Exploring the Impact of Transformational Leadership on Job Turnover Intention: A Study of Plant Operations

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Exploring the Impact of Transformational Leadership on Job Turnover Intention: A Study of Plant Operations

by

Christopher B. Edwards

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

of

Doctorate in Business

in the Robinson College of Business

of

Georgia State University

GEORGIA STATE UNIVERSITY

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ACCEPTANCE

This dissertation was prepared under the direction of the Chris Edwards Dissertation Committee. It has been approved and accepted by all members of that committee and has been accepted in partial fulfillment of the requirements for the degree of Executive Doctorate in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

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DISSERTATION COMMITTEE

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DEDICATION

I dedicate this dissertation to my late grandfather, Norman “Stevie” Tucker Jr. To me, he was simply, “Pa”. Pa was a dedicated friend, brother, father, and grandfather. He was my rock, my anchor, my guiding light. I am the person I am today because of his unwavering love, support, and encouragement. I will be forever grateful for everything he did for me.

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To my mom Sophia and my dad Charlie. Thank you all for everything you have done in my life. Thank you for creating the foundation for me to become the man I am today. Thank you for always loving and supporting me unconditionally. I love both of you dearly.

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ABSTRACT

Exploring the Impact of Transformational Leadership on Job Turnover Intention:

A Study of Plant Operations

by

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"Problems are opportunities." This familiar phrase encapsulates the essence of our study. It is an invitation to improve, to venture into uncharted territories, and to surpass our previous limits. One such problem, the "People Problem," looms large over numerous organizations in various industries. The sheer number of employees contemplating or quitting is staggering. The U.S. mining industry is grappling with this issue, striving to transform it into a catalyst for new growth and possibilities. This study aimed at contributing to the employee retention literature and equipping practitioners with insights to combat the escalating job turnover rates.

The current study examined how transformational leadership, a powerful tool, impacts an employee's intent to leave or stay with an organization. Extensive research has been conducted on turnover intention, with several studies affirming its reliability as an indicator of actual turnover (Gan et al., 2021; Harhara et al., 2015; Tett & Meyer, 1993). This study leveraged a quantitative approach to address three research questions and test five hypotheses.

This study's findings suggest that transformational leadership has a direct and negative relationship with job turnover intention. Additionally, the current study tested whether a follower's level of job performance mediates the relationship between transformational leadership and turnover intention. The results for performance were statistically significant.

Finally, this study tested whether follower pay satisfaction, leader-follower tenure, and follower age would moderate the relationship between transformational leadership and turnover intention. The results for follower pay satisfaction were statistically significant. However, leader-follower tenure and follower age were statistically insignificant.

This research should interest practitioners across many industries, particularly U.S. mining industries. Understanding how leadership, follower job performance, and follower pay satisfaction can impact job turnover intentions is theoretical knowledge and practical wisdom that can be applied to reduce turnover rates and increase retention. Lastly, setting this study on plant operations employees working for U.S. mining organizations is timely, as mining companies have been battling high turnover rates.

I INTRODUCTION

"Problems are opportunities." This familiar phrase encapsulates the essence of this study. It is an invitation to improve, to venture into uncharted territories, and to surpass our previous limits. One such problem, rising voluntary employee turnover rates, looms large over numerous organizations in a variety of industries. The sheer number of employees contemplating or quitting is staggering; to put it into perspective, the U.S. Bureau of Labor Statistics reported that 4.3 million people voluntarily left their jobs in December 2021 (Smet et al., 2022). High employee turnover can impact teams and organizations negatively in many ways including higher costs (Gschwandtner & Lambson, 2006), increased workloads and stress for remaining employees, and loss of productivity.

For an organization, the expense of replacing an employee exceeds 2.5 times the employee's salary (Iqbal et al., 2015). Employee turnover imposes significant costs on organizations due to expenses associated with hiring and training new personnel (Ghapanchi & Aurum, 2011). Additionally, during the training and onboarding process, the trainer and trainee are pulled away from more productive tasks until the new hire gets up to speed. This acclimation period results in a direct cost that can easily be overlooked when calculating turnover costs. Given these substantial costs, retention emerges as a crucial priority for industry leaders aiming to enhance competitiveness and bolster profitability.

