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The Relationship Between Transformational Leadership, Organizational Safety Climate, and Job  
Satisfaction: A Quantitative Study

by

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## ABSTRACT

The Occupational Safety and Health Act of 1970 resulted in the establishment of the Occupational Safety and Health Administration, which made workplaces safer for employees. Although obvious hazards have decreased in many American workplaces, a supportive environment for occupational safety is something that organizational leaders must cultivate. Some leaders place a greater emphasis on workplace welfare creation because they are much more concerned with the welfare of their workers. The problem that will be examined in this study is that many organizations ignore safety culture altogether, which can result in diminished job satisfaction. The research question for this study is what is the relationship between transformational leadership, occupational safety climate, and job satisfaction of oil drilling and gas extraction industry workers in the United States? This study utilizes quantitative methodology. The research design utilized for this study is a non-experimental correlational approach that allows the researchers to examine the direction and strength of relationships and interactions between the study's variables. The researcher used Centiment to recruit 107 participants for this study who self-identified as adults that work in the oil drilling and gas extraction industry to complete an online survey. The theoretical foundations for this study were Bernard Bass's transformational leadership theory, H. W. Heinrich's domino theory, and Abraham Maslow's hierarchy of needs theory. Correlational tests were performed, and the findings showed a statistically significant relationship between the variables.

*Keywords: transformational leadership, occupational safety climate, job satisfaction, oil drilling, gas extraction.*

## **DEDICATION**

I would like to dedicate this dissertation to my dad, Joe R. Huff Sr. I have spent a lifetime trying to impress him and make him proud. He is one of the smartest, wisest men in this world. At the beginning of this journey, it was expressed to me that getting a doctoral degree wasn't important in his opinion. I think that his exact words were "I don't care one way or the other because you won't be my doctor." Well, now as your daughter and Doctor of Business Administration, I am officially your doctor. Love you dad!

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## **CHAPTER 1: INTRODUCTION TO THE STUDY**

Since the Occupational Safety and Health Administration (OSHA, 1970) was created because of the Occupational Safety and Health Act of 1970, workplaces have become safer for employees. Nevertheless, while blatant hazards have diminished in many American workplaces, a positive occupational safety climate does not happen by accident; it is something that needs to be nurtured by organizational leaders. Some leaders are much more focused on the welfare of their employees and, as a result, will place greater importance on workplace welfare creation.

The purpose of this study was to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction among US oil drilling and gas extraction industry workers. If it can be determined that transformational leadership and a positive occupational safety climate contribute to increased job satisfaction, organizations may see the value in conducting transformational leadership training and focus on safety climate to increase job satisfaction, reduce mishaps in the workplace, reduce mishap costs, and increase profit and productivity (Sánchez-Segura et al., 2021).

This research differs from other research on transformational leadership because the effect of occupational safety climate on job satisfaction was also examined. This study extends prior research on the topic by providing information to business leaders on the impact transformational leadership style has on the organization's safety climate and job satisfaction, which can potentially improve the organization. Chapter 1 includes an overview of the study that explains the research problem, a brief history and current state of the research problem, the purpose of the study, the significance of the study, and the research design and methodology.

## **Background of the Study**

Leadership style is defined as techniques used to direct and influence the activities in an organization (Asgari et al., 2020). Transformational leadership style is a commonly studied concept (Akdere & Egan, 2020; Alimo-Metcalfe & Alban-Metcalfe, 2001; Kines et al, 2011; Loh et al., 2021). However, what is not widely studied is the impact transformational leadership and occupational safety climate have on job satisfaction in US oil drilling and gas extraction industry workers. This study aimed to contribute to the literature in four ways: First, this study assessed the impact of transformational leadership on occupational safety climate. Second, this study added to the transformational leadership theory by exploring how the elements of occupational safety climate are affected by transformational leadership. Third, this study investigated how transformational leadership affects job satisfaction. Fourth, this study examined how an employee's perception of an organization's occupational safety climate affects job satisfaction. Examining the role of transformational leadership and measuring the perception of occupational safety climate to determine how they affect job satisfaction also introduces new constructs to the literature.

This study presents the state of research in the fields of transformational leadership, occupational safety climate, and job satisfaction. Separately, these variables can influence an organization. The significance of this study is that it sheds light on possible effects of the relationship between these variables for business leaders in the oil and gas extraction industry. Finally, oil and gas extraction industry leaders will gain the understanding of how the relationship between these variables can affect their organizations.

## **Problem Statement**

The problem that was examined in this study is that many organizations ignore safety culture altogether, which can result in diminished job satisfaction (Niartiningsih et al., 2020). Reasons for this may include the lack of importance leaders place on safety climate, few efforts to improve safety culture, and ignorance. According to Lal (2022), most organizations will only make concrete health and safety decisions once a loss is experienced. This type of decision would be an example of ignoring safety as part of the organization's safety culture until changes have to be implemented. Safety behavior and performance in many industries are impacted on the safety attitude of its workers and managers. (Marquardt et al., 2020). Furthermore, employees' satisfaction with their jobs and desire to remain in an organization is affected by trust, which is developed by working in an environment where safety is considered important by management and communications surrounding safety are welcomed (Judge, 2018). Therefore, job satisfaction and worker safety should be a concern for business leaders because an organization's safety culture is directly related to job satisfaction (Niartiningsih et al., 2020).

Organizational leaders drive the climate of an organization, including its safety climate (Beus et al., 2017). Research demonstrates that there is a substantial relationship between transformational leadership and safety climate and safety climate is often used as a mediator between transformational leadership and some other variable. For example, Draghici et al. (2022) looked at safety climate as a mediator between transformation leadership and safe behavior. Mirza and Isha (2020) examined how transformational leadership and safety climate impact occupational accidents. Safety-specific transformational leadership has positive outcomes on workplace safety in general. Organizational leaders have the ability and responsibility to create an atmosphere that promotes employees' overall wellness and security. An organization's

safety climate and its employees' perceptions of the safety climate are influenced by the actions and inactions of its leaders.

An exhaustive literature review was conducted, and no empirical studies were identified that document the influence that transformational leadership has on occupational safety climate and how that organizational safety climate affects job satisfaction in the oil drilling and gas extraction industry. This study provides valuable information to leaders that can result in the implementation of strategies that increase production, reduce injuries, promote a safer work environment, and lead to greater job satisfaction. In the past, organizations were static environments that required little change; however, businesses now compete in dynamic environments that are constantly changing, which requires more dynamic leadership representation (Asgari et al., 2020). Organizations can stay competitive in today's marketplace if they stay abreast of leadership research and implement strategies to hire and train effective leaders (Asgari et al., 2020). This research bridges the gap in the literature on how transformational leadership and occupational safety climate can improve job satisfaction. In addition, research shows that transformational leadership has a role in organizational support behavior (Asgari et al., 2020). Therefore, for the purpose of this research, organizational support behavior includes the organization's occupational safety climate. Furthermore, organizational climate is defined as a set of shared perceptions about an organization's procedures, principles, ideals, standards, and practices (Gyekye & Salminen, 2007). Therefore, the occupational safety climate is part of the overall organizational climate.

Research also shows a connection between transformational leadership and job satisfaction (Asgari et al., 2020). When employees perceive transformational leaders as polite, job satisfaction levels are promoted (Akdere & Egan, 2020; McCallaghan et al., 2019). However,

there is a gap in the literature examining the relationship between transformational leadership, occupational safety climate, and job satisfaction among US oil drilling and gas extraction industry workers. A robust occupational safety climate can contribute to an individual's safety needs on Maslow's hierarchy of needs (Osman et al., 2019). A positive relationship between transformational leadership and job satisfaction is evident in the results of a research study by Steinmann et al. (2018). The results of previous studies indicate that transformational leadership can improve organizational safety climate level; however, the literature on the relationship between transformational leadership, organizational climate, and job satisfaction is not comprehensive (Akdere & Egan, 2020; Asgari et al., 2020; Badura et al., 2021; Osman et al., 2019). The relationship between transformational leadership, occupational safety climate, and job satisfaction can impact an organization in various ways. Examples of these impacts include promoting engaging behaviors that yields a return for the organization, high levels of organizational commitment and organizational citizenship behavior (Tan et al., 2021).

### **Purpose Statement**

The purpose of this quantitative correlational study was to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction of US oil drilling and gas extraction industry workers. The survey was distributed, and data was collected by Centiment. The study participants were working adults who are employed by US oil drilling and gas extraction employers.

The data collection instrument was an online survey that consists of the Multifactor Leadership Questionnaire (MLQ 5x-short), the Nordic Occupational Safety Climate Questionnaire NOSCAQ-50, and the Paul Spector Job Satisfaction Survey (JSS). This research adds knowledge to the field of study about the relationship between occupational safety climate

in organizations and how transformational leadership affects occupational safety climate and job satisfaction.

### **Research Questions and Hypotheses**

The following research question defined the intent of the study.

RQ: What is the relationship between transformational leadership, occupational safety climate, and job satisfaction of oil drilling and gas extraction industry workers in the United States?

H1<sub>0</sub>: There is no statistically significant relationship between transformational leadership and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H1<sub>a</sub>: There is a statistically significant relationship between transformational leadership and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H2<sub>0</sub>: There is no statistically significant relationship between perceived occupational safety climate and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H2<sub>a</sub>: There is a statistically significant relationship between perceived occupational safety climate and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H3<sub>0</sub>: There is no statistically significant relationship between transformational leadership and perceived occupational safety climate of oil drilling and gas extraction industry workers in the United States.

H3<sub>a</sub>: There is a statistically significant relationship between transformational leadership and perceived occupational safety climate of oil drilling and gas extraction industry workers in the United States.



## **Advancing Theoretical Knowledge**

The theories that frame this research study are Bass's transformational leadership theory, Heinrich's domino theory, and Maslow's hierarchy of needs. Bernard Bass founded the transformational leadership theory in 1985. Transformational leadership style is and that a transformational leader inspires followers and can alter or outright change followers' beliefs and attitudes (Barbinta et al., 2017).

H. W. Heinrich founded the domino theory in the 1930 (Yorio & Moore, 2018). Heinrich's domino theory is also crucial to this research study because it explains how safety can lead to job satisfaction. It is a classic theory that suggests that any injury that results from an accident occurs because a person acts unsafely or due to unsafe conditions at the workplace (Osman et al., 2019). The theory also suggests that accidents and injuries are preceded by a fault in the person or social environment.

Abraham Maslow's hierarchy of needs theory was seen in print form for the first time in 1943, (McCleskey & Ruddell, 2020). Maslow's hierarchy of needs theory is one of the best-known and most commonly used theories to understand and influence an employee's motivation at work (Fallatah & Syed, 2018). In the hierarchy of needs theory, Maslow identified five universal needs that form the basis for all employee motivation. The identified universal needs are physiological, safety, social, esteem, and self-actualization. Maslow's hierarchy of needs theory continues to be examined, tested, and empirically studied, which validates the theory's assertions and premises. These theories will be discussed more in Chapter 2.

Currently, there is research on transformational leadership and job satisfaction; however, there is a gap in research on the relationship between transformational leadership, occupational safety climate, and job satisfaction in US oil drilling and gas extraction industry workers. This

research sought to fill that gap. This study also advanced theory by examining the relationship between the three variables.

### **Application to Business Administration**

Job satisfaction affects every business because high satisfaction can result in employees staying with an organization, thus decreasing hiring costs, training costs, and lost production. Cost reduction can also be achieved by improving safety climate strength, thus reducing mishap costs to the organization (Flatau-Harrison et al., 2020). Additionally, leaders who are responsible for leadership training, safety policies, and employee retention initiatives have a major impact on a business's ability to increase job satisfaction, reduce accidents, and retain employees. These leaders can benefit from examining the results of this study.

Occupational accidents cause pain and increase costs for society, organizations, and individuals (Kines et al., 2011). Given that both transformational leadership and a safe workplace can result in higher job satisfaction (Steinmann et al., 2018), it is imperative for businesses to develop strategies that ensure employees enjoy a safe and healthy work environment. Leaders, who often act as employee advocates, can ensure that the strategies are implemented. Job satisfaction can be enhanced when employees perceive that an organization cares about their well-being.

Improving the occupational safety climate of an organization is about more than just preventing fines from the Occupational Safety and Health Administration (OSHA) after an accident. This study applies to business administration because increased job satisfaction leads to retention, which decreases turnover costs (Akdere & Egan, 2020; Ozkan et al., 2020). Furthermore, organizations that increase safety standards not only send the message that they care about their employees, thus increasing job satisfaction (Judge, 2018), but these safety

standards also reduce injuries, resulting in lower healthcare and worker compensation costs (Free Workplace Safety Program Reduces Workers' Compensation Costs, 2022).

This study demonstrated the importance of the occupational safety climate to industries across the board. Additionally, this study highlighted key findings, implications, and recommendations for business leaders based on the relationship between transformational leadership, occupational safety climate, and job satisfaction. Business leaders can use the results of this study to develop strategies that encourage followers to enrich their abilities, advancing organizational performance and improving their organizational climate.

### **Significance of the Study**

The study of the relationship between transformational leadership, occupational safety climate, and job satisfaction can have significant implications for business leaders. Expanding the knowledge and literature on these variables can have significant implications for business leaders and researchers alike. This study provided findings that indicate a positive, relationship between the constructs and expand the existing literature on the topic.

There is limited empirical research available that shows how transformational leadership can affect occupational safety and, subsequently, job satisfaction. Moreover, there is no research that links transformational leadership and occupational safety climate to job satisfaction. Expanding the knowledge for these fields can have significant implications for business leaders by providing valuable information that can result in the implementation of strategies that increase production, reduce injuries, promote a safer work environment, and lead to greater job satisfaction.

## **Methodology**

This study utilized a quantitative methodology. Quantitative research is used to address problems in terms of applying statistical numeric data to research problems with the goal of exploring the relationships between variables without inferring causation (Le Tourneau University, 2022). Qualitative research could have been considered; however, it is not the best method because, rather than using unstructured data collection methods such as observations and interviews, hypothesis testing will be used to determine the strength and direction of the relationship between the variables examined in this study (Roberts & Hyatt, 2018). Because this research focused on examining the relationship between the variables and testing existing theories, a quantitative methodology is most appropriate.

The researcher utilized Centiment.co to recruit a convenience sample of US oil drilling and gas extraction industry workers and distribute a survey to gather the data necessary to test the three hypotheses that were presented earlier in this chapter.

## **Research Design**

The research design utilized for this study is correlational, which allows researchers to examine the direction and strength of relationships between variables (Limberg et al., 2021). Correlational research design allowed the researcher to study constructs that are not directly observable (Limberg et al., 2021). Correlational research design is a non-experimental approach that a researcher can use to determine the interaction between variables (Sapp, 2017).

A causal-comparative research design could have been considered for this study if the intent was to compare the mean difference between groups. According to Brown (2020), causal-comparative research is conducted to allow a researcher to find a relationship after an event has already occurred and compares two or more groups. However, this research design was not

appropriate because the researcher was not concerned with comparing groups. A causal-comparative approach would be use for a study that utilizes ANOVA or a *t*-test analysis.

### **Definitions of Key Terms**

**Correlational research design.** This research study utilized a correlational research design. The correlational research design implies that the research describes and measures the relationship between two or more variables in a study (Brown, 2020).

**Heinrich's domino theory.** Heinrich's domino theory is vital to this research study because it explains how safety can lead to job satisfaction. Heinrich's domino theory is a classical theory that suggests that injuries caused by an accident are the result of unsafe acts of a person or unsafe conditions at the workplace and are proceeded by the fault of a person and social environment (Osman et al., 2019).

**Job satisfaction.** Job satisfaction is the dependent variable for this study. Job satisfaction can be defined as how much an individual likes or dislikes their job (Spector, 1997). Another definition of job satisfaction is to what extent the employees are satisfied with their work (Eliyana & Ma'arif, 2019).

