in a different way. In terms of financial aspects, I would say, it's of the average side. Generally, the economy is not balanced but if I have to narrow it where I work I think we are a little bit underpaid. So then when you ask about if I am comfortable, like what you wrote that is exhaustive about my job it has to do with what you are happy doing is what is in line with your vision? I personally, I don't think I am working in my dreams so I won't say I am happy but just for the sake of putting something on on the table, I believe God will definitely take me to my better place."

8. What advice would you give management on driver welfare and motivation?

Response: "Okay, well before I answer that, I would like to add little to what I just said. Though I said I am not happy but it is of paramount need I have to put in a lot of safety measures and all that because I think I have a dream and I have a vision so that will not make me very aggressive before passengers or whatever, rather, possessing the quality of customer relationship that even when I leave, there will be a good name. So in that aspect if there will be any idea I have to share letting the management know how to plan our welfare and all that, personally, there are a lot

because we drivers sometimes 80% of us, we're not enlightened and sometimes you find that 80% of the drivers, we are of the classes of people who has no choice rather to come into driving because we need a daily pay or bread so we spend money carelessly whether much or little sometimes so if the management see into all these, in terms of dispatch like where I work, we don't have salary, in terms of dispatch, like if you are going they give you, you work on your commission, they give you what they are supposed to give, you get your fuel and it's yours they should be able to reduce a little of that very amount, save it in instalment, then at the end of the month they give you as part of your incentives, that will go a long way for us. And again there should be kind of incentives, you find out who is working well, who is more operational, who is more active and all that, there should be an appraisal, it could be once even in a year, then possibly check the person's vehicles that will be a motivational factor in terms of job duties. So for me I think that will enhance more of safety because when you are mentally and financially stable and you are happy with your job, I am sure safety is always your watch word."

PARTICIPANT 5

1. Sir, can you describe safety culture in this your company, how does your company prioritise drivers' safety?

Response: " Definitely we practice it every time, like today now people are in the training"

2. What type of safety training do they give the drivers here and how often do drivers go for safety training?

Response: "Yes we do train every year, section by section so the Last section is tomorrow, so some is finishing today, some will enter tomorrow"

3. What of protective measures, do they ensure that the drivers have good seat belt, is there first aid kits.

Response: "Yes there is protective measures, we get seat belt"

4. What about welfare of the drivers? Does the company ensure that medical check ups are done for the drivers?

Response: "We have HMO, we have it"

4b. What of retirement plan? Do they have retirement plan

Response:" I don't know, for that I don't know this is one man's business"

5. What of burn out and fatigue? If a driver is complaining of stress, tiredness do they encourage time off to go and rest or if you don't come to work they don't pay you. How is it managed here?

Response: "Yes, if you know you are tired, you can hand over your motor to another person, then you go home and rest"

6. How will you say is the overall wellbeing, financially are you ok, physically do they take care of their staff here. You as a driver, do you feel you are well taken care of working in this company?

Response: "We dey try, them dey try"

7. What suggestions can you give to the company a to improve on for their drivers and other workers. In terms of safety too and welfare

Response: " I don't know for that, I don't know the suggestions to make for the company to improve

Pending on the, you know it is handled by one man's business, it is what comes out of a man that he will do, we that are here, we are just here for the daily work, so we don't so much interfere on those ones"

APPENDIX V

Thematic Analysis

Themes and Sub-themes

Theme 1: Safety Culture

- Sub-theme 1.1: Prioritization of safety
- Sub-theme 1.2: Safety training and frequency
- Sub-theme 1.3: Protective measures (seat belts, first aid kits, etc.)

Theme 2: Driver Welfare

- Sub-theme 2.1: Medical check-ups and health benefits
- Sub-theme 2.2: Retirement plans
- Sub-theme 2.3: Burnout and fatigue management

Theme 3: Overall Well-being

- Sub-theme 3.1: Financial well-being
- Sub-theme 3.2: Physical well-being
- Sub-theme 3.3: Mental well-being

Key Excerpts

Theme	Sub-theme	Participant	Key Excerpt
Safety Culture	Prioritization of safety	Participant 1	"For Faith Motor company, passengers are our first safety."
Safety Culture	Safety training and frequency	Participant 2	"They give us training at least... every six months."
Safety Culture	Protective measures	Participant 3	"Yes we have somebody that is in charge of that."
Driver Welfare	Medical check-ups and health benefits	Participant 4	"We have HMO, we have it."
Driver Welfare	Retirement plans	Participant 2	"We don't have any agreement on that."
Driver Welfare	Burnout and fatigue management	Participant 5	"Yes, if you know you are tired, you can hand over your motor to another person."
Overall Well-being	Financial well-being	Participant 4	"I think we are a little bit underpaid."
Overall Well-being	Physical well-being	Participant 3	"If you complain about it they will do it for you."
Overall Well-being	Mental well-being	Participant 2	"The company are trying."