Operating with inadequate staffing levels often leads to burnout and a rise in turnover intention rates. High-performing employees who are already operating at or above capacity are tasked with filling the holes created when former employees decide to leave the company (Hall, 2022), potentially eroding the enthusiasm and morale of even the most dedicated employees. Consequently, top-performing employees may also opt to depart, directly and/or indirectly

impacting the organization's overall productivity and financial performance.

Organizations have an opportunity to address employee retention challenges if they focus more on both turnover intent and actual turnover (Harris et al., 2005; Krishna et al., 2022). Turnover intention relates to employees who are still employed by a company but have started the process of thinking about leaving the company. Numerous researchers have characterized turnover intention as the deliberate psychological inclination or desire to depart from the workplace (Alniacik et al., 2011; Griffeth et al., 2000; Ohana & Meyer, 2010; Panatik et al., 2012). According to Tett and Meyer (1993), turnover intention represents the final step in a sequence of withdrawal cognitions, encompassing thoughts of resigning and the intent to explore alternative employment opportunities. Turnover intention serves as a pivotal precursor to actual employee turnover, with potentially significant ramifications for organizations.

Given the current circumstances, turnover intention carries unparalleled significance across all sectors. The current study, however, centers on the mining industry within the United States. The mining industry, boasting a longstanding history spanning centuries, stands as a key player in industry production. According to the U.S. Geological Survey, the mining industry produced an estimated $105 billion of nonfuel minerals in 2023, with crushed stone leading way with $24 billion in production (U.S. Geological Survey, 2024). The mining industry is critical to everyday life as we know it. If the resources we need cannot be grown, they must be mined (Eerola, 2016). If the mining industry were to cease to exist, we would not have the raw materials to build roads, produce computers or cell phones, and we would not have spoons or forks to eat with (Eerola, 2016). Given its importance to supplying a large portion of minerals and materials needed for everyday life, it is imperative that the mining industry continue to be highly productive.

Leaders in this sector are faced with the challenge of tackling ongoing obstacles to employee retention, a problem that has become increasingly worse over time, particularly within the United States. This ongoing labor challenge has significantly impacted the U.S. mining industry, which saw a decline of 100,000 employees from 2019 to 2021 (Garside, 2023). Further, according to Abenov et al. (2023), 86% of mining executives say recruitment and retention has become more challenging year after year and the trend is expected to continue. The industry is facing a growing skills gap resulting from an aging workforce and lack of interest in entering the industry (Mills, 2024). With all of this in mind, it is critical that mining organizations identify strategies to lower employee turnover and improve retention.

To address the problems organizations have regarding employee turnover, I examined two key concepts, transformational leadership and turnover, in the academic literature. I also explored employee job performance as a possible mediator in the relationship between transformational leadership and turnover intention. Lastly, I tested to see if pay satisfaction, leader-follower tenure, and employee age moderate the relationship between transformational leadership and turnover intention. These concepts can possibly directly or indirectly impact employee turnover.

Several studies have looked at the ways in which leadership style or leadership behavior impact employee satisfaction and their intent to leave organizations. Research has supported the notion that people do not leave companies; they leave bad managers. Leaders in an organization play vital roles in retaining employees because their style of leadership can be a contributing factor to their followers' deciding to the company (Al-Ababneh, 2013). In summary, leadership style significantly impacts employee retention.

Transformational leadership fosters the growth and progression of individuals by placing emphasis on directing attention, articulating a compelling vision, empowering, and facilitating the enablement of employees (Gan & Voon, 2021). Past research has shown that transformational leadership significantly influences employee turnover intention (Lim et al., 2017) and has indicated that leaders who exhibit transformational leadership qualities create an environment that fosters vision, support, development, and innovation. This type of environment breeds organizational commitment and lowers turnover intention and actual turnover. In the literature review, I will cover in detail how past research has shown that transformational leadership can impact employee retention.