**Occupational safety climate.** Safety climate is used in this study with the added word "occupational" to represent the safety climate within an organizational environment. Safety climate can be defined as the way safety policies, procedures, and practices are perceived by an employee (Brown, 2020).

**Transformational leadership.** This study examined the relationship between transformational leadership, occupational safety climate, and job satisfaction. Transformational leaders can profoundly affect their followers and inspire followers to surpass their own interests for the organization's good (Gaviria-Rivera & Lopez-Zapata, 2019). In addition, transformational

leadership helps increase employee attention and strengthen the level of perception and acceptance of employees to the vision and goals of the group (Amalina et al., 2022).

### **Assumptions, Limitations, and Delimitations**

Identifying the assumptions, limitations, and delimitations of a study allows the researcher to establish the scope and boundaries of the research. Assumptions are the assumed beliefs associated with this study. Limitations are unique to the methodology, design, and main areas of the research study parameters that are beyond the researcher's control (Roberts & Hyatt, 2018). Delimitations are the study's parameters. The following are the assumptions, limitations, and delimitations related to this research study.

#### **Assumptions**

According to Roberts and Hyatt (2018), an assumption is something a researcher takes for granted in their research. Assumptions are also expected to be accurate or at least probable by the researcher and the researcher's peers. A convenience sample from oil drilling and gas extraction industry workers located in the United States was taken for this study. The following assumptions are present in this study: All responses received are honest and express the responders' honest opinions, feelings, and values. It was also assumed that the sample is representative of the entire population that a linear relationship exists between the independent and dependent variables.

#### **Limitations**

Limitations are factors that affect the researcher's ability to generalize the results of a study and are also out of the researcher's control (Roberts & Hyatt, 2018). For example, a participant may not complete a survey in its entirety or answer truthfully. The first limitation is that the population was limited to oil drilling and gas extraction industry workers located in the

United States, which may affect generalizability. Also, representation of the entire population cannot be guaranteed because a convenience sample was used. The second limitation deals with the population also. Internet use increased from 52% in 2000 to 93% in 2021 (Wu et al., 2022). Even so, most oil drilling and gas extraction workers in the US work in the field rather than in an office setting where computers are readily available. Therefore, the sample's lack of technological access may have affected the survey return rate. The third limitation of this study is the length of the survey. The survey consisted of 131 items and Centiment.co estimated the time to complete the survey to be 20-30 minutes; however, some respondents may not have been able to complete the survey within that timeframe.

### **Delimitations**

Delimitations clarify the study's boundaries and scope (Roberts & Hyatt, 2018; Theofanidis & Fountouki, 2018). The survey window was April 18, 2023, through May 3, 2023. Data collection was conducted online utilizing a convenience sample from the population of oil drilling and gas extraction industry workers in the United States. Another delimitation of this study was the sample size. The timeframe that which the survey was allowed to be open was a delimitation of this study. Additionally, the use of a quantitative correlational study design and method were delimitations of this study. Finally, the sample's perception of the study's variables may differ from what is identified in the study. For example, the NOSACQ-50 responses are based on the personal perspective, opinion, perception of the participant and therefore may not express these attributes of the everyone in the population. The study's variables are delimited to the dimensions discussed in the problem statement.

## **Summary and Organization of the Remainder of the Study**

Chapter 1 included an introduction of this study on the relationship between transformational leadership, occupational safety climate, and job satisfaction. The background problem statement, purpose statement, research questions and hypothesis are also included in this chapter. The problem that was examined in this study is that many organizations ignore safety culture altogether, which can result in diminished job satisfaction (Niartiningsih et al., 2020). The purpose of this quantitative correlational study was to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction of US oil drilling and gas extraction industry workers. Chapter 1 also contained information on advancing theoretical knowledge, the significance of the study, and the study's application to business management. This research is applicable to business because job satisfaction is directly related to turnover, motivation, and employee well-being. Leaders who are responsible for business practices and policies including leadership training, safety policies, and employee retention can use the results of this study to inform the implementation of strategies to enhance these factors. Chapter 1 included the study's methodology, research design, definition of terms, assumptions, limitations, and delimitations. Finally, for the purpose of advancing theory, the significance of this study lies in the contribution it will provide by expanding the literature and present knowledge about transformational leadership style and job satisfaction through occupational safety climate, a topic that requires further empirical investigation.

Chapter 2 includes a literature review on the variables of the study, theories, framework of the study, and the instruments used to complete the data collection for this study. Chapter 3 includes detailed information on the methodology and design of the study. In addition, the techniques used in the study that will allow future researchers to duplicate the process are



described. Chapter 4 includes the data collection and analysis of this study. The results of the data analysis are discussed. Finally, Chapter 5 includes a summary of the study as well as theoretical and practical implications and recommendations and concluding remarks.

## CHAPTER 2: LITERATURE REVIEW

The aim of this study was to determine if there is a relationship between transformational leadership, occupational safety climate, and job satisfaction. It is possible to improve the effectiveness of management and organizational outcomes by gaining a better understanding of transformational leadership style and how it affects employee satisfaction and organizational performance. This chapter provides an overview of the theoretical foundations as well as the literature related to occupational safety climate, transformational leadership, and job satisfaction. Leadership research has been growing over the past decade, and a number of significant studies have been produced on the topic. However, due to leadership's broad and fragmented nature, leadership research remains primarily focused on the influence process between the leader and the employees (Lee et al., 2020). A literature review on transformational leadership, occupational safety climate, and job satisfaction is intended to provide a comprehensive overview of available information on transformational leadership, occupational safety climate and job satisfaction oil drilling and gas extraction industry workers.

Chapter 2 scrutinized extant literature and provided a background and overview of transformational leadership, occupational safety climate, and job satisfaction. To date, no studies or readily accessible information exists regarding the effects of transformational leadership on occupational safety climate and job satisfaction. A gap in the literature exists about how transformational leadership and occupational safety climate can enhance job satisfaction (Asgari et al., 2020). Other research shows that when the organizational culture is not aligned with the transformational leadership style, positive outcomes do not exist (Eliyana & Ma'arif, 2019).

There is a growing need for individual expertise across virtually all organizations; therefore, employees across all levels have become the most valuable assets within an

organization (Akdere & Egan, 2020). Now, because of this shift, human resources development focuses on providing managerial leadership training and support for employee learning and performance to achieve organizational mission success (Akdere & Egan, 2020). This research contributes to the literature on transformational leadership by further conceptualizing its effects on employee job satisfaction and an organization's occupational safety climate. Occupational safety climate perceptions and characteristics have also changed over time.

A review of the literature identified specific themes and topics related to transformational leadership, occupational safety climate, and job satisfaction. It was noted throughout the literature review that transformational leadership could significantly improve an organization's overall performance by improving employee commitment and behavior. These changes have the potential to affect the ability of a business to lower injury costs, improve job satisfaction, and increase employee retention rates and production (Shabane et al., 2017; Thompson et al., 2021; Waldman et al., 2012; Willis et al., 2017). These changes can also affect the amount of employee turnover and employee retention (Day et al., 2022).

A synthesis of the existing literature on these topics was generated from this historical review. Keywords used to identify relevant literature were transformational leadership, occupational safety climate, job satisfaction, leadership theory, safety theory, employee satisfaction, leadership roles and responsibilities, leadership questionnaire, job satisfaction survey, human resources management, safety climate scale, organizational commitment, management practice, safety climate, safety perceptions, theory-based safety climate instrument, correlation, corporate social responsibility, leadership analysis, psychosocial safety climate, workplace safety, leadership behaviors, and safety culture. The databases used to obtain

information include Business Source Ultimate, ProQuest, ScienceDirect, PLoS ONE, Academic Search Ultimate, JSTOR, and EBSCOhost.

### **Theoretical Foundations**

The purpose of this section of the dissertation was to identify and explain the theories that form the basis of this research study. The theoretical framework of the present study was based on three main theories. These theories are Bernard Bass's transformational leadership theory, H. W. Heinrich's domino theory, and Abraham Maslow's hierarchy of needs theory. Understanding these theories is essential to understanding how a transformational leader is able to affect an employee's job satisfaction and an organization's safety climate. A better understanding of these theories requires an examination of the body of research that precedes this present study. Finally, the conceptual framework for this study and the theoretical foundation of the literature review starts with Bernard Bass's transformational leadership theory.

#### **Bernard Bass's Transformational Leadership Theory**

In recent years, an increasing amount of research has raised concerns about the validity of transformational leadership. In light of these concerns, further research is required in this area. Research regarding the topic of leadership has been a subject of theory for quite some time, but analytical research on leadership did not start until the beginning of the 20th century (AL-Nawafah et al., 2022).

Transformational leadership was first introduced by Downton in 1973 (Reza, 2019). In 1978, James MacGregor Burns, a well-known author, historian, and political scientist, proposed the idea of transformational leadership in his book *Leadership* (Barbinta et al., 2017; Reza, 2019). Finally, in his work on industrial psychology, Bernard Bass returned to the notion of transformational leadership in 1985 (Barbinta et al., 2017). Bernard Bass carried forward the

ideas of James Burns and Abraham Maslow, which optimized the transformational leadership theory (Barbinta et al., 2017).

Bass's transformational leadership theory is characterized by a leadership style in which leaders clarify roles and task requirements for subordinates to achieve specific outcomes (Bass, 1985). As per the existing literature, transformational leadership is characterized by charismatic leadership traits that encourage followers to perform better than they would under other leadership styles (Day et al., 2022). In addition, a transformational leader's ability to influence subordinates is mediated by how performance change reinforcements are planned, when they are sent, and whether they are consistent or variable (Bass, 1985).

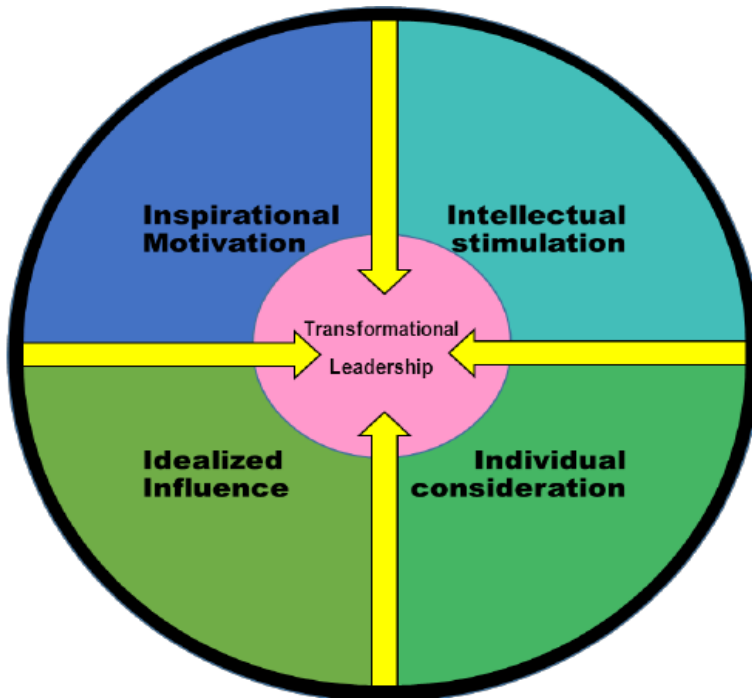
This study contributes to and adds content to the existing body of knowledge about the relationship between transformational leadership, organizational safety climate, and job satisfaction. Prior studies have not examined the effects of transformational leadership on occupational safety climate when examining the relationship between transformational leadership and job satisfaction. Furthermore, this study contributes to the existing body of knowledge on transformational leadership and adds contribution to the literature on transformational leadership's effect on job satisfaction and occupational safety climate. In addition, this study on transformational leadership adds content to the existing body of knowledge on the effects of transformational leadership on job satisfaction and occupational safety climate.

Research shows that transformational leadership results in increased attachment by subordinates to their organizations (Barbinta et al., 2017). Further investigation of the transformational leadership theory will help determine if the leadership style and occupational safety climate can help predict job satisfaction. It can be advantageous for business managers

and organizations to gain a better understanding of the transformational leadership style and how it impacts employee job satisfaction and organizational performance. Figure 1 is an illustration of the model of Bass's transformational leadership theory.

**Figure 1**

*Bernard Bass's Transformational Leadership Model*



*Note.* The transformational leadership model encourages, inspires, and motivates employees to innovate and create the changes necessary to shape the employee into a leader. From *Transformational Leadership in Nursing*," by Renjith et al. (2015).

Moreover, according to Bass's transformational leadership theory, leaders with transformational skills can provide both the economic and social benefits that employees expect, such as intellectual stimulation, individualized consideration to satisfy their needs, a model influence, and inspirational motivation that triggers intrinsic motivation in their employees (Wu et al., 2022). Finally, transformational leadership has long been observed to positively affect

employees' behavior because it establishes trust and a greater sense of sensitivity toward employees' needs. Because the transformational leadership theory postulates that transformational leaders can motivate their subordinates and make them more satisfied with their jobs, the researcher conducted hypothesis testing to examine the relationship between transformational leadership, occupational safety climate and job satisfaction in the population of a sample of oil drilling and gas extraction industry workers in the United States. This study also required research on Heinrich's domino theory, which is discussed in the next section.

### **Heinrich's Domino Theory**

A prominent accident prevention theory called the domino theory was established by H. W. Heinrich in the 1930s (Yorio & Moore, 2018). Heinrich utilized data collected from insurance claims to scientifically formulate the domino theory, which was published officially in 1931 (Dunlap et al., 2019). This foundational theory is the most influential accident prevention theory in the occupational safety and health discipline (Dunlap et al., 2019; Yorio & Moore, 2018). Results of studies conducted between 2003 and 2014 to determine the validity of the original theory show dynamic changes in the workplace; however, the basis of Heinrich's theory still remains (Bass et al., 2003; Dunlap et al., 2019). Furthermore, the findings of such research showed that while more information provides an in-depth view of accident causation, the original theory is in fact accurate and reliable (Dunlap et al., 2019).

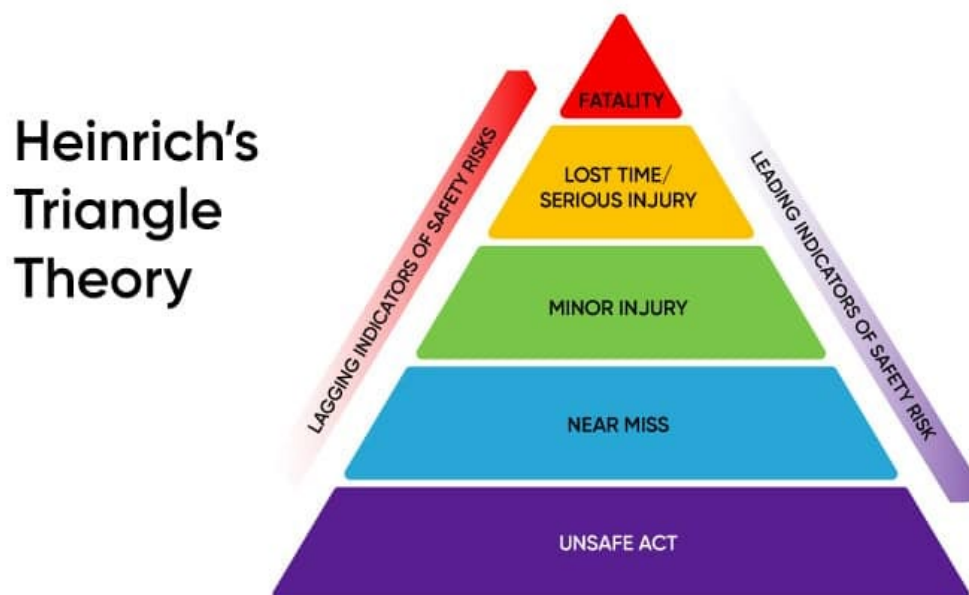
Heinrich's domino theory places the focus on human error, claiming that most accidents are caused by people's unsafe actions (Akbari et al., 2019). A study based on Heinrich's theory suggests that human factors are the most important factors to investigate because they are responsible for most workplace accidents (Osman et al., 2019). Heinrich's domino theory also attributes 88% of accidents to a person's unsafe actions, 10% to unsafe conditions, and 2% to

unpredictable circumstances (Akbari et al., 2019). The focal point and overall conclusion to Heinrich's domino theory are that severe occupational safety and health incidents are preceded by many incidents or near misses of lower severity (Yorio & Moore, 2018).