APPENDIX VI

SPSS output

Frequencies

VAR00001

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	100	36.4	36.4	36.4
2.00	155	56.4	56.4	92.7
3.00	20	7.3	7.3	100.0
Total	275	100.0	100.0	

VAR00002

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	56	20.4	20.4	20.4
2.00	126	45.8	45.8	66.2
3.00	60	21.8	21.8	88.0
4.00	33	12.0	12.0	100.0
Total	275	100.0	100.0	

VAR00003

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	27	9.8	9.8	9.8
2.00	94	34.2	34.2	44.0
3.00	61	22.2	22.2	66.2
4.00	93	33.8	33.8	100.0
Total	275	100.0	100.0	

VAR00004

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	88	32.0	32.0	32.0
2.00	134	48.7	48.7	80.7
3.00	41	14.9	14.9	95.6
4.00	6	2.2	2.2	97.8
5.00	6	2.2	2.2	100.0
Total	275	100.0	100.0	

VAR00005

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	64	23.3	23.3	23.3
2.00	100	36.4	36.4	59.6
3.00	48	17.5	17.5	77.1
4.00	63	22.9	22.9	100.0
Total	275	100.0	100.0	

VAR00006

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	6	2.2	2.2	2.2
2.00	7	2.5	2.5	4.7
3.00	28	10.2	10.2	14.9
4.00	135	49.1	49.1	64.0
5.00	99	36.0	36.0	100.0
Total	275	100.0	100.0	

VAR00007

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	4	1.5	1.5	1.5
2.00	9	3.3	3.3	4.7
3.00	41	14.9	14.9	19.6
4.00	117	42.5	42.5	62.2
5.00	104	37.8	37.8	100.0
Total	275	100.0	100.0	

VAR00008

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	2	.7	.7	.7
2.00	7	2.5	2.5	3.3
3.00	43	15.6	15.6	18.9
4.00	142	51.6	51.6	70.5
5.00	81	29.5	29.5	100.0
Total	275	100.0	100.0	

VAR00009

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	10	3.6	3.6	3.6
2.00	16	5.8	5.8	9.5
3.00	28	10.2	10.2	19.6
4.00	139	50.5	50.5	70.2
5.00	82	29.8	29.8	100.0
Total	275	100.0	100.0	

VAR00010

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	1.00	16	5.8	5.8	5.8
	2.00	18	6.5	6.5	12.4
	3.00	43	15.6	15.6	28.0
	4.00	105	38.2	38.2	66.2
	5.00	93	33.8	33.8	100.0
	Total	275	100.0	100.0	

VAR00011

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	6	2.2	2.2
	2.00	21	7.6	9.8
	3.00	42	15.3	25.1
	4.00	134	48.7	73.8
	5.00	72	26.2	100.0
	Total	275	100.0	100.0

VAR00012

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	18	6.5	6.5
	2.00	22	8.0	14.5
	3.00	51	18.5	33.1
	4.00	111	40.4	73.5
	5.00	73	26.5	100.0
	Total	275	100.0	100.0

VAR00013

	Frequency	Percent	Valid Percent	Cumulative
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				Percent
Valid	1.00	8	2.9	2.9
	2.00	21	7.6	10.5
	3.00	30	10.9	21.5
	4.00	116	42.2	63.6
	5.00	100	36.4	100.0
	Total	275	100.0	100.0

VAR00014

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	4	1.5	1.5
	2.00	23	8.4	9.8
	3.00	48	17.5	27.3
	4.00	129	46.9	74.2
	5.00	71	25.8	100.0
	Total	275	100.0	100.0

VAR00015

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	25	9.1	9.1
	2.00	69	25.1	34.2
	3.00	35	12.7	46.9
	4.00	92	33.5	80.4
	5.00	54	19.6	100.0
	Total	275	100.0	100.0

VAR00016

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	37	13.5	13.5

2.00	53	19.3	19.3	32.7
3.00	40	14.5	14.5	47.3
4.00	95	34.5	34.5	81.8
5.00	50	18.2	18.2	100.0
Total	275	100.0	100.0	

VAR00017

	Frequency	Percent	Valid Percent	Cumulative Percent
1.00	25	9.1	9.1	9.1
2.00	53	19.3	19.3	28.4
3.00	34	12.4	12.4	40.7
4.00	88	32.0	32.0	72.7
5.00	75	27.3	27.3	100.0
Total	275	100.0	100.0	

VAR00018

	Frequency	Percent	Valid Percent	Cumulative Percent
1.00	26	9.5	9.5	9.5
2.00	45	16.4	16.4	25.8
3.00	55	20.0	20.0	45.8
4.00	99	36.0	36.0	81.8
5.00	50	18.2	18.2	100.0
Total	275	100.0	100.0	