The second concept this study examined was turnover intention. Turnover intention relates to employees who are still with a company or organization but who have started thinking about leaving their jobs (Aliyu et al., 2016). I will discuss turnover intention and its relationship with transformational leader further in the literature review.

Finally, I examined employee job performance, i.e., the degree to which employees effectively perform their duties, as a mediator to the relationship between transformational leadership and turnover intention. I also included pay satisfaction, which relates to the perceived fairness of compensation; leader-follower tenure; the length of time a leader and follower have worked together; and the age of the employee as possible moderators to the relationship between transformational leadership and turnover intention. I will discuss each one of these concepts in detail in the literature review.

Considering the damaging impact that employee turnover has on the mining industry, it was chosen as the setting for this study. As noted above, the mining industry

is vital to our everyday lives. For the industry to remain productive and satisfy the increasing demand for minerals and raw materials, it must have high-performing employees manning its operations. The problem faced by the industry, while serious, presents an opportunity to improve, venture into new territories, and push beyond pervious limits. I expected this study would produce insights and tools to assist organizations to better understand their leadership culture and how it can impact employee turnover and retention.

I.1 Research Questions

Therefore, from the perspective of plant operations professionals working for U.S. mining organizations, my three research questions were:

RQ1: What is the relationship between transformational leadership and turnover intentions?

RQ2: How does employee job performance mediate the relationship between transformational leadership and turnover intention?

RQ3: How do pay satisfaction, leader-follower tenure, and follower age moderate the relationship between transformational leadership and turnover intention?

II LITERATURE REVIEW

Given the focus of this study was on exploring the association between transformational leadership and turnover intention, it was imperative to delve into the pertinent literature to elucidate the relationship between these constructs. This chapter comprehensively reviews significant strands of scholarly literature concerning transformational leadership and turnover intention. Additionally, relevant literature concerning job performance, pay satisfaction, leader-follower tenure, and employee age is examined. The chapter presents arguments for job performance as a potential mediator in the relationship between transformational leadership and turnover intention. Furthermore, it posits that pay satisfaction, leader-follower tenure, and employee age may serve as moderators in this relationship. To begin, the independent variable, transformational leadership, is discussed and reviewed.

II.1 Transformational Leadership

Transformational leadership is a leadership style that facilitates the development and advancement of individuals by emphasizing focus, vision, empowerment, and enablement of employees (Gan & Voon, 2021). Referring to the work of Burns, Gan and Voon (2021) noted that a transformational leader "identifies potential motives in followers, aims to fulfill higher needs, and engages the complete individual of the follower" (p.4). Such leaders possess the ability to encourage themselves and others within a group to transcend self-interest for the collective good, while also motivating followers to achieve remarkable results by providing insight and purpose, all the while supporting the objectives of individual followers and the organization as a whole (Yücel, 2021).

As described by Gan and Voon (2021), transformational leadership is characterized by the four principal dimensions originally formulated by Bass (1985) and subsequently refined and

expanded upon by Bass and Avolio (1990). Known as "the four i's" (Figure 1), these dimensions serve to revolutionize organizations, counterparts, and direct reports. They include:

Idealized influence

- Demonstrates exemplary behaviors consistent with the organization's objectives.
- Earns the confidence, respect, and trust of others by taking a firm stance on challenging issues.
- Highlights the importance of values, dedication, purpose, and demonstrating conviction.
- Serves as a role model for others to emulate.

Inspirational motivation

- Articulates the vision with assurance and clarity, conveying its significance effectively.
- Inspires and uplifts others, fostering enthusiasm and optimism for forthcoming endeavors.
- Sets and communicates high expectations for followers, motivating them to fully commit to pursuing common goals and objectives.
- Cultivates a sense of purpose among team members.