Moreover, Heinrich's domino theory establishes that accident causation is based on the unsafe acts of individuals (Yorio & Moore, 2018). This study aimed to determine if the changes introduced by transformational leadership style in the workplace will result in a safer work environment and whether these variables together increase job satisfaction. The domino theory established the "safety triangle," as seen in Figure 2, which explains how serious incidents are preceded by superficial incidents. Figure 2 also shows the indicators that can determine when a potential incident will occur. This study aimed to determine if there is a relationship between transformational leadership and occupational safety climate, which will establish the relationship to the safety triangle theory.

**Figure 2**

*H. W. Heinrich's Safety Triangle*





Finally, this study aimed to evaluate whether the relationship between transformational leadership and occupational safety climate results in a positive effect on employees' behavior that can result in greater job satisfaction based on a safer work environment. The results of this study contribute to the body of knowledge about Heinrich's domino theory and how it can be used to predict job satisfaction. This study also required further research on Maslow's hierarchy of needs theory, which is discussed in the next section.

### **Maslow's Hierarchy of Needs Theory**

In 1943, Abraham Maslow's hierarchy of needs theory was seen in print form for the first time (McCleskey & Ruddell, 2020). Mr. Maslow continued researching and writing on the theory for ten years after the initial print appearance. The foundation of the hierarchy of needs theory is that there are five basic needs that are universal to all humans. Additionally, the theory implies that the needs at the current level must be met before the proceeding level can be satisfied. The hierarchy of needs theory can be found in a variety of scholarly media relating to topics ranging from leadership and management to psychology and behavior (McCleskey & Ruddell, 2020).

Maslow proposed that humans all have five universal needs that are arranged in order of importance, starting with physiological (Fallatah & Syed, 2018). The following are the remaining needs in order: safety, social, esteem, and self-actualization. These needs are common to people of all cultures (McCleskey & Ruddell, 2020). The hierarchy of needs establishes the basis of motivation for employees (Fallatah & Syed, 2018). Although Maslow's hierarchy of needs theory has been validated through multiple empirical studies, there are still some studies that bespeak criticism of the theory (Fallatah & Syed, 2018).

**Figure 3**

*Abraham Maslow's Hierarchy of Needs Pyramid*



*Note.* From "Maslow's Hierarchy of Needs," by Saul Mcleode (2022).

### **Review of the Literature**

In the literature review, the theoretical framework of the study is presented, as well as the topic of the study. The main topics of this study were transformational leadership, occupational safety climate, and job satisfaction. The purpose of this literature review on transformational leadership, occupational safety climate, and job satisfaction was to provide a comprehensive collection of information regarding how transformational leadership influences occupational safety climate and job satisfaction. The results of previous research studies on transformational leadership have been inconsistent, resulting in a research gap (Kwang-rae et al., 2016; Ramakrishnan et al., 2020). Chapter 2 provides a thorough examination of the problem, along with an explanation of the theoretical framework used for this study and a description of the gap or need observed in the existing literature. This review examines the current state of the issues surrounding transformational leadership, occupational safety climate, and job satisfaction by reviewing the findings from recent research.

## **Transformational Leadership**

The growing diversity of workforces and the desire to create an inclusive workforce have forced leadership approaches to change to manage the growing diversity levels within organizations (McCallaghan et al., 2019). Leaders are highly significant in terms of both their power and role within an organization, especially when it is hierarchical in nature (Amalina et al., 2022). Transformational leadership is no exception. In 1985, Bernard Bass developed the transformational leadership theory that stipulates transformational leaders influence subordinates based on the relationship and leadership qualities they encompass. By 2001, a constant concern regarding the new paradigm of transactional leadership had developed (Alimo-Metcalfe & Alban-Metcalfe, 2001; Barbinta et al., 2017). Even so, transformational leadership has been adopted by industries across the globe (Akdere & Egan, 2020).

Transformational leadership is demonstrated by leaders who motivate their followers beyond their individual self-interests for the benefit of the group, organization, and society (Muchiri et al., 2019). Transformational leadership theory states that a leader demonstrates the following characteristics: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Muchiri et al., 2019). A leader who practices idealized influence leadership behaves in a way that will make them a role model for their followers, putting their followers' needs above their own, sharing the risks with their followers, and taking their followers' needs into account (Muchiri et al., 2019). A leader with idealized influence also displays high standards of moral conduct in his or her own conduct (Inness et al., 2010). There are many different types of motivation, but inspirational motivation occurs when leaders communicate to employees a positive, value-based vision of the organization's future state and how it can achieve that goal. By providing meaning and challenge to their followers in their

work, inspirational leaders can motivate and inspire their followers through their leadership style (Muchiri et al., 2019). An example of intellectual stimulation by a transformational leader is when an employee challenges organizational norms and is encouraged to think creatively (Inness et al., 2010). Inspirational leaders can stimulate intellectual curiosity, which leads leaders to impart a sense of innovation and creativity in their followers (Muchiri et al., 2019). Inspires them to question assumptions, reframe problems, and approach old situations in new ways through intellectual stimulation (Muchiri et al., 2019). The final characteristic that emulates transformational leadership behavior is the concept of individual consideration. Individual consideration is one of the ways in which leaders recognize their followers' unique needs (Inness et al., 2010). Finally, leaders who are individually considerate pay special attention to the individual's growth and achievement needs by acting as a coach or mentor for the individual, ensuring that his or her needs are met (Muchiri et al., 2019).

An important aspect of transformational leadership is the ability of leaders to motivate their employees and inspire them to perform at their best by utilizing a variety of methods (Akdere & Egan, 2020). Human resources development is an example of a method deployed by organizations to teach transformational leadership skills to their employees. When appropriately used, transformational leadership skills, in conjunction with other human resources development training and education lead employees to successfully develop common goals (Akdere & Egan, 2020).

Transformational leaders also promote moral development in employees (Barbinta et al., 2017). Additionally, transformational leaders encourage employee dedication to the organization and commitment to leaders (Akdere & Egan, 2020). This dedication and commitment promote the overall success of the organization's goals (Akdere & Egan, 2020). Finally, leaders who

promote high levels of safety climate provide a signal to employees about prioritization of safety over production goals which can help the organization's overall culture (Lyubykh et al., 2022). This element of leadership is just one way that transformational leaders can have an impact directly on the employees and the organizational culture.

Researchers have long recognized the influence of psychosocial work factors on organizational behavior (Gyekye & Haybatollahi, 2014). Dollard et al. (2019) conducted research on the psychosocial safety climate and authored a book describing the importance of the leading indicators of the psychosocial safety climate for employees. Psychosocial work factors include the climate or culture in the workplace, work roles, and task design and content (Gyekye & Haybatollahi, 2014). As a result of promoting psychological health over productivity, organizations with a high psychosocial safety climate improve the work environment by reducing demands, increasing resources, providing job security, adequate salaries, and instituting policies against bullying and violence (Loh et al., 2021). Reduced stress promotes employee psychological health, which in turn, boosts performance. Transformational leaders can also help reduce stress in their followers and improve leadership quality and reduce risks in the workplace (Berthelsen et al., 2020). Poor leadership and elevated risks are known as the "cause of the causes," and can lead to unsafe working conditions. Reduced stress promotes employee psychological health, which in turn boosts performance.

Organizations spend billions of dollars each year on leadership training (Badura et al., 2021). This expense is one example of how vital leadership training is for organizations. Transformational leadership also affects employees' perception of the importance of organizational programs, such as the organization's safety climate (Wu et al., 2022).

## **Transformational Leadership's Effects on Occupational Safety Climate**

Often, leaders are seen as crucial players in the creation of localized climates within various levels of an organization by acting as "interpretive filters" (Flatau-Harrison et al., 2020). Employees' safety perceptions might be influenced by the safety climate and the organization's safety management practices (Osman et al., 2019). Consequently, transformational leadership has been related to safety behavior, safety culture, and safety climate (Muchiri et al., 2019).

The transformational leader allows subordinates to think creatively and allows employees to feel empowered by allowing their voices to be heard (Day et al., 2022). This empowerment allows employees to act as change agents for the organization (Day et al., 2022). Such change can promote positive change to the occupational safety climate by allowing for a proactive approach to safety rather than a reactive approach (Day et al., 2022). Research by Wu et al. (2022) yielded equivocal results that indicate transformational leadership has a positive relationship with occupational safety compliance. The research results also indicated that employees possess an obligation toward their transformational leaders.

On the other hand, Wu et al. (2022) also determined that transformational leadership can negatively impact safety compliance via a tolerance for unnecessary risks. Contrarily, research by Flatau-Harrison et al. (2020) resulted in findings that show that within safety-specific contexts, there has been strong support for the role of transformational leadership in promoting a positive safety climate within the workplace. Transformational leaders' positive safety climate promotional behavior also promotes safety participation and increased safety behavior in employees (Flatau-Harrison et al., 2020). It is essential for leaders to be motivated to implement safety rules and policies (Kaluza et al., 2020). In the research on safety climate, it has been demonstrated that the safety climate of an organization is significantly influenced by the level of

support for safety by its leaders (Kaluza et al., 2020). Transformational leaders have the motivational characteristics required for this type of implementation and to make the implementation successful.

Research by Dunlap et al. (2019) shows that factors within the organization can lead to significant changes in the organizational climate. Transformational leadership can be an instigator of such changes. An example would be a relaxed safety climate or an elevated risk tolerance, resulting in a hindered occupational safety climate. (Wu et al., 2022). On the other hand, transformational leadership can result in an enhanced occupational safety climate through sustained organizational commitment in workers. When employees perceive safety as an organizational priority, they are more likely to possess safety knowledge, be willing to engage in safety behaviors (safety motivation), and enact higher levels of safety behavior, thus reducing the risk tolerance necessary in the organization. The importance of leadership in occupational safety cannot be overstated. There is a growing recognition that transformational leadership is a central component of leadership that promotes safety (Grill et al., 2019). In the transformational leadership theory, individuals are considered, intellectual stimulation is provided, inspirational motivation is evoked, and idealized influence is used to enhance the culture of a company (Akdere & Egan, 2020).

Additional factors can play a significant role in a transformational leader's ability to be effective (Willis et al., 2017). Employees' perceptions of the risk of an accident within their work context are one of these factors. Therefore, risk perception can affect a transformational leader's effectiveness (Willis et al., 2017). Overall, this research contributes to business management by showing that transformational leadership can be both positive and negative and that leaders need to ensure that the proper safety perception is instilled in the work environment.

## Occupational Safety Climate

Taking care of the health and safety of its employees should be a top priority for any company. In fact, since general climate measures are considered too broad and unfocused to predict specific outcomes, interest in specific aspects of organizational climate has grown in recent years (Kaluza et al., 2020). To better understand occupational safety climate, this study explains the concepts that make up the occupational safety climate. *Safety* is a broad term that refers to a legal order that society can exist under without fear (Calis & Buyukakinci, 2019). Occupational safety is a relatively new term that was introduced in 2019 in conjunction with industrialization. *Safety climate* can be defined as workers' perceptions of policies, procedures, and practices related to safety in any given organization (Wu et al., 2022). Furthermore, an employee's occupational safety climate is concerned with protecting an employee while at work against the dangers associated with the job they do for a living (Calis & Buyukakinci, 2019).

Several studies have shown that the safety climate in an organization can influence accidents as a leading indicator or as a lagging indicator (Willis et al., 2017). In terms of workplace safety, leadership's perceived commitment to safety is a particularly meaningful indicator (Beus et al., 2017). Safety climate perceptions and subsequent group safety climates are often influenced by the actions of leaders that reflect their commitment to safety (or lack thereof). Because of its influence on safety, leadership commitment and the indicators that follow result in employee knowledge and motivation (Flatau-Harrison et al., 2020). Thus, the organizational safety climate is associated with self-reported safety compliance and participation behaviors (Flatau-Harrison et al., 2020).

Despite the increase in safety climate research in recent years, conceptual ambiguity persists, which both raises questions about what safety climate actually is and interferes with a



deeper scientific understanding of the concept (Beus et al., 2017). Since the early 1990s, occupational risk prevention has been the driving force behind workplace safety (Sánchez-Segura et al., 2021). In contrast, the global COVID-19 pandemic resulted in a new standard of normal work environment, and workers often work digitally rather than in person. In occupational safety literature, the causes of occupational accidents have been classified as unsafe working conditions or unsafe workers' behavior, regardless of location (Akbari et al., 2019). Working conditions are one component of the occupational safety climate.

The transformational leadership theory specifies that team members change their attitudes, behaviors, and beliefs while adhering to higher goals when a deep connection between the leader and his team is in place (Barbinta et al., 2017). This change in attitude and behavior can result in a safer workplace and reduce the number of workplace injuries. Nevertheless, there have been no studies investigating and dissecting how transformational leadership affects occupational safety, despite the range of outcomes it has (Barling et al., 2002). The third and final component of this study is job satisfaction. Researchers recommend that future research be conducted to assess if changes in transformational leadership lead to changes in employees' occupational safety (Barling et al., 2002). The significance of this study lies in the contribution it will make to expand the literature and present knowledge about transformational leadership style and job satisfaction through occupational safety climate, a topic that requires further empirical investigation.

### **Perceived Organizational Support Effects on Occupational Safety Climate**

According to Tan et al. (2021), there is a relationship between an individual (the worker) and an organization (the workplace). Perceived organizational support encourages employees to have a greater work commitment, which promotes in-role behavior that is conducive to the

successful operation of the organization (Tan et al., 2021). Workplace safety perceptions and other organizational factors that affect workplace safety appear to be closely related to perceived support levels in an organization (Gyekye & Saiminen, 2007). It is not entirely guaranteed that a safe work environment will be established by having an occupational health and safety management system (Calis & Buyukakinci, 2019).

Safety climate is considered a subset of organizational climate. Moreover, safety climate also refers to the reasonable set of perceptions and expectations that workers have regarding safety in their organization (Gyekye & Saiminen, 2007). This climate is unstable and subject to change as conditions shift in an organization (Hall et al., 2013).

A key aspect of organizational behavior that impacts how workers perceive safety at work and, in turn, how they behave at work is the extent to which they perceive their organization as supportive and caring (Gyekye & Saiminen, 2007). Transformational leaders display this type of supportive and caring behavior which has been connected to a positive relationship to organizational safety climate. Employees also need to see that the organization's upper management expects adherence to safety policies (Hall et al., 2013). Manager/supervisor support, such as transformational leadership behavior, reinforces the concept of a top-down approach to positively influencing safety climate (Hall et al., 2013).

Corporate social responsibility activities show the public a company's interest in a multitude of different issues. Occupational safety climate is just one of these issues on which corporate social responsibility focuses. In terms of work safety, corporate social responsibility research indicates that these activities enhance the development and support of health and safety practices within an organization (Kubasinski & Slawinska, 2021). Therefore, improving the workplace safety climate is a critical component of corporate social responsibility activities, also

known as proactive activities (Kubasinski & Slawinska, 2021). It is also widely accepted that proactive activities are directly related to transformational leadership characteristics and can lead to a more proactive safety climate rather than a reactive safety climate, leading to higher job satisfaction.