VAR00019

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	1.00	21	7.6	7.6	7.6
	2.00	37	13.5	13.5	21.1
	3.00	29	10.5	10.5	31.6
	4.00	112	40.7	40.7	72.4
	5.00	76	27.6	27.6	100.0
	Total	275	100.0	100.0	

VAR00020

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	27	9.8	9.8
	2.00	35	12.7	22.5
	3.00	34	12.4	34.9
	4.00	121	44.0	78.9
	5.00	58	21.1	100.0
	Total	275	100.0	100.0

VAR00021

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	24	8.7	8.7
	2.00	73	26.5	35.3
	3.00	73	26.5	61.8
	4.00	78	28.4	90.2
	5.00	27	9.8	100.0
	Total	275	100.0	100.0

VAR00022

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	21	7.6	7.6
	2.00	35	12.7	20.4

3.00	48	17.5	17.5	37.8
4.00	100	36.4	36.4	74.2
5.00	71	25.8	25.8	100.0
Total	275	100.0	100.0	

VAR00023

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	15	5.5	5.5	5.5
2.00	30	10.9	10.9	16.4
3.00	61	22.2	22.2	38.5
4.00	118	42.9	42.9	81.5
5.00	51	18.5	18.5	100.0
Total	275	100.0	100.0	

VAR00024

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	28	10.2	10.2	10.2
2.00	51	18.5	18.5	28.7
3.00	55	20.0	20.0	48.7
4.00	104	37.8	37.8	86.5
5.00	37	13.5	13.5	100.0
Total	275	100.0	100.0	

VAR00025

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	9	3.3	3.3	3.3

2.00	62	22.5	22.5	25.8
3.00	39	14.2	14.2	40.0
4.00	114	41.5	41.5	81.5
5.00	51	18.5	18.5	100.0
Total	275	100.0	100.0	

VAR00026

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	9	3.3	3.3	3.3
2.00	44	16.0	16.0	19.3
3.00	57	20.7	20.7	40.0
4.00	90	32.7	32.7	72.7
5.00	75	27.3	27.3	100.0
Total	275	100.0	100.0	

VAR00027

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	30	10.9	10.9	10.9
2.00	73	26.5	26.5	37.5
3.00	60	21.8	21.8	59.3
4.00	75	27.3	27.3	86.5
5.00	37	13.5	13.5	100.0
Total	275	100.0	100.0	

VAR00028

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	29	10.5	10.5	10.5
2.00	53	19.3	19.3	29.8
3.00	52	18.9	18.9	48.7

4.00	99	36.0	36.0	84.7
5.00	42	15.3	15.3	100.0
Total	275	100.0	100.0	

VAR00029

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	24	8.7	8.7	8.7
2.00	35	12.7	12.7	21.5
3.00	45	16.4	16.4	37.8
4.00	113	41.1	41.1	78.9
5.00	58	21.1	21.1	100.0
Total	275	100.0	100.0	

VAR00030

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00	1	.4	.4	.4
1.00	4	1.5	1.5	1.8
2.00	31	11.3	11.3	13.1
3.00	58	21.1	21.1	34.2
4.00	115	41.8	41.8	76.0
5.00	66	24.0	24.0	100.0
Total	275	100.0	100.0	

VAR00031

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 2.00	19	6.9	6.9	6.9
3.00	59	21.5	21.5	28.4

4.00	137	49.8	49.8	78.2
5.00	60	21.8	21.8	100.0
Total	275	100.0	100.0	

VAR00032

	Frequency	Percent	Valid Percent	Cumulative Percent
.00	1	.4	.4	.4
1.00	1	.4	.4	.7
2.00	27	9.8	9.8	10.5
Valid 3.00	48	17.5	17.5	28.0
4.00	137	49.8	49.8	77.8
5.00	61	22.2	22.2	100.0
Total	275	100.0	100.0	

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAR00006	275	1.00	5.00	4.1418	.86174
VAR00007	275	1.00	5.00	4.1200	.88177
VAR00008	275	1.00	5.00	4.0655	.78494
VAR00009	275	1.00	5.00	3.9709	.98115
VAR00010	275	1.00	5.00	3.8764	1.12665
VAR00011	275	1.00	5.00	3.8909	.95277
VAR00012	275	1.00	5.00	3.7236	1.13504
VAR00013	275	1.00	5.00	4.0145	1.02156
VAR00014	275	1.00	5.00	3.8727	.94085
VAR00015	275	1.00	5.00	3.2945	1.28600
VAR00016	275	1.00	5.00	3.2473	1.32244
VAR00017	275	1.00	5.00	3.4909	1.31628
VAR00018	275	1.00	5.00	3.3709	1.22350
VAR00019	275	1.00	5.00	3.6727	1.22705
VAR00020	275	1.00	5.00	3.5382	1.23269
VAR00021	275	1.00	5.00	3.0400	1.13755