Intellectual stimulation

- Identifies avenues to attain a sustainable competitive edge through innovation, fostering knowledge creation and instilling fresh perspectives and collaborative approaches.
- Encourages followers to voice new ideas and perspectives freely.
- Motivates followers to be inventive and innovative.
- The leader challenges conventional thinking and practices.

Individualized consideration

- Addresses and assists with the individual needs of each follower.

- Treats others as unique individuals, recognizing that each person possesses distinct abilities and requirements, thereby offering personalized attention and fostering a sense of value and appreciation.
- Comprehends and demonstrates concern for, and provides support to, individual followers.
- Leaders engage in coaching and mentoring of followers to facilitate their growth and development.

Figure 1 Four I's of Transformational Leadership

In conclusion, it is plausible to assert that, collectively, these four dimensions of transformational leadership augment a leader's capacity to motivate followers to surpass their perceived limits and capabilities. A concise overview of pertinent transformational leadership literature is provided in Table 1.

Table 1 Transformational Leadership Literature

Articles	Key Findings
Gan, E., & Voon, M. L. (2021) *Krishna, C., Tyagi, S., & Jakhar, R. (2022).*	Significant evidence that **transformational leadership is better than transactional in certain applications.**
Gan, E., & Voon, M. L. (2021) *Krishna, C., Tyagi, S., & Jakhar, R. (2022).*	Transformational leadership has a **negative relationship with turnover intention.**
Yücel, İ. (2021). *Wang, G., Oh, I.-S., Courtright, S. H., & Colbert, A. E. (2011)*	Transformational leadership has a **positive effect on employee performance.**
Yücel, İ. (2021).	Transformational leadership **decreases turnover intention through employee performance.**

II.2 Turnover Intentions

As highlighted by Gan et al. (2021), employee retention denotes an organization's capacity to retain its workforce. Achieving employee retention entails fostering an environment in which employees find job satisfaction and are motivated to fully fulfill their responsibilities. Organizations continually confront the challenge of boosting employee retention rates while minimizing turnover rates. Extensive research has demonstrated that elevated employee turnover rates exert detrimental effects on organizational performance and profitability (Khan, 2015).

Two distinct types of turnover exist: involuntary and voluntary. Voluntary turnover arises when an employee independently opts to depart from an organization. In contrast, involuntary turnover occurs when the organization terminates its employment relationship with the employee (Dess & Shaw, 2001). Research has underscored the importance of organizations' directing their efforts toward mitigating voluntary turnover to enhance employee retention rates. Specifically, organizations should prioritize addressing turnover intention.

Turnover intention pertains to employees who, although still employed, contemplate leaving the organization for various reasons. As elucidated by Aliyu et al. (2016), turnover intention manifests as a psychological response wherein an employee entertains the idea of departing from their current organization for another in the future. Consequently, turnover intention serves as a precursor to voluntary turnover, initiated when employees harbor thoughts of permanently exiting the organization (Gan et al., 2021). Extensive research has been conducted on the topic of turnover intention, with several studies affirming its reliability as an indicator of actual turnover (Gan et al., 2021; Harhara et al., 2015; Tett & Meyer, 1993).

The capacity of an organization to gauge employees' intent to leave their positions can be more beneficial than solely focusing on actual turnover rates (Krishna et al., 2022; Harris et al., 2005). Awareness that employees are contemplating departure enables the organization to take proactive measures to enhance job satisfaction and persuade them to remain (Lambert et al., 2001). Cultivating a stronger desire among employees to stay yields numerous advantages for the organization.

Organizations can reduce actual turnover expenses and mitigate the influence of discontented employees on their colleagues by prioritizing turnover intention (Hughes et al., 2010). Previous studies have demonstrated that elevated turnover rates can detrimentally affect team morale and performance as remaining employees contend with increased workloads (Kacmar et al., 2006). Moreover, by proactively addressing turnover intention, organizations can avert the indirect cost of forfeiting social capital when an employee departs with valuable organizational knowledge. This proactive approach aids in sustaining the organization's competitiveness, both domestically and internationally (Joy, 1989).