### **Job Satisfaction**

Job satisfaction is a very complex situation in which the source of satisfaction can come from multiple directions, such as salary, promotion opportunities, supervision, colleagues, and many others (Jauhar et al., 2017). In conjunction with the satisfaction source, many other factors also apply to job satisfaction (Niartiningsih et al., 2020). For example, there are significant differences in generational preferences. Generation Y employees have different views on job longevity, which affect their opinions on job satisfaction (Jauhar et al., 2017).

There are also many ways to define a person's job satisfaction. For instance, Akbari et al. (2019) define job satisfaction as people's positive attitude toward their job. In the context of employment, job satisfaction can also be defined as a state of pleasure or happiness that arises from being satisfied with one's current employment situation and includes all aspects of that employment situation. In this study, to adequately evaluate an employee's job satisfaction, both positive and negative aspects must be considered (Niartiningsih et al., 2020).

The concept of job satisfaction can be divided into two dimensions: intrinsic satisfaction and extrinsic satisfaction (McCallaghan et al., 2019). In addition to autonomy, variety of skills, supervision, and degree of responsibility, intrinsic satisfaction is related to qualitative or subjective elements of a job (McCallaghan et al., 2019). For example, employees are more likely to experience intrinsic satisfaction when they receive incentives, rewards, promotions, and safe working conditions (McCallaghan et al., 2019).

In the workplace, an individual is satisfied because they are motivated by factors and conditions (Eliyana & Ma'arif, 2019). The simplest way to express job satisfaction is to say it is an emotional sensation resulting from the work done by an individual. A person's job satisfaction can also depend on how satisfied he or she is with the job duties and working conditions (Akbari et al., 2019). Moreover, one of the most important factors influencing the productivity and efficiency of human resources is the degree to which job satisfaction correlates with job responsibilities, accountability, actions, responses, motivations, and encouragement.

Borell et al. (2019) conducted research on job satisfaction which shows that many authors had shared views on job satisfaction (). The outcome of initial research led researchers to believe that job satisfaction was explained by contextual factors such as relationships with leaders and organizational culture, among others. Additionally, leaders can promote healthy job satisfaction levels by providing signals to the employees that safety has priority over production goals (Lyubykh et al., 2022). According to research, a positive correlation exists between a high level of job satisfaction among employees and their commitment to a workplace environment where occupational learning is emphasized (Lin et al., 2021). Moreover, researchers recommend future research on the effect of leadership profiles on job satisfaction (Borell et al., 2019).

Research by Guarnaccia et al. (2016) found that occupational self-efficacy can significantly affect a worker's job satisfaction. Self-efficacy can be defined as an individual's beliefs about their capabilities to produce designated levels of performance (Guarnaccia et al., 2016). Streamlined research into occupational self-efficacy, which is self-efficacy in the workplace, found that job satisfaction is also affected by organizational commitment factors such as management and performance feedback (Guarnaccia et al., 2016). As an indication of what managers should do in practice, other individual variables, such as determinants of job

satisfaction, should be considered (Borell et al., 2019). When human resources departments connect managerial leadership support with employee learning and performance, employee job satisfaction levels increase (Akdere & Egan, 2020).

Job satisfaction can also depend on the employee's ability to achieve certain goals (Steinmann et al., 2018). Transformational leaders directly influence an employee's perception of the achievability of such goals (Steinmann et al., 2018). This influence allows affected employees to achieve job satisfaction. Nevertheless, there are yet to be readily available studies to show the effect of transformational leadership and occupational safety climate on job satisfaction. Research by Eliyana and Ma'arif (2019) found that there is a significant direct effect on job satisfaction when transformational leadership styles are present in the workplace. However, their research study also concluded that when confronted with organizational commitment, transformational leadership cannot directly impact work performance when the two factors are in discordance (Eliyana & Ma'arif, 2019). Further research is needed to examine how the occupational safety climate and leadership affect employee job satisfaction.

There is research on job satisfaction regarding Maslow's hierarchy of needs. According to Maslow's hierarchy of needs theory, employees need safety, love, support, and confidence (Fallatah & Syed, 2018). The employing company is vital to this process, as are the leaders within the company. Again, generational differences can affect what the employee needs to be satisfied (Jauhar et al., 2017). Employees who achieve these needs are more likely to achieve job satisfaction than those employees whose needs are not met.

Maslow's hierarchy of needs also stipulates that employers should recognize employees' esteem needs (Fallatah & Syed, 2018). The concept of self-esteem refers to the requirement to respect one's rights, acknowledge one's accomplishments, and recognize one's autonomy and

independence. Without these esteem needs being met by the employer, employees may never reach job satisfaction (Fallatah & Syed, 2018).

### **Turnover Intention and Job Satisfaction**

Turnover is costly to organizations and is one of the main reasons managers and business leaders focus on job satisfaction in their organizations (Ozkan et al., 2020). Job satisfaction is chosen as one of the most important predictors of turnover intention, followed by organizational commitment and self-actualization. (Ozkan et al., 2020). It is generally believed that employee satisfaction is influenced by how productive, creative, and committed they are at their workplace. It is also thought that it is a major factor influencing their intention to quit. (Jauhar et al., 2017). Because of this, job satisfaction has been linked to high turnover rates for organizations (Lin et al., 2021). On the contrary, higher levels of job satisfaction leads to a reduction in turnover intention (Jauhar et al., 2017; Lin et al., 2021).

Job satisfaction is one of the most critical factors that impact the effectiveness of an organization. Job satisfaction is susceptible to being influenced by the corporate culture and leadership of the organization (Jauhar et al., 2017). Workers who are satisfied with their job or have higher levels of job satisfaction have been shown to have higher levels of organizational commitment (Lin et al., 2021). Higher levels of job satisfaction can, in turn, reduce the amount of employee turnover and thus reduce costs to the employer (Lin et al., 2021). Research conducted by Amalina et al. (2022) aimed to discover how transformational leadership affects employee performance mediated by job satisfaction. The research by Amalina et al. revealed a positive and significant influence between transformational leadership on job satisfaction. Another study found that the absence of a transformational leader's promotion of new ideas in the workplace also led to decreased job satisfaction among employees (Kasztelnik & Al-ahmadi,

2022). Researchers also found a positive and significant influence of transformational leadership on employee performance through job satisfaction.

## **Methodology**

There is a great deal of literature examining transformational leadership, workplace safety climate, and job satisfaction. This large body of literature examines transformational leadership, occupational safety climate, and job satisfaction in detail. Yet none of the studies researched tested the relationship between transformational leadership, occupational safety climate, and job satisfaction. Several examples of these studies are included next.

In 2020 a quantitative study was conducted by Akdere & Egan that examined safety-specific transformational leadership and occupational safety climate. Additionally, Lyubykh et al., (2022) completed a study to determine the importance between leadership and safety climate. In 2022, a study by Summers et al., was conducted utilizing the NOSACQ-50 to evaluate safety climate. Another study by Batura et al., (2016) examined the job satisfaction survey. It is, however, rare for studies to investigate if there is any correlation between transformational leadership and occupational safety climate for oil drilling and gas extraction industry workers in the United States.

## **Instrumentation**

Transformational leadership was assessed using the Multifactor Leadership Questionnaire (MLQ 5x-short). The MLQ 5x-short evaluates the full range of transformational leadership (Alimo-Metcalfe & Alban-Metcalfe, 2001). This full range includes nine different aspects of a leader (Alimo-Metcalfe & Alban-Metcalfe, 2001). The four main transformational components are idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Idealized influence and inspirational motivation were later combined to create the

dimension of charismatic inspiration. The MLQ 5x-short utilizes a 45-question questionnaire (Alimo-Metcalfe & Alban-Metcalfe, 2001). In addition, the MLQ 5x-short utilizes a 5-point behavior scale to measure the participants' responses. Wu et al. (2022) found a relationship between leaders and safety utilizing the MLQ 5x- short survey.

Occupational safety climate was assessed utilizing the Nordic Occupational Safety Climate Questionnaire (NOSACQ-50). Similar researchers conducted tests to evaluate the NOSACQ-50 for reliability. The Cronbach alpha for a study conducted by Summers et al. (2022) was found to be good for the NOSACQ-50 dimensions. The NOSACQ-50 questionnaire consists of 50 items across seven safety climate dimensions and measures participants' shared perceptions of management safety, management safety empowerment, management safety justice, employees' safety commitment, employees' safety priority, employees' safety risk non-acceptance, safety communication, safety learning, trust in co-workers' safety competence, and trust in the efficacy of safety systems (Summers et al., 2022). The researcher was granted permission to use a verified and reliability-tested shortened version of the Nordic questionnaire to keep the survey for this study manageable.

The job satisfaction variable in this study was assessed using the Paul Spector Job Satisfaction Survey, which demonstrates beneficial properties for job satisfaction research studies (Lin et al., 2021). The Paul Spector Job Satisfaction Survey utilizes Paul Spector's Job Satisfaction Survey is made up of 36-questions. The survey utilizes a six-point scale that measures job satisfaction in the following ways. Each item is scored from one to six if the original response choices are used. High scores on the scale represent job satisfaction for the respondent. Low scores on the scale represent a lack of job satisfaction. Paul Spector Job Satisfaction Survey, utilizes questions to determine the person's attitude toward their job and



different aspects that are related to job satisfaction (Lin et al., 2021). This survey has been found to assess job satisfaction effectively and will sufficiently provide job satisfaction results for the present study (Bowling & Zelazny, 2021). In 2016, a similar study was conducted by Batura et al., that found that the JSS was a reliable, valid, and internally consistent.

### **Summary**

Chapter 2 included information retrieved from multiple scholarly literature documents on the importance of, history of, and background of transformational leadership in organizations. Further information on the history, background, and importance of occupational safety climate and job satisfaction is also referenced. The information presented in this chapter utilized multiple databases and online sources of scholarly information regarding the primary variables of the study. Chapter 2 also included information on the theoretical framework for this study. Finally, this chapter included background information on transformational leadership, occupational safety climate, and job satisfaction that further educates readers on the history of these variables.

## **CHAPTER 3: METHODOLOGY**

Two major concerns for business leaders are job satisfaction and the general safety of their workers. The purpose of this quantitative correlational study was to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction. Participants for this study were recruited by Centiment from within the oil drilling and gas extraction industry in the United States.

Chapter 3 includes a review of methodology and a discussion of the methods of selecting instruments and procedures for collecting and analyzing data. Measures regarding the validity and reliability of the research instruments are discussed. A discussion of ethical considerations pertaining to this research study will bring this chapter to a close.

### **Statement of the Problem**

An employee's safety while at work is the responsibility of the employer (OSHA, 1970). Different leadership styles can affect the occupational safety climate of an organization. In turn, this can affect a worker's job satisfaction. The problem that will be examined in this quantitative study is that many organizations ignore the safety climate altogether, which can result in diminished job satisfaction (Niartiningsih et al., 2020). This study highlighted the impact leadership and occupational safety climate have on employee job satisfaction. The findings from this study may encourage leaders to consider the impact of these variables on employees in their organization. Leaders can use the results of this study to create and implement strategies to increase production, reduce injuries, create a safer work environment, and increase job satisfaction.

## Research Questions and Hypotheses

The purpose of this quantitative correlational study was to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction. There is one research question and three sets of hypotheses to address the study's purpose.

RQ: What is the relationship between transformational leadership, occupational safety climate, and job satisfaction of gas and oil industry workers in the United States?

H1<sub>0</sub>: There is no significant relationship between transformational leadership and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H1<sub>a</sub>: There is a statistically significant relationship between transformational leadership and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H2<sub>0</sub>: There is no significant relationship between perceived occupational safety climate and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H2<sub>a</sub>: There is a statistically significant relationship between perceived occupational safety climate and job satisfaction of oil drilling and gas extraction industry workers in the United States.

H3<sub>0</sub>: There is no statistically significant relationship between transformational leadership and perceived occupational safety climate of oil drilling and gas extraction industry workers in the United States.

H3<sub>a</sub>: There is a statistically significant relationship between transformational leadership and perceived occupational safety climate of oil drilling and gas extraction industry workers in the United States.

## **Research Methodology**

As part of the scientific method, quantitative methods are used to examine the relationships between variables without making any inference to a causal relationship between them (Le Tourneau University, 2022). A quantitative, non-experimental correlational design was used in this study and hypothesis testing was conducted to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction.

This study could potentially be conducted using qualitative methods; however, a qualitative method was not chosen primarily because hypotheses testing using validated and reliability-tested psychometric survey instruments was conducted that allowed the researcher to numerically examine relationships between the variables being investigated. The purpose of this research was not to explore people's perceptions, thoughts, and feelings and analyze emerging themes. In addition, qualitative approaches are often regarded as theoretical in nature rather than practical or applied, as is quantitative research. Therefore, a qualitative approach was not appropriate for this study.

The researcher recruited 107 members of the target population through convenience sampling to participate in the study. Convenience sampling is often used in quantitative research studies because it targets members of a population who are easily accessible to the researcher and are willing to participate in a research study (Brown, 2020). It is a method of nonprobability or nonrandom sampling. The population for this research study was workers in the oil drilling and gas extraction industry located in the United States. The survey was open from April 18, 2023, through May 3, 2023.

## **Research Design**

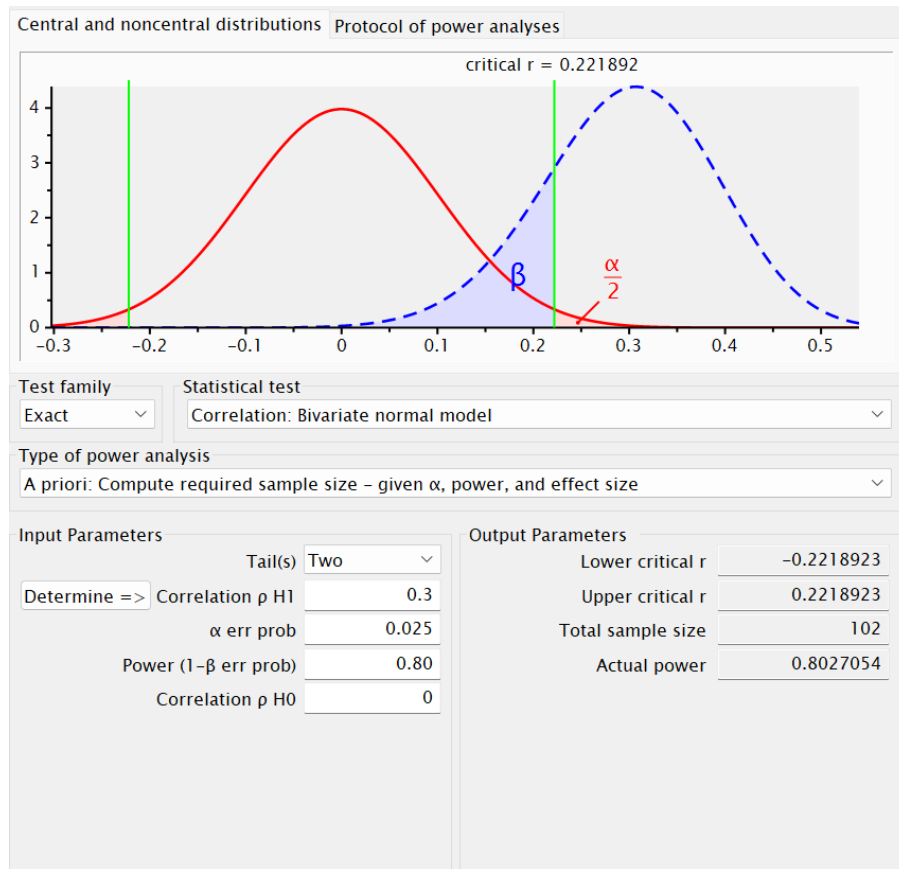
This study utilized correlational design. Correlational research is used to examine relationships between variables that can be quantified numerically (Limberg et al., 2021; Ojeda, 2023). Correlational design was chosen specifically for its ability to investigate whether there is a linear relationship between the variables by comparing two sets of data (CITI Program, n.d.). Correlational research is a popular form of research because it makes it possible for the researcher to examine constructs that are not directly observed by the researcher (Limberg et al., 2021). As part of the evaluation process, transformational leadership was evaluated using the MLQ 5x-short, occupational safety climate was evaluated using the NOSACQ-50, and job satisfaction was assessed using the JSS.