VAR00022	275	1.00	5.00	3.6000	1.21427
VAR00023	275	1.00	5.00	3.5818	1.07884
VAR00024	275	1.00	5.00	3.2582	1.20320
VAR00025	275	1.00	5.00	3.4945	1.12818
VAR00026	275	1.00	5.00	3.6473	1.13791
VAR00027	275	1.00	5.00	3.0582	1.23079
VAR00028	275	1.00	5.00	3.2618	1.23387
VAR00029	275	1.00	5.00	3.5309	1.20596
VAR00030	275	.00	5.00	3.7455	1.01482
VAR00031	275	2.00	5.00	3.8655	.83277
VAR00032	275	.00	5.00	3.8255	.92338
Valid N (listwise)	275				

Correlations

		SFC	SFT	PRM	WFS	WFC
SFC	Pearson Correlation	1	.446**	.327**	.032	.109
	Sig. (2-tailed)		.000	.000	.593	.072

	N	275	275	275	275	275
SFT	Pearson Correlation	.446**	1	.320**	-.056	.135*
	Sig. (2-tailed)	.000		.000	.359	.025
	N	275	275	275	275	275
PRM	Pearson Correlation	.327**	.320**	1	.208**	.297**
	Sig. (2-tailed)	.000	.000		.001	.000
	N	275	275	275	275	275
WFS	Pearson Correlation	.032	-.056	.208**	1	.133*
	Sig. (2-tailed)	.593	.359	.001		.027
	N	275	275	275	275	275
WFC	Pearson Correlation	.109	.135*	.297**	.133*	1
	Sig. (2-tailed)	.072	.025	.000	.027	
	N	275	275	275	275	275

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

* . Correlation is significant at the 0.05 level (2-tailed).

Regression

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.598 ^a	.358	.346	1.97067	1.622

a. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

b. Dependent Variable: PWB

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	582.794	5	116.559	30.013	.000 ^b
	Residual	1044.675	269	3.884		
	Total	1627.469	274			

a. Dependent Variable: PWB

b. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.968	.980		2.008	.046		
SFC	.054	.075	.040	.717	.474	.763	1.311
SFT	.035	.056	.035	.625	.533	.752	1.329
PRM	.095	.058	.092	1.647	.101	.762	1.313
WFS	.177	.036	.247	4.893	.000	.933	1.071
WFC	.407	.046	.455	8.860	.000	.904	1.107

a. Dependent Variable: PWB

Regression

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.471 ^a	.222	.208	2.48197	1.539

a. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

b. Dependent Variable: MWB

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	472.909	5	94.582	15.354	.000 ^b
	Residual	1657.091	269	6.160		
	Total	2130.000	274			

a. Dependent Variable: MWB

b. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	4.253	1.234		3.446	.001		
SFC	-.065	.094	-.043	-.690	.491	.763	1.311
SFT	.145	.071	.126	2.039	.042	.752	1.329
PRM	.007	.073	.006	.101	.920	.762	1.313
WFS	.050	.045	.061	1.099	.273	.933	1.071
WFC	.441	.058	.432	7.631	.000	.904	1.107

a. Dependent Variable: MWB

Regression

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.394 ^a	.156	.140	2.92571	1.722

a. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

b. Dependent Variable: FWB

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	424.303	5	84.861	9.914	.000 ^b
Residual	2302.584	269	8.560		
Total	2726.887	274			

a. Dependent Variable: FWB

b. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	4.262	1.455		2.929	.004		
SFC	.054	.111	.031	.486	.627	.763	1.311
SFT	-.027	.084	-.021	-.328	.743	.752	1.329
PRM	.083	.086	.062	.965	.335	.762	1.313
WFS	.322	.054	.348	6.004	.000	.933	1.071
WFC	.100	.068	.086	1.464	.144	.904	1.107

a. Dependent Variable: FWB

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.409 ^a	.167	.152	1.85527	1.490

a. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

b. Dependent Variable: EMW

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	185.728	5	37.146	10.792	.000 ^b
Residual	925.909	269	3.442		
Total	1111.636	274			

a. Dependent Variable: EMW

b. Predictors: (Constant), WFC, SFC, WFS, PRM, SFT

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	8.403	.923		9.107	.000		
SFC	.184	.054	.221	3.396	.001	.763	1.311
SFT	-.254	.061	-.376	-4.142	.000	.752	1.329
PRM	.487	.095	.594	5.104	.000	.762	1.313
WFS	-.169	.059	-.232	-2.870	.004	.933	1.071
WFC	.119	.053	.148	2.237	.026	.904	1.107

a. Dependent Variable: EMW