## **Population and Sample Selection**

The target population for this study was oil drilling and gas extraction industry workers in the United States. To be eligible to participate in this study, individuals must work in the industry and be at least 18 years old. The link to a psychometric survey instrument was provided to participants and data was collected through deliberate sampling. Centiment was contracted to assist with online data collection, which allowed participants from various locations to participate in the study. The sample for this study was a convenience sample. The sample consisted of 107 participants. A G\*Power analysis indicated that the minimum number of usable responses necessary to avoid committing a type II error was 102 (see Figure 4 below). The Bonferroni correction was applied to statistical testing and therefore a p-value of .025 was used to determine statistical significance due to the use of the variables twice in the correlation.

**Figure 4**

*Sample Size Determination using G\*Power*



Centiment identified, contacted, and recruited participants who work in the oil drilling and gas extraction industry in the United States to complete the survey. Those who were not employed in the industry and those who are under 18 years of age were not permitted to participate.

### **Instrumentation**

This study used three instruments consolidated into one survey to determine the relationship between transformational leadership, occupational safety climate, and job

satisfaction on a convenience sample of US workers in the oil drilling and gas extraction industry. The survey was expected to take approximately 20-30 minutes to complete.

Using the instruments that measure the constructs researchers are interested in studying allows them to get valid results. Transformational leadership was assessed using the MLQ 5x-short survey, occupational safety climate was assessed using the NOSCAQ-50 questionnaire, and job satisfaction was assessed utilizing the JSS survey. Informed consent instructions were provided for the respondents as part of the introduction to the online survey. Participants were required to consent before they were permitted to complete the survey.

The MLQ 5x-short originated in 1985 (Alimo-Metcalfe & Alban-Metcalfe, 2001). It is composed of 45 questions to assess participants' specific leadership behaviors and will be included in Appendix B (Statistic Solutions, n.d.). Academic research has recognized the validity of the MLQ 5x-short questionnaire (Wu et al., 2022). The MLQ 5x-short utilizes a five-point behavioral scale that allows responses that range from "Not at all" to "Frequently if not always" (Statistic Solutions, n.d.). Permission to use the MLQ 5x-short was obtained through Mindgarden.com. The MLQ 5x-short creators, Bernard Bass and Bruce Avolio, have given Mindgarden.com special permission to reproduce the MLQ 5x-short. At Mindgarden.com, researchers have the option to purchase a remote online survey license to distribute the survey via a non-Mind Garden survey system. This permission includes the right and license to use and administer the MLQ 5x-short online.

The NOSCAQ-50 questionnaire is an academically accepted, valid, and reliable survey to measure occupational safety climate (Grill et al., 2019; Kines et al., 2011). The NOSCAQ-50 is composed of 50 questions that measure seven safety climate dimensions. This questionnaire is designed to diagnose occupational safety climate and evaluate safety climate interventions

(NFA.dk - Det Nationale Forsknings Center for Arbejdsmiljø, n.d.). The researcher has obtained permission to download and utilize the copyrighted NOSACQ-50 questionnaire.

The JSS was developed in 1985 by Paul Spector. The JSS is a 36-item, nine-facet scale to assess respondents' attitudes about their job (Spector, 1997). Employee job satisfaction has been measured by the JSS in the USA, Singapore, Turkey, Pakistan, Taiwan, and Iran (Batura et al., 2016). This survey utilizes four items to assess each of the nine facets. Six choices are available per item, ranging from "strongly disagree" to "strongly agree." The composite survey instrument, including demographic questions, can be found in Appendix B.

### **Validity and Reliability**

Research instruments are often described as being reliable and valid according to the psychometric characteristics a research instrument possesses (Andrade, 2018). In research, validity also applies to the study's findings. There are two types of validity, internal and external validity, which determine whether an instrument performs as expected (Andrade, 2018). Furthermore, four types of validity can be associated with correlation research studies. They are convergent, criterion, predictive, and face validity (Rapeli, 2022).

The concept of credibility in research is known as internal validity. Credibility refers to the fact that the study design, the study conduct, and the analysis of the findings answer the research questions without bias (Andrade, 2018). External validity is also described as transferability. In terms of external validity, the study findings are examined against the possibility of generalizing them to other situations.

Convergent validity is defined as the extent to which survey proxies measure the same construct (Rapeli, 2022). Next is criterion validity, which measures the extent to which the various proxies are associated with other variables that researchers would expect proxies to be



associated with based on knowledge of the survey subject. A survey's predictive validity refers to the extent to which the proxies are accurately able to predict the knowledge of the survey subject matter of the respondents. Lastly, face validity refers to whether a variable is presented on the surface as having enough credibility to measure what is supposed to be measured adequately

The MLQ 5x-short was developed by Bruce J. Avolio and Bernard M. Bass (Alimo-Metcalfe & Alban-Metcalfe, 2001). While leadership scholars have focused a great deal of attention on the MLQ 5x-short, little interest has been shown in exploring the relationships between its underlying constructs and measures (Batista-Foguet et al., 2021). According to Batista-Foguet et al., the MLQ is the leading survey instrument used to examine leadership theory. Several meta-analyses have confirmed the MLQ's effectiveness and validity, making the instrument a prominent example of academic and commercial success. Table 1 shows correlations among the five MLQ 5x-short subdimensions scores from the 2004 study conducted by Avolio and Bass (2004). The study's results demonstrate a clear construct validity. The average reliability score for the transformational leadership characteristics was .76, which is higher than the reliability value for excellent. In addition, the average results of the study demonstrate clear construct validity, with the average intercorrelation scores among the five transformational scales being .64, thus further verifying the validity of this test.

**Table 1***Intercorrelations among MLQ 5x-short Factor Scores*

	II(A)	II(B)	IM	IS	IC	CR	MBEA	MBEP	LF	EE	EFF	SAT
II(A)	(.75)											
II(B)	.64**	(.70)										
IM	.68**	.68**	(.83)									
IS	.64**	.59**	.59**	(.75)								
IC	.71**	.60**	.59**	.68**	(.77)							
CR	.67**	.61**	.62**	.61**	.68**	(.69)						
MBEA	-.07**	.02**	.08**	-.01	-.12**	.01	(.75)					
MBEP	-.36**	-.27**	-.30**	-.33**	-.32**	-.32**	.10**	(.70)				
LF	-.49**	-.34**	-.37**	-.39**	-.42**	-.44**	.08**	.61**	(.71)			
EE	.71**	.57**	.62**	.62**	.68**	.63**	-.06**	-.33**	-.42**	(.83)		
EFF	.73**	.56**	.60**	.63**	.67**	.67**	-.06**	-.43**	-.56**	.72**	(.82)	
SAT	.75**	.54**	.60**	.62**	.70**	.64**	-.12**	-.40**	-.52**	.71**	.79**	(.79)

The NOSACQ-50 was used to assess the occupational safety climate for this study.

Several instruments are available to measure safety climate; however, very few have proven capable of presenting a consistent factor structure across different contexts like the NOSACQ-50 (Kines et al., 2011). An international study was used to acquire empirical results and to test the validity of the questionnaire. This study was based on organizational and safety climate theory, psychological theory, previous empirical research, and a continuous learning process (Kines et al., 2011).

Table 2 shows the content and reliability results of the seven NOSACQ-50 safety climate scales. To estimate internal consistency reliability, a single measurement tool is usually administered to a group of people at one time (Abbas & Khanam, 2020). Cronbach's alpha is the best and most popular reliability index. The Cronbach's alpha scores of the NOSACQ-50 seen in Table 2 indicate validity and reliability. Based on the internal consistency in each subsample results, NOSACQ-50 was found to measure safety climate and predict safety motivation, perceived safety level, and self-rated safety behavior accurately (Kines et al., 2011). Furthermore, the NOSACQ-50 validity is confirmed based on its ability to detect significant differences in safety climate between organizational units.

**Table 2***Content and Reliability of the Seven Safety Climate Scales*

Scale	Number of items	Internal consistency (Cronbach's alpha)	Internal consistency in each subsample (alpha)				
			DK	FI	IC	NO	SE
1. Management safety priority, commitment and competence	9	0.87	0.84	0.89	0.89	0.85	0.88
2. Management safety empowerment	4	0.73	0.74	0.79	0.81	0.63	0.67
3. Management safety justice	4	0.71	0.60	0.79	0.74	0.68	0.72
4. Workers' safety commitment	6	0.77	0.80	0.84	0.79	0.71	0.73
5. Workers' safety priority and risk non-acceptance	7	0.80	0.77	0.81	0.81	0.82	0.77
6. Safety communication, learning, and trust in co-worker safety competence	8	0.79	0.76	0.75	0.85	0.80	0.76
7. Workers' trust in the efficacy of safety systems	7	0.82	0.80	0.85	0.81	0.79	0.83

Finally, the JSS, which was developed by Paul Spector in 1985, was utilized to assess job satisfaction. The JSS is a composite scale that has been peer reviewed and has been tested for reliability multiple times to confirm its validity (Abbas & Khanam, 2020; Spector, 1985). Table 3 shows the results of internal consistency and reliability of the JSS as conducted by Spector (1985), which indicate that the scale is reliable and internal consistency is good.

**Table 3***Internal Consistency, Split-Half and Test-Retest Reliability of JSS***Table III. Means, Standard Deviations, and Reliabilities for the JSS**

Subscale	Mean	SD	Mean interitem correlation	Coefficient alpha	Test-retest reliability
Pay	10.5	5.1	43	75	45
Promotion	11.5	5.1	40	73	62
Supervision	19.9	4.6	53	82	55
Benefits	13.1	5.0	40	73	37
Contingent rewards	13.4	5.1	44	76	59
Operating procedures	12.5	4.6	29	62	74
Co-workers	18.8	3.7	33	60	64
Nature of work	19.2	4.4	50	78	54
Communication	14.0	5.0	38	71	65
Total satisfaction	133.1	27.9	21	91	71
<i>n</i>	3,067	3,067	2,870	2,870	43

## **Data Collection Procedures**

A total of three data collection instruments were combined into a single survey instrument and distributed by Centiment to collect data. To assess the level of transformational leadership in an organization, the MLQ 5x-short instrument was used, the NOSCAQ-50 was used to evaluate an organization's safety climate, and the JSS was used to measure job satisfaction.

The Centiment team facilitated the distribution of the survey instrument according to the inclusion criteria set for the target population. As part of its outreach to recruit participants during the open window for data collection, Centiment notified the target population via batches, soliciting from its prebuilt audience panel databases. To confidently conduct the statistical analysis, 107 survey responses were collected from the target population, which is higher than the sample size calculation referred to in the G\*Power calculation found in Figure 4 above. The participants who are oil drilling and gas extraction industry workers based in the United States who meet the inclusion criteria qualifications were allowed to access Centiment's dashboard and complete the online survey.

Upon opening the survey within Centiment, the recruited participants were presented with the informed consent document that they were required to agree to before they could participate in the survey. In the event the participants agreed, they were permitted to complete the survey. A participant who selected no was thanked for their time and willingness to participate, the survey was stopped, and no additional data was collected.

Centiment recorded and stored participants' survey responses and provided the researcher with the results of the survey. The initial survey window was one week. Responses were collected starting April 18, 2023. The survey had to be extended until May 5, 2023 in order to

collect the number of responses desired for the study. Centiment used an exclusive tagging system to assign a unique identifier to each participant as they entered the survey, so names and other personally identifiable information were not disclosed. As part of Centiment's data collection process, transport layer security (TLS) was used to encrypt the data prior to transmitting the information to the researcher for analysis. The researcher will store the data on an encrypted storage drive for at least three years. Once three years have passed, the researcher will then delete the data.

### **Analytical Methods**

This study utilized a correlational research design to examine the relationship between the variables of the study. The researcher used the R Commander and JASP statistics program to run correlation tests for this study. JASP and the R Commander ultimately result in the same data. Both applications that provide a graphical user interface (GUI) for R, an open-source, free statistical software (Sardareh et al., 2021).

The measurement of the strength of the relationship between variables is defined as a correlation (Oleson et al., 2022). Using survey data and correlational testing data analysis procedures, the researcher examined the relationships using a quantitative, non-experimental methodology.

### **Descriptive Analysis**

The main objective of this study was to detect the presence and strength of a relationship between variables. The data collected was analyzed using descriptive and inferential analysis. To explain the data collected from the sample, descriptive statistics of the data set must be summarized, and the central tendency and measures of dispersion of the data must be identified (Mishra et al., 2019). The descriptive analysis allowed the researcher to look for trends, describe

the data set, and give information about the population. The descriptive analysis included the average, mean, standard deviation, and minimum and maximum for the available parameters of the study.

### **Inferential Analysis**

According to Wonu et al. (2018), correlations can validate a research hypothesis. Spearman rho statistical are used to test allegations about the existence of a relationship between variables in an ordinal database that do not meet the assumption of normality (Wonu et al., 2018). Due to the normality scores and presence of outliers in the dataset of this study, a Spearman rho correlation was conducted on the dataset. In order to calculate the Spearman rho correlation coefficient, it is assumed that the joint distribution of the variables is normal (Janse et al., 2021). Rather than using the actual values of observations, Spearman's correlation coefficient uses the rank of observations when ordering observations from small to large (Fitriadi et al., 2022). As a result of this method of using the rank, it is robust in the face of outliers. Graphs and statistics were used to address the assumption of normality for the data analysis of this study using a predetermined Type I alpha error rate of .05 for hypothesis testing.

### **Ethical Considerations**

The institutional review board (IRB) of Columbia Southern University reviewed and approved this study before it commenced. No data was collected, and no respondents were contacted until official IRB approval was obtained. Centiment obtained informed consent and applied confidentiality measures to protect the privacy of participants in the process of administering the questionnaires and survey for this study. The data was gathered using convenience sampling.

The National Research Act of 1974 mandated that the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research be created to develop guidelines that ensure biomedical and behavioral research involving human subjects is conducted in accordance with basic ethical principles (Office for Human Research Protections, 2022). The commission was also charged with developing guidelines for ensuring such research is conducted in compliance with those principles and the Belmont Report was created to publish the guidelines.

The Belmont Report's includes the requirements for the respect of peoples' personally identifiable information (PII) (Office for Human Research Protections, 2022). Collected data that includes PII about survey participants will be maintained in an anonymous manner. Furthermore, in accordance with the Belmont Report's principle for justice, participants for a research study must be selected fairly.

Additional measures were taken to ensure data collection was ethically completed. Coercion was not used to sway survey participation, participants had no relationship with the researchers, and no population was specifically targeted except to the extent to which respondents were required to meet the inclusion criteria. The research participants were selected using purposive sampling to ensure that those who meet the inclusion criteria for the study were permitted to participate. The secured and protected data was then provided in Excel format to the researcher for analysis. To ensure the confidentiality of the survey data and the privacy of the survey participant, the data will be stored securely for a minimum of three years and then destroyed by the researcher.

## Summary

An examination of the relationship between transformational leadership, occupational safety climate, and job satisfaction was carried out in this quantitative, non-experimental, correlational study. The study's population was oil drilling and gas extraction industry workers located in the United States. The study's research question and hypotheses, as well as the research design and methodology, were outlined in Chapter 3. Furthermore, the study's purpose and problem statement were reiterated. Moreover, a description of the target population, instruments, validity and reliability, and the methods of data collection and analysis were provided. Finally, this chapter concluded with a discussion of the study's ethical considerations and limitations.

Chapter 4 includes a description of the study's data analysis process. As an introduction to the content of the chapter, a summary of the data analysis procedures described in Chapter 3, as well as the exploratory data analysis conducted as a part of this study, will be discussed. Discussion about descriptive data, including the sample population, characteristics, and demographics of the study's participants, is also included. The final section of Chapter 4 provides a detailed explanation of how the data was analyzed, any possible errors that may have occurred, and the final results of the hypothesis testing.



## **CHAPTER 4: DATA ANALYSIS AND RESULTS**

The purpose of this quantitative correlational study was to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction of US oil drilling and gas extraction industry workers. The research design utilized for this study was a non-experimental correlational approach that allowed the researcher to study constructs that are not directly observable, which allowed the researcher to determine the interaction between the study's variables without inferring causation. The purpose of this study was to address the following research question: What is the relationship between transformational leadership, occupational safety climate, and job satisfaction of oil drilling and gas extraction industry workers in the United States? Centiment was used to recruit participants and distribute the survey.

### **Data Analysis Procedures**

The main objective of this study was to detect the presence and strength of a relationship between variables. In order to achieve adequate statistical power, a sample size of at least 102 respondents was required as determined by a G\*Power analysis. One hundred and seven responses were received upon completion of the survey window. In order to participate in the study, individuals were required to be at least 18 years old and work in the oil drilling and gas extraction industry. The method of data collection was an online survey.

The data was analyzed using descriptive and inferential analysis. The data set was summarized descriptively, and the central tendency and measures of dispersion were identified. The descriptive analysis allowed the researcher to look for trends, describe the data set, and give information about the population. The descriptive analysis also included the average, mean, standard deviation, and minimum and maximum for the available parameters of the study.

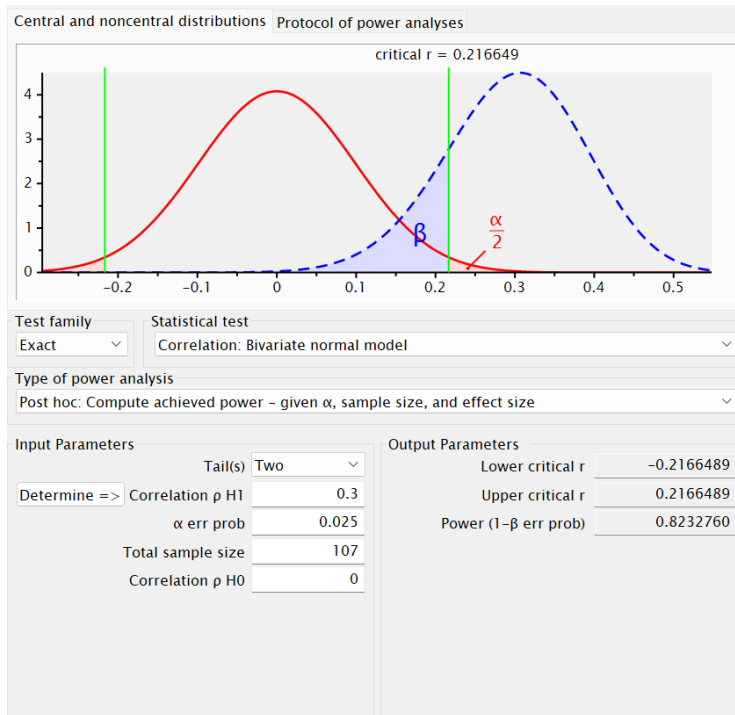
To examine the relationship between the variables in this study, a correlational research design was used. A quantitative, non-experimental methodology to examine the relationships based on survey data and correlational testing data analysis. The researcher utilized the JASP statistics program to run correlation tests. In this study, Spearman rho was used to determine the existence of a relationship between variables due to the presence of normality scores and outliers in the dataset. This study used a predetermined Type I alpha error rate of .025 for hypothesis testing due to each variable being used twice which required the application of the Bonferroni correction. In multiple statistical tests, Bonferroni corrections adjust probability (p) values because there is an increased risk of making type I errors (Armstrong, 2014).

### **Descriptive Data Analysis**

Overall, 107 participants met the inclusion criteria for the study and completed the survey, which exceeded the minimum of 102. The G\*Power (Figure 5) post hoc data indicated that the power of the sample was 0.82, which was over the 0.80 required power (Figure 4). Tests were also conducted to determine the validity of questions from MLQ 5x-short, NOSACQ-50, and JSS surveys. The reliability tests were carried out using the Rcommander scale reliability test.

**Figure 5**

*Post hoc G\*Power Analysis*



The MLQ 5x-short was found to be internally consistent and reliable, with an alpha of 0.91. Separately, the transformational leadership survey results were tested for internal consistency and reliability and the Cronbach's alpha was 0.91. Next, the NOSACQ-50 survey was determined to be internally consistent and reliable with a Cronbach's alpha score of 0.96. Finally, the JSS survey was found to be internally consistent and reliable, with a Cronbach's alpha reliability score of 0.95. The positive results from the post hoc computed power and survey reliability allowed the researcher to move forward in generating sample demographics and descriptive statistics for the study.

**Table 4***Cronbach's Alpha Reliability Analysis*

	<i>N</i>	<i># of items</i>	<i>Cronbach's a</i>
MLQ 5x-short	107	45	.91
NOSACQ-50	107	50	.96
JSS	107	36	.95

**Descriptive Statistics**

The study sample consisted of 107 participants who work in the oil drilling and gas extraction industry and live in the United States. Table 4 presents the demographic statistics of the collected survey data. Of the 107 participants, 75% ( $n = 80$ ) were male and 25% were female ( $n = 27$ ). The White or Caucasian race represented the largest percentage of survey participants at 81% ( $n = 87$ ) followed by Hispanic (7%,  $n = 7$ ), other race/ethnicity (6%,  $n = 6$ ), and Black or African American (5%,  $n = 5$ ). American Indian or Alaska Native and Asian participants each made up 1% ( $n = 1$ ) of the sample.

**Table 5***Demographic Statistics from Survey Data Set*

Demographic Statistics	Full Sample	
	<i>n</i>	%
Gender		
Female	27	25
Male	80	75
Age		
18-29	5	5
30-44	68	64
45-59	25	24
60 or older	9	8
Education		
Bachelor's Degree	56	52
High School Diploma or Equivalent	29	27
Master's Degree	18	17

Some High School	1	1
Terminal Degree or Higher	3	3
Race/Ethnicity		
American Indian or Alaska Native	1	1
Asian	1	1
Black or African American	5	5
Hispanic	7	7
Other	6	6
White or Caucasian	87	81
Managerial Position		
Yes	35	33
No	72	67

Sixty-four percent ( $n = 68$ ) of participants were 30-44 years old, 24% ( $n=25$ ) were 45-59 years old, 8% ( $n = 9$ ) were 60 years, and 5% ( $n = 5$ ) were 18 to 29 years old . The largest education representation of the study were participants with bachelor’s degrees (52%,  $n = 56$ ). Participants with high school diploma or equivalent represented 27% ( $n = 29$ ) of the sample followed by 17% of participants ( $n = 18$ ) with a master’s degree. Terminal degree holding participants represented 3% of the sample ( $n = 3$ ). Only 1% ( $n = 1$ ) of participants had less than a high school diploma or equivalent.

## Results

Below is a summary of the data.

**Table 6**

*Numerical Summaries of Study Variable Groups*

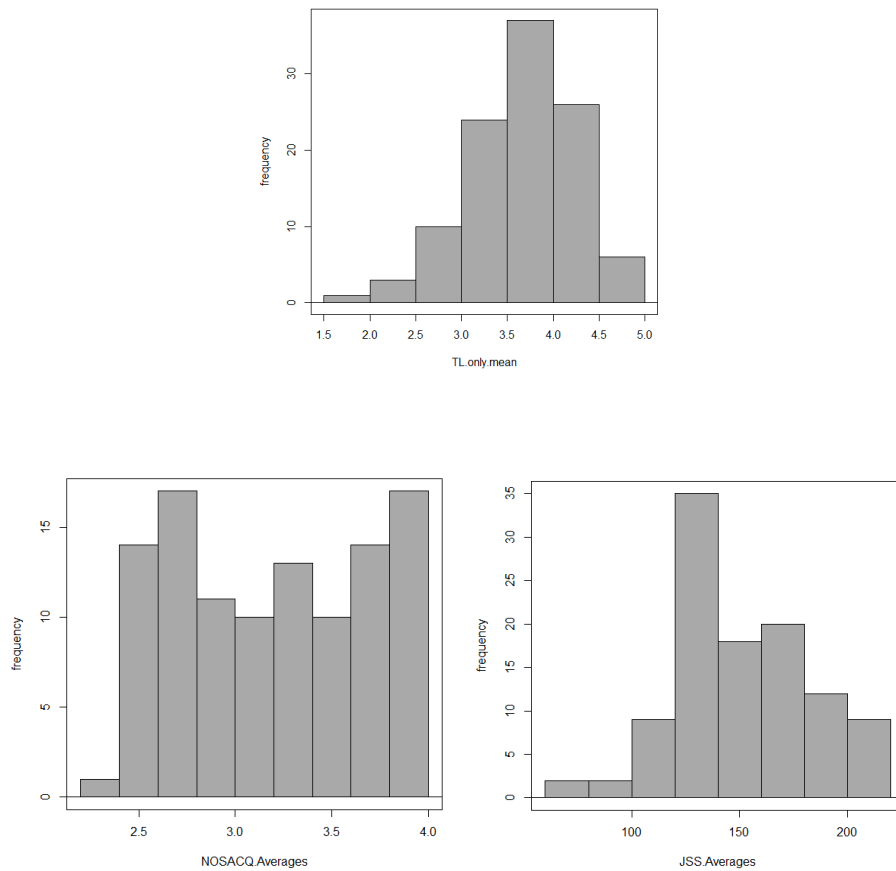
	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>Kurt</i>	<i>n</i>
Job Satisfaction	150.112	31.533	.098	-0.371	107
Transformational Leadership	3.681	.612	-.440	.480	107
Occupational Safety Climate	3.207	.506	.0322	-1.304	107

The researcher used JASP software to generate a histogram, boxplot, and QQ plot of the MLQ 5x-short, NOSACQ-50, and JSS variables, based on the descriptive statistics of the dataset. The dataset included the numerical summaries of the variable averages. These graphs facilitate

the understanding of the data set and enables the assumption that data for the NOSACQ-50 and JSS does not meet the assumption of normality and that these data sets are not normally distributed. The graphs also facilitate the understanding of the dataset and allows for the assumption that the dataset does not represent a normal distribution. Table 7 shows the Anderson-Darling normality tests results for the study variables.

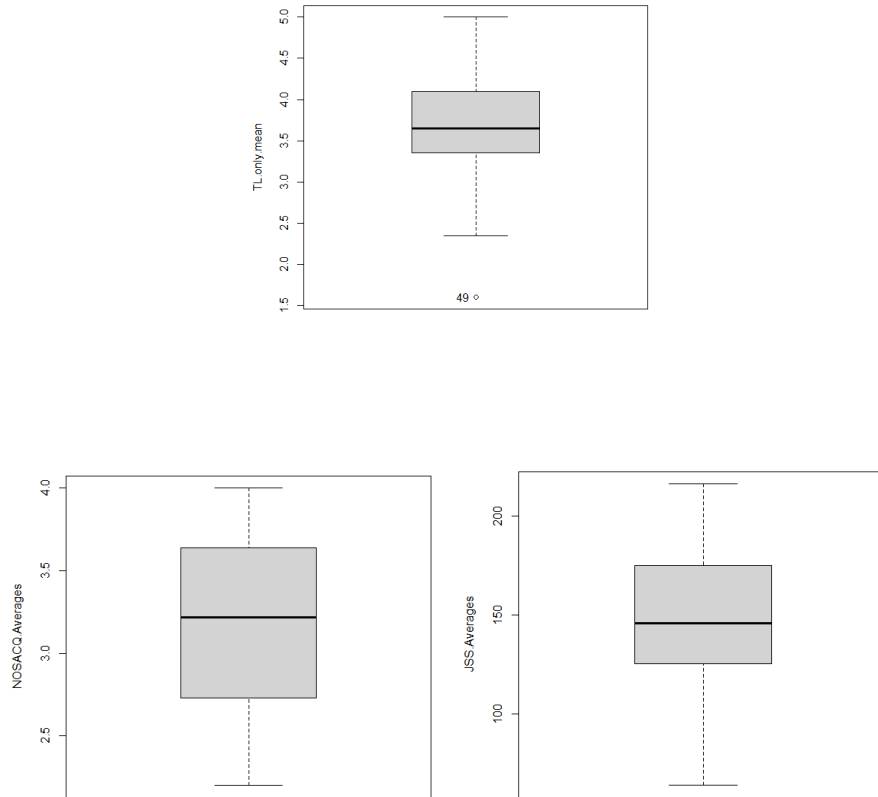
**Figure 6**

*MLQ 5x-short, NOSACQ-50, and JSS Histograms*



## Figure 7

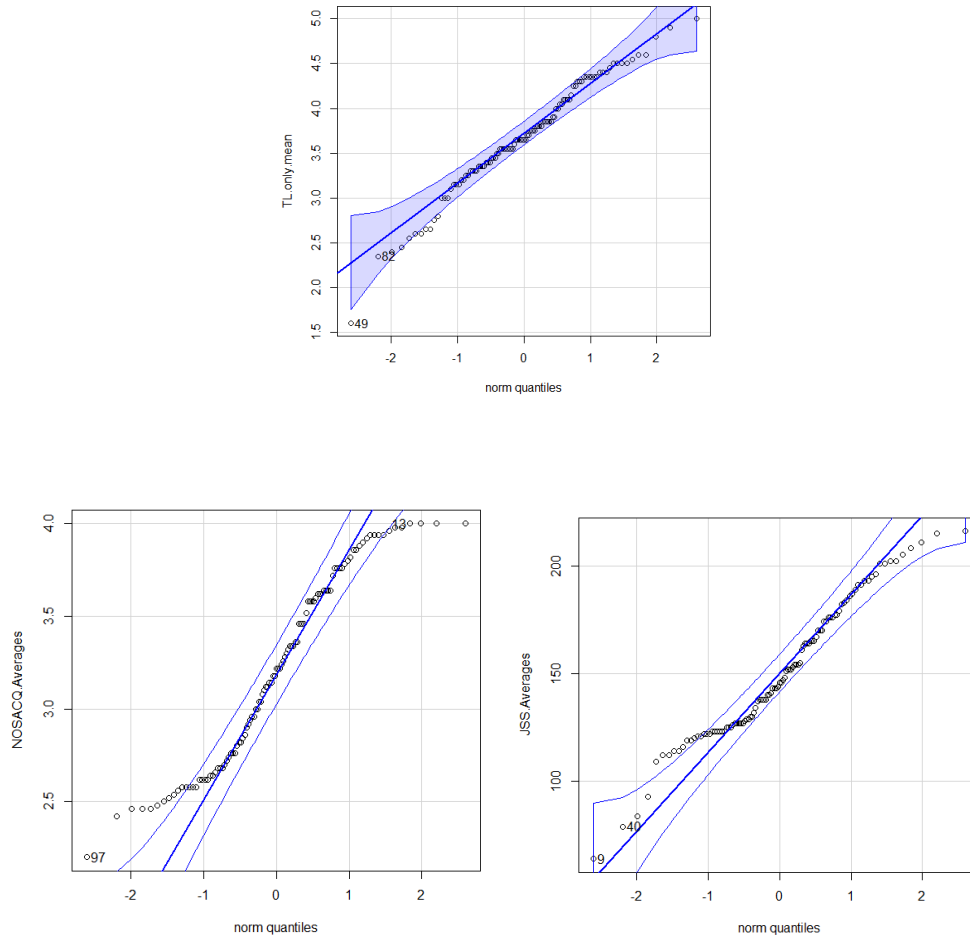
### *MLQ 5x-short, NOSACQ-50, and JSS Boxplots*



*Note.* These figures represent a boxplot for each of the variable in this study. The MLQ boxplot indicates that there is one outlier.

## Figure 8

### MLQ 5x-short, NOSACQ-50, JSS QQ Plots

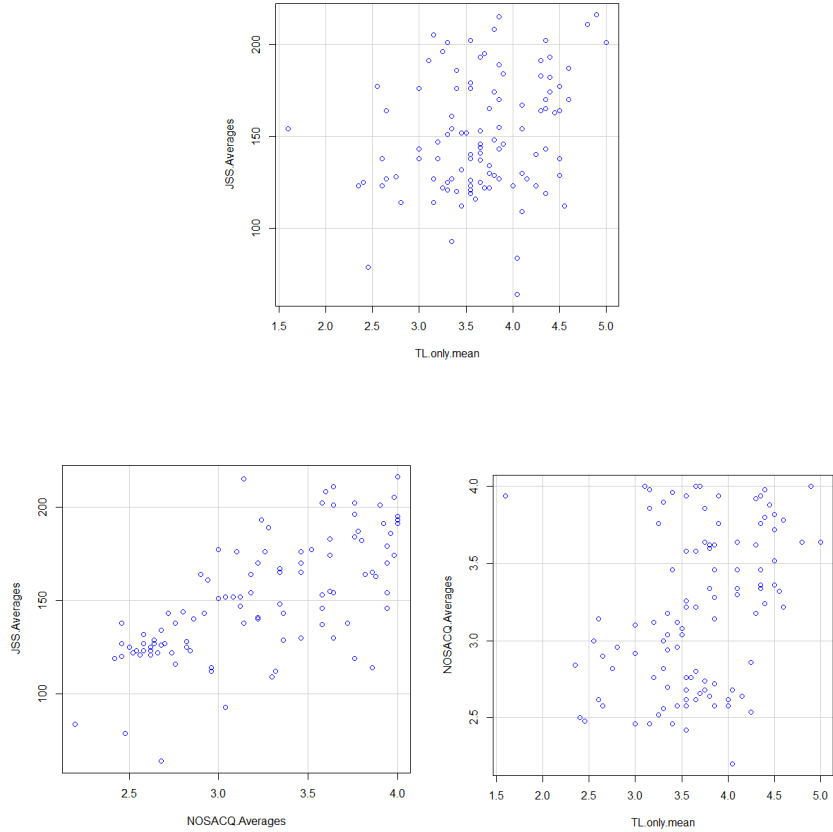


*Note.* Frequency scores for the study variables. Outliers noted. Data points within the shaded area represent a 95% confidence. The NOSACQ-50 and JSS show a tendency toward not normally distributed data. The MLQ 5x-short, NOSACQ-50 and JSS QQ plots all indicate there are outliers.



**Figure 9**

*MLQ 5x-short, NOSACQ-50, JSS Scatter Plots*



*Note.* These figures represent scatterplots for each of the variables in this study. These scatterplots indicate that there is a linear relationship between the variables.

The MLQ 5x-short, NOSACQ-50 and JSS Scatterplots all indicate there are outliers.

**Table 7**

*Anderson-Darling Normality Test*

	Anderson-Darling	p-value
MLQ 5x- short	.586	.125
NOSACQ-50	1.923	<.001
JSS	1.170	.004

The results indicate that the MLQ 5x- short data set is normally distributed. The results of the NOSACQ-50 and JSS the data sets are not normally distributed; thus, a Spearman rank test was used to test the relationship between the study's variables. A Pearson's  $r$  correlation could have been run on the MLQ 5x- short; however, the researcher opted to utilize the same correlation test, the Spearman rho, for all correlation tests for this study. Outliers found in the survey results were investigated by the researcher. Participants may experience disinterest when completing surveys because online survey data collection is relatively easy (Singh & Sagar, 2021). Other potential causes of outliers are that the participant may respond casually to some or all survey questions due to survey fatigue. Overall, due to the outliers found in the study results, the researcher utilized the Spearman rho correlation test to analyze the data.

The Spearman rank correlation was computed to assess the relationship between transformational leadership and job satisfaction and the results can be seen in Table 5. There was a positive relationship between the two variables,  $r(105) = .252$ ,  $p = \text{value } .009$ . Therefore, the  $H_{10}$  hypothesis was rejected and the  $H_{1a}$  hypothesis was accepted. A positive relationship between transformational leadership and job satisfaction exists in oil drilling and gas extraction workers in the United States.

Next, the Spearman rank correlation was computed to assess the relationship between occupational safety climate and job satisfaction. There is a positive relationship between the two variables,  $r(105) = .669$ ,  $p = \text{value } < .001$ . This resulted in the rejection of the null hypothesis and in the acceptance of the  $H_{2a}$  hypothesis. A positive relationship between occupational safety climate and job satisfaction exists in oil drilling and gas extraction workers in the United States.

Finally, the Spearman rho correlation test was run to test the relationship between transformational leadership and occupational safety climate. The results indicated indicates a

positive relationship between the two variables,  $r(105) = .364$ ,  $p = \text{value} < .001$ . This resulted in the rejection of the null hypothesis and acceptance of the  $H_{3a}$  hypothesis. Thus, indicating a positive relationship between transformational leadership and occupational safety climate exists in oil drilling and gas extraction workers in the United States.

**Table 6**

*Spearman Rho Correlation Coefficients for the MLQ 5x-short, NOSACQ-50, & JSS*

	<i>n</i>	<i>r(df)</i>	<i>p-value</i>	<i>decision</i>
TL & JS	107	.252	.009**	Reject the Null
OSC & JS	107	.699	<.001**	Reject the Null
TL & OSC	107	.364	<.001**	Reject the Null

*Note.* \*\* Indicates a statistically significant p-value.

### Summary

A quantitative non-experimental research design approach utilizing a Spearman rho correlation testing method was used to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction of oil drilling and gas extraction industry workers in the United States. The study sample consisted of 107 participants who worked in oil drilling and gas extraction industry, were at least 18 years old, and lived in the United States.

The Spearman rho correlation coefficient for the relationship between transformational leadership and job satisfaction is .252 with a corresponding p-value of .009, which indicates a significant positive relationship between the variables and resulted in the rejection of the null hypothesis. The Spearman rho correlation for the relationship between occupational safety climate and job satisfaction is .699 with a corresponding p-value of <.001, which indicates a significant positive relationship between the variables and resulted in the rejection of the null

hypothesis. Finally, the Spearman's rho correlation coefficient for the relationship between transformational leadership and occupational safety climate is .364 with a corresponding p-value of  $<.001$ , which indicates a significant positive relationship between the variables and resulted in the rejection of the null hypothesis.

The significance of the study, its contributions to learning, and its connections to organizational commitment are covered in detail in Chapter 5 along with a summary of the research, goals, and an explanation of how the research question were addressed. The researcher will summarize the major conclusions in Chapter 5 and interpret the theoretical and practical implications of the conclusions in relation to the research question and hypotheses. The researcher also outlines suggestions for further study into organizational commitment and learning levels. The value and significance of this study are discussed in the conclusion of the chapter.

## **CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

In many organizations, safety culture is ignored completely, which can lead to diminished job satisfaction (Niartiningsih et al., 2020). This research adds knowledge to the field of study by demonstrating the importance of the occupational safety climate in organizations and the relationship transformational leadership has with occupational safety climate and job satisfaction. Among the major concerns of business leaders are job satisfaction and safety for their workers (Sánchez-Segura et al., 2021). When business leaders better understand the relationship between occupational safety climate and transformational leadership, they can motivate followers to develop their abilities, which can increase organizational performance and improve organizational climate. Oil drilling and gas extraction industry leaders can use the results of this study to enhance their workplaces if they understand how the relationship between these variables may affect their organizations.

Chapter 1 includes an introduction to this study and a discussion of the background, problem statement, purpose statement, research questions, and hypotheses. Information on advancing theoretical knowledge, the significance of the study, and the study's application to business management was also presented. Chapter 1 concludes with the study's methodology, research design, term definitions, assumptions, limitations, and delimitations. Chapter 2 comprises a literature review of the variables, theories, frameworks, and instruments used to complete the data collection for this study. Chapter 3 contains detailed information on the study methodology. In addition, this chapter describes the techniques used in the study to allow future researchers to duplicate the process. Chapter 4 includes the data collection process and analysis of this study. Actual findings of the study, analysis and evaluation of the results as applied to

real-world business relevance are presented. Finally, Chapter 5 includes the study's implications, recommendations, and conclusions.

### **Summary of the Study**

To conduct an examination of the relationship between transformational leadership, occupational safety climate, and job satisfaction was the purpose of this qualitative correlational study. Participants were recruited by Centiment from the target population so the researcher could examine the relationship between the study's variables. One hundred and seven of the recruited participants met the inclusion criteria and completed the MLQ 5x-short, the NOSACQ-50, and the JSS. The researcher used Spearman rho correlation due to the data not being normally distributed. R commander and JASP software were utilized to analyze the collected data and created the tables and graphs for the study.

### **Summary of Findings and Conclusion**

The aim of this study was to answer the following research question: What is the relationship between transformational leadership, occupational safety climate, and job satisfaction of oil drilling and gas extraction industry workers in the United States? The results of the data analysis indicate positive and statistically significant relationships between transformational leadership and job satisfaction, transformational leadership and occupational safety climate, and transformational leadership and occupational safety climate among oil drilling and gas extraction workers aged 18 years and older in the United States.

The following section summarizes the study's theoretical implications. The results of this study are further explained in relation to the theory of transformational leadership proposed by Bernard Bass, Heinrich's domino theory, and Maslow's hierarchy of needs. Lastly, how the

findings can directly impact businesses and business leaders in their professional practice will be examined and discussed.

### **Implications**

This study provides information to business leaders at all levels. The data obtained in this study can be used to improve leadership styles, safety culture, and a positive work environment. These changes can ultimately result in better job satisfaction for employees. This section will cover the theoretical implications consistent with the theoretical framework presented in Chapter 2. Professional practice implications of this study will also be discussed.

### **Theoretical Implications**

Bernard Bass' transformational leadership theory, H.W. Heinrich's domino theory, and Abraham Maslow's hierarchy of needs were used as the theoretical frameworks for this study. By understanding the theories in this study, leaders can understand the best ways to influence their employees. This influence can lead to creation of a work environment that is conducive to both job satisfaction and safety. Such an environment could foster collaboration, creativity, and shared responsibility. These environmental characteristics can be achieved by leveraging the positive effects of transformational leadership, occupational safety climate, and job satisfaction (Asgari et al., 2020).

To best understand how the study results relate to transformational leadership, domino, and hierarchy of needs theories, it is important to summarize any theoretical implications that may be derived from the results. Transformational leadership theory posits that a transformational leader can inspire and motivate employees to strive for excellence. Employees who are inspired and striving for excellence can identify and report the initial hazard, which will result in speedy remediation and avoidance of workplace mishaps and injuries.

Heinrichs domino theory places the focus of accidents on unsafe behavior. When the most influential accident prevention theory in occupational safety and health discipline is combined with the benefits that a transformational leader provides, employees are inspired, excellent, happy, and dedicated to the organization (Dunlap et al., 2019; Yorio & Moore, 2018). Creating a culture that builds up employees who are striving for excellence results in a safe work environment (Judge, 2018). Such a culture creates employees who will be inspired by transformational leaders, which can help reduce human error and unsafe acts in the workplace (Yorio & Moore, 2018).

Finally, the hierarchy of needs theory establishes the basis for employee motivation (Fallatah & Syed, 2018). When employees have a safe and healthy work environment, the foundational layer of Maslow's hierarchy of needs theory is satisfied (Fallatah & Syed, 2018). Satisfied, safe, and secure employees are motivated and productive, and this leads to higher customer loyalty, profitability, and production and lower turnover for an organization (DeLeon, 2023).

### **Implications for Professional Practice**

This study adds to the knowledge of limited research on the relationship between transformational leadership, occupational safety climate, and job satisfaction. The data that was collected from employees in the oil drilling and gas extraction industry in the United States show that job satisfaction is related to transformational leadership and occupational safety climate. The results of this study can have many implications for professional practice. For example, because transformational leaders are known to motivate and inspire their followers and nurture a safe work environment, employees tend to be more satisfied and committed to their organizations.



This study provides implications for an organization's business leaders and human resources management teams. These implications are due to the relationship of the study's variables and the impact this relationship can have on the organization. Employee morale, engagement, and retention are some of the most difficult challenges for organizations to overcome (DeLeon, 2023). Productivity, employee turnover and retention, injury cost, accident and mishap prevention, and organizational and employee performance rates are all affected by these relationships. Transformational leadership and a positive occupational safety climate can contribute to increased productivity, motivation, and job satisfaction and reduced injury rates (Akbari et al., 2019; Akdere & Egan, 2020).

Business leaders and human resource management teams can also tap into new knowledge and use the information presented in the study as a resource to develop strategies that encourage employees to be creative, as transformational leaders inspire this trait in their employees (Akdere & Egan, 2020). Businesses should use this to challenge assumptions and their employees to find new and better ways to conduct business. Finally, the connection between occupational safety climate and job satisfaction is a safer work environment and happier employees who contribute to increased organizational performance.

### **Recommendations**

All research is delimited to ensure timely and successful completion of a study. Therefore, it is important to identify potential future research opportunities and outline ways that the current research can be applied by businesses. Recommendations for future research and for practice are outlined in the following sections.

## **Recommendations for Future Research**

Transformational leadership, occupational safety climate, and job satisfaction play an intricate role in an organization's culture. There is a statically significant relationship between the variables for the sample of oil drilling and gas extraction workers in the United States that was surveyed. Additional qualitative research should be conducted to see if the results can be replicated in different geographic locations. This type of research would allow the researcher to determine if specific geographical social and cultural factors impact the results of the study. One recommended geographic location is the Middle East, where there is a large oil drilling and gas extraction industry.

Each additional research study conducted taps into potential new knowledge on the relationship between transformational leadership, occupational safety climate, and job satisfaction. Further research is needed to unravel the extent of the impact this relationship has on an organization and its employees. Additional research on the relationship between transformational leadership, job satisfaction, and occupational safety climate should be conducted utilizing a different type of quantitative research, such as experimental.

Additional investigation into the complex interplay between these three variables can help organizational leaders better understand how to foster a safe and fulfilling work environment. This study utilized a Likert-based survey that was designed to capture employee perception about their organizations. Closed-ended questions cannot elicit understanding of feelings beyond what the scale can measure. Therefore, a follow-up qualitative study should be conducted to gain insight into how employees truly feel about their organizations. This can be accomplished through the use of interviews or focus groups. Further research could also provide valuable insight into how to effectively motivate employees to prioritize workplace safety and

create a safer work environment and inform organizations about how to implement strategies that create better working conditions. Results from this type of study would likely allow business leaders to make changes that would improve job satisfaction and increase employee retention.

This study's target population was limited to oil drilling and gas extraction industry workers in the United States. Future research should expand into other industries. This research would allow researchers to gain more insight into the relationship between the study's variables and to identify if the type of industry affects how employees view their organizations in general. This further research may help to uncover potential patterns of leadership and safety cultural behaviors present in different industry across the globe.

### **Recommendations for Practice**

The data obtained in this study cannot be used to identify the leadership characteristics present in this study's sample because the questions were geared toward how the participants view their leaders, not their own leadership styles. Additionally, the data collected during this study only reveal how these specific employees feel about their leaders, their perception of their organization's safety climate, and their job satisfaction. A safety culture that can lead to improved employee job satisfaction can be developed based on the results of this study.

Transformational leadership encourages employees to think critically and take initiative, while a positive occupational safety climate promotes trust and a sense of safety in the workplace. Strong job satisfaction can lead to improved productivity and, when combined with transformational leadership and a positive safety climate, collaboration and creativity within a team can be strengthened.

It is important to create a work environment that meets employees' needs and encourages self-actualization. Organizations with work environments that promote these characteristics may

find that employee commitment is nurtured, employee retention is increased, and a safe and productive workplace environment is created. Transformational leaders promote their employees' needs and ensure that safety conditions are adequate, which fosters and increases employee job satisfaction, ultimately resulting in increased commitment and loyalty. Employees who are committed to their organizations are more productive, willing to learn, develop more skills, and perform better (Matsuo, 2018).

### **Concluding Remarks**

The purpose of this quantitative correlational study was to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction of US oil drilling and gas extraction industry workers. An exhaustive review of the literature revealed no studies that examined these variables in that industry. Thus, examining the relationship between these three variables expanded the existing body of knowledge. An analysis of the data indicates that there is a statistically significant relationship between transformational leadership, occupational safety climate, and job satisfaction among the target population. This research provides an in-depth understanding of how the perception of an organization's safety culture and leadership can impact employees' job satisfaction.

The results of this study add valuable information to existing literature that can be used by organizational leaders, trainers, safety professionals, and human resources teams to develop strategies for training impactful leaders and initiatives that could benefit the organization in the long term, which could contribute to increased job satisfaction. Business leaders and human resource management teams can use this information to incorporate transformational leadership training into their organization. These leaders and team members can also use this information to

develop safety programs within their organizations that will fulfill employees' basic safety needs.

Understanding the dynamics of the relationship between leadership and employee safety can help organizations create a work environment that is more conducive to productivity and employee engagement and wellbeing (Shabane et al., 2017; Thompson et al., 2021; Waldman et al., 2012; Willis et al., 2017). The results of this study indicate that the variables are statistically interconnected, providing evidence of the importance of leadership in creating an environment for employees that is both safe and satisfying. Employee satisfaction and safety is good for the organization as well and is worth pursuing. In conclusion, the following words from the famous and gifted author, Simon Sinek (2014), ring as true today as they did when he first said them: “When a leader makes the choice to put the safety and lives of the people inside the organization first, to sacrifice their comforts and sacrifice the tangible results, so that the people remain and feel safe and feel like they belong, remarkable things happen” (4:39).

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## APPENDIX A

### Informed Consent Agreement

You are invited to participate in a web-based online survey through Centiment. The research is being conducted by Amy Lynn Koehler-Warren, a Doctor of Business Administration student at Columbia Southern University. The survey is designed to examine the relationship between transformational leadership, occupational safety climate, and job satisfaction among oil drilling and gas extraction employees who are part of the United States population that are 18 years old or older and identify as male or female.

Your participation in this study is voluntary. It is completely up to you whether you participate in this study. If you decide to participate in this study, you will be asked to give electronic consent. After you have given consent, you are free to withdraw at any time and without giving a reason. Even after submitting the survey, you can still withdraw by emailing the researcher at [amylynnkoehlerwarren@gmail.com](mailto:amylynnkoehlerwarren@gmail.com) and providing the full URL or aid value from when you completed the survey. Refusing to participate in the research or exiting the survey at any time will not result in any form of penalty.

The web-based online survey should take approximately 20-30 minutes to complete. Your responses will be confidential, and we do not collect identifying information such as name or email address. There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life. We will do our best to keep your information confidential. Your completed survey will be stored at Centiment, where all data is stored in a protected electronic format. The researcher will also store the raw data on an encrypted storage drive at their personal residence for a minimum of three years. To help protect your confidentiality, the

survey will not contain information that will personally identify you. The results of this study will be solely used for scholarly purposes only.

If you have questions about the study or the procedures at any time, you may contact the research supervisor, Dr. Tammy Corcoran , via email at

[Tammy.Corcoran@columbiasouthern.edu](mailto:Tammy.Corcoran@columbiasouthern.edu) .

ELECTRONIC CONSENT: Please select your choice below. You may print a copy of this consent form for your records. Clicking on the “Yes, I consent to participate in this study” button indicates that

- You have read the above information
  - You voluntarily agree to participate
  - You are 18 years of age or older
- **Yes, I consent to participate in this study**
  - **No, I do not consent to participate in this study**

## APPENDIX B

### Survey Instrument

#### Demographic Questions

1. Are you male or female?

Male

Female

2. How old are you?

Under 18 years old

18-29 years old

30-44 years old

45-59 years old

60 years or older

3. Are you an oil drilling and gas extraction industry worker?

Yes

No

4. What is your race/ethnicity?

Black or African American

White or Caucasian

Hispanic

American Indian or Alaska Native

Asian

Native Hawaiian or Other Pacific Islander

Other

5. What is the highest degree or level of education you have completed?

Some high school

High School diploma or equivalent

Bachelor's degree

Master's degree

Terminal degree or higher

6. Do you have a managerial position, e.g. manager, supervisor?

Yes

No

## MLQ 5x-short Survey Instrument

For use by Amy Lynn Koehler-Warren only. Received from Mind Garden, Inc. on February 6, 2023

### Multifactor Leadership Questionnaire Rater Form

Name of Leader: \_\_\_\_\_ Date: \_\_\_\_\_

Organization ID #: \_\_\_\_\_ Leader ID #: \_\_\_\_\_

This questionnaire is used to describe the leadership style of the above-mentioned individual as you perceive it. Answer all items on this answer sheet. **If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.** Please answer this questionnaire anonymously.

**Important** (necessary for processing): Which best describes you?

- I am at a higher organizational level than the person I am rating.
- The person I am rating is at my organizational level.
- I am at a lower organizational level than the person I am rating.
- Other than the above.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits the person you are describing. Use the following rating scale:

Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
0	1	2	3	4

*The Person I Am Rating...*

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Provides me with assistance in exchange for my efforts .....                                   | 0 | 1 | 2 | 3 | 4 |
| 2. *Re-examines critical assumptions to question whether they are appropriate .....               | 0 | 1 | 2 | 3 | 4 |
| 3. Fails to interfere until problems become serious .....   | 0 | 1 | 2 | 3 | 4 |
| 4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards ..... | 0 | 1 | 2 | 3 | 4 |
| 5. Avoids getting involved when important issues arise .....                                      | 0 | 1 | 2 | 3 | 4 |
| 6. *Talks about his/her most important values and beliefs .....                                   | 0 | 1 | 2 | 3 | 4 |
| 7. Is absent when needed .....  | 0 | 1 | 2 | 3 | 4 |
| 8. *Seeks differing perspectives when solving problems .....                                      | 0 | 1 | 2 | 3 | 4 |
| 9. *Talks optimistically about the future .....   | 0 | 1 | 2 | 3 | 4 |
| 10. *Instills pride in me for being associated with him/her .....                                 | 0 | 1 | 2 | 3 | 4 |
| 11. Discusses in specific terms who is responsible for achieving performance targets .....        | 0 | 1 | 2 | 3 | 4 |
| 12. Waits for things to go wrong before taking action .....                                       | 0 | 1 | 2 | 3 | 4 |
| 13. *Talks enthusiastically about what needs to be accomplished .....                             | 0 | 1 | 2 | 3 | 4 |
| 14. *Specifies the importance of having a strong sense of purpose .....                           | 0 | 1 | 2 | 3 | 4 |
| 15. *Spends time teaching and coaching .....  | 0 | 1 | 2 | 3 | 4 |

Continued →



Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always	
0	1	2	3	4	
16. Makes clear what one can expect to receive when performance goals are achieved .....	0	1	2	3	4
17. Shows that he/she is a firm believer in "If it ain't broke, don't fix it." .....	0	1	2	3	4
18. *Goes beyond self-interest for the good of the group .....	0	1	2	3	4
19. *Treats me as an individual rather than just as a member of a group.....	0	1	2	3	4
20. Demonstrates that problems must become chronic before taking action .....	0	1	2	3	4
21. *Acts in ways that builds my respect .....	0	1	2	3	4
22. Concentrates his/her full attention on dealing with mistakes, complaints, and failures.....	0	1	2	3	4
23. *Considers the moral and ethical consequences of decisions .....	0	1	2	3	4
24. Keeps track of all mistakes .....	0	1	2	3	4
25. *Displays a sense of power and confidence .....	0	1	2	3	4
26. *Articulates a compelling vision of the future .....	0	1	2	3	4
27. Directs my attention toward failures to meet standards .....	0	1	2	3	4
28. Avoids making decisions .....	0	1	2	3	4
29. *Considers me as having different needs, abilities, and aspirations from others.....	0	1	2	3	4
30. *Gets me to look at problems from many different angles .....	0	1	2	3	4
31. *Helps me to develop my strengths .....	0	1	2	3	4
32. *Suggests new ways of looking at how to complete assignments .....	0	1	2	3	4
33. Delays responding to urgent questions .....	0	1	2	3	4
34. *Emphasizes the importance of having a collective sense of mission .....	0	1	2	3	4
35. Expresses satisfaction when I meet expectations .....	0	1	2	3	4
36. *Expresses confidence that goals will be achieved .....	0	1	2	3	4
37. Is effective in meeting my job-related needs .....	0	1	2	3	4
38. Uses methods of leadership that are satisfying .....	0	1	2	3	4
39. Gets me to do more than I expected to do .....	0	1	2	3	4
40. Is effective in representing me to higher authority .....	0	1	2	3	4
41. Works with me in a satisfactory way.....	0	1	2	3	4
42. Heightens my desire to succeed.....	0	1	2	3	4
43. Is effective in meeting organizational requirements.....	0	1	2	3	4
44. Increases my willingness to try harder.....	0	1	2	3	4
45. Leads a group that is effective.....	0	1	2	3	4

Sample

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## NOSCAQ-50 Survey Instrument

**In the following section please describe how you perceive that the managers and supervisors at this workplace deal with safety.** Although some questions may appear very similar, please answer each one of them.

	Strongly disagree	Disagree	Agree	Strongly agree
<b>Put only one X for each question</b>				
1. Management encourages employees here to work in accordance with safety rules - even when the work schedule is tight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Management ensures that everyone receives the necessary information on safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Management looks the other way when someone is careless with safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Management places safety before production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Management accepts employees here taking risks when the work schedule is tight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. We who work here have confidence in the management's ability to deal with safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Management ensures that safety problems discovered during safety rounds/evaluations are corrected immediately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. When a risk is detected, management ignores it without action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Management lacks the ability to deal with safety properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	disagree			agree
Put only one X for each question				
10. Management strives to design safety routines that are meaningful and actually work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Management makes sure that everyone can influence safety in their work environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Management encourages employees here to participate in decisions which affect their safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Management never considers employees' suggestions regarding safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Management strives for everybody at the worksite to have high competence concerning safety and risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Management never asks employees for their opinions before making decisions regarding safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Management involves employees in decisions regarding safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>				
17. Management collects accurate information in accident investigations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Fear of sanctions (negative consequences) from management discourages employees here from reporting near-miss accidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Management listens carefully to all who have been involved in an accident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Although some questions may appear very similar, please answer each one of them

	Strongly disagree	Disagree	Agree	Strongly agree
Put only one X for each question				
20. Management looks for causes, not guilty persons, when an accident occurs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Management always blames employees for accidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Management treats employees involved in an accident fairly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

**In the following section please describe how you perceive that employees at this workplace deal with safety**

23. We who work here try hard together to achieve a high level of safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. We who work here take joint responsibility to ensure that the workplace is always kept tidy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. We who work here do not care about each others' safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. We who work here avoid tackling risks that are discovered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. We who work here help each other to work safely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. We who work here take no responsibility for each others' safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Although some questions may appear very similar, please answer each one of them

	Strongly disagree	Disagree	Agree	Strongly agree
Put only one X for each question				
29. We who work here regard risks as unavoidable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. We who work here consider minor accidents to be a normal part of our daily work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. We who work here accept dangerous behaviour as long as there are no accidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. We who work here break safety rules in order to complete work on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. We who work here never accept risk-taking even if the work schedule is tight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. We who work here consider that our work is unsuitable for cowards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. We who work here accept risk-taking at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>				
36. We who work here try to find a solution if someone points out a safety problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. We who work here feel safe when working together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. We who work here have great trust in each others' ability to ensure safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Although some questions may appear very similar, please answer each one of them

	Strongly disagree	Disagree	Agree	Strongly agree
Put only one X for each question				
39. We who work here learn from our experiences in order to prevent accidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. We who work here take each others' opinions and suggestions concerning safety seriously	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. We who work here seldom talk about safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. We who work here always discuss safety issues when such issues come up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. We who work here can talk freely and openly about safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>				
44. We who work here consider that a good safety representative plays an important role in preventing accidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. We who work here consider that safety rounds/evaluations have no effect on safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. We who work here consider that safety training to be good for preventing accidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. We who work here consider early planning for safety as meaningless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. We who work here consider that safety rounds/evaluations help find serious hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. We who work here consider safety training to be meaningless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. We who work here consider it important to have clear-cut goals for safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## JSS Survey Instrument

<b>JOB SATISFACTION SURVEY</b> Paul E. Spector Department of Psychology University of South Florida Copyright Paul E. Spector 1994, All rights reserved.		
	PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.	Disagree very much Disagree moderately Disagree slightly Agree slightly Agree moderately Agree very much
1	I feel I am being paid a fair amount for the work I do.	1 2 3 4 5 6
2	There is really too little chance for promotion on my job.	1 2 3 4 5 6
3	My supervisor is quite competent in doing his/her job.	1 2 3 4 5 6
4	I am not satisfied with the benefits I receive.	1 2 3 4 5 6
5	When I do a good job, I receive the recognition for it that I should receive.	1 2 3 4 5 6
6	Many of our rules and procedures make doing a good job difficult.	1 2 3 4 5 6
7	I like the people I work with.	1 2 3 4 5 6
8	I sometimes feel my job is meaningless.	1 2 3 4 5 6
9	Communications seem good within this organization.	1 2 3 4 5 6
10	Raises are too few and far between.	1 2 3 4 5 6
11	Those who do well on the job stand a fair chance of being promoted.	1 2 3 4 5 6
12	My supervisor is unfair to me.	1 2 3 4 5 6
13	The benefits we receive are as good as most other organizations offer.	1 2 3 4 5 6
14	I do not feel that the work I do is appreciated.	1 2 3 4 5 6
15	My efforts to do a good job are seldom blocked by red tape.	1 2 3 4 5 6
16	I find I have to work harder at my job because of the incompetence of people I work with.	1 2 3 4 5 6
17	I like doing the things I do at work.	1 2 3 4 5 6
18	The goals of this organization are not clear to me.	1 2 3 4 5 6

	<p>PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.</p> <p>Copyright Paul E. Spector 1994, All rights reserved.</p>	<p>Disagree very much Disagree moderately Disagree slightly Agree slightly Agree moderately Agree very much</p>
19	I feel unappreciated by the organization when I think about what they pay me.	1 2 3 4 5 6
20	People get ahead as fast here as they do in other places.	1 2 3 4 5 6
21	My supervisor shows too little interest in the feelings of subordinates.	1 2 3 4 5 6
22	The benefit package we have is equitable.	1 2 3 4 5 6
23	There are few rewards for those who work here.	1 2 3 4 5 6
24	I have too much to do at work.	1 2 3 4 5 6
25	I enjoy my coworkers.	1 2 3 4 5 6
26	I often feel that I do not know what is going on with the organization.	1 2 3 4 5 6
27	I feel a sense of pride in doing my job.	1 2 3 4 5 6
28	I feel satisfied with my chances for salary increases.	1 2 3 4 5 6
29	There are benefits we do not have which we should have.	1 2 3 4 5 6
30	I like my supervisor.	1 2 3 4 5 6
31	I have too much paperwork.	1 2 3 4 5 6
32	I don't feel my efforts are rewarded the way they should be.	1 2 3 4 5 6
33	I am satisfied with my chances for promotion.	1 2 3 4 5 6
34	There is too much bickering and fighting at work.	1 2 3 4 5 6
35	My job is enjoyable.	1 2 3 4 5 6
36	Work assignments are not fully explained.	1 2 3 4 5 6