Previous research has consistently demonstrated that turnover intention serves as a

dependable predictor of actual turnover. By prioritizing efforts to address employees' intention to leave their positions, organizations stand to gain numerous benefits. Lowering turnover intention translates to reduced actual turnover, thereby enhancing productivity, morale, competitiveness, and profitability. A concise overview of pertinent turnover intention literature is provided in Table 2.

Table 2 Turnover Intention Literature

Articles	Key Findings
Gan et al., (2021) *Harhara, A. S., Singh, S. K., & Hussain, M. (2015)* *Tett, R. P., & Meyer, J. P. (1993)*	Turnover intentions are an **actual predictor of turnover.**
Gan et al., (2021)	Turnover intentions have a **negative relationship with job satisfaction.**
Naidoo, R. (2018).	Turnover intentions have a **negative relationship with pay satisfaction.**
Christensen, J. O., & Knardahl, S. (2022)	Turnover intentions have a **negative relationship with employee age.**

II.3 Transformational Leadership and Turnover Intention

Numerous studies have identified leadership style as a critical factor influencing employee job satisfaction, which, in turn, can influence an employee's intention to either remain with or leave an organization. Al-Ababneh (2013) emphasized the significance of managers and their appropriate leadership styles in fostering job satisfaction and reducing the intent to leave. Contemporary research has indicated that a negative relationship with one's leader contributes to an employee's inclination to depart from an organization.

Research has also shown that transformational leadership significantly influences employee turnover intention (Lim et al., 2017). Existing literature suggests that transformational leaders mitigate their followers' intent to leave their positions by fostering an environment conducive to organizational loyalty. Transformational leaders inspire loyalty by motivating followers to overcome challenges and sustain high-performance levels. Pravichai and Ariyabuddhiphongs (2018) discovered that transformational leadership had a direct and negative effect on turnover intention. Additionally, Dupré and Day (2007) demonstrated that transformational leaders impact turnover intention by enhancing job satisfaction. Employees who experience greater job satisfaction are less inclined to leave their positions.

In conclusion, there is ample and substantial literature supporting the assertion that leaders demonstrating transformational leadership qualities positively influence employee job satisfaction, consequently reducing the inclination to pursue alternative career opportunities. The present study endeavors to investigate the correlation between transformational leadership and intent to leave within an industry that has received limited attention in academic research.

II.4 Mediator: Employee Job Performance

The current study investigated the indirect impact of a follower's job performance on the relationship between transformational leadership and turnover intention. Here, I will review the literature regarding the mediator job performance and describe its significance within the research framework.

II.5 Job Performance

Job performance can be defined as the degree to which employees effectively perform their duties (Ariyabuddhiphongs & Kahn, 2017). Job performance can also be defined as the combined value an employee brings to an organization through their direct and indirect contributions toward achieving organizational objectives (Rich et al., 2010). Further, job

performance is comprised by an employee's quantifiable actions that add value to the organization (Khan, 2015). To clarify, according to Shooshtarian et al. (2013) job performance is not the actual outcome; instead, job performance produces the outcome. Poor job performance will produce poor results and good job performance will likely produce good results.

Existing literature shows that transformational leadership positively impacts employee job performance. Transformational leadership has positive effects on job performance for individuals and teams in diverse organizational types, levels of leadership, and geographic locations (Wang et al., 2011); it can improve team performance by producing a more cohesive team (Dionne et al., 2023). In the current study, I expect to see a positive relationship between transformational leadership and job performance.

As mentioned, research has established a relationship between job performance and turnover intention. According to Lance (1988), there is a negative relationship between job performance and turnover intention. As an employee's job performance improves, their intent to leave their current job decreases. Alternately, employees with poor job performance are more likely to leave their jobs (Wright & Cropanzano, 1998).

An examination of the association between transformational leadership and job performance suggests that job performance potentially acts as a mediator in the relationship between transformational leadership and turnover intention. Wang et al. (2011) conducted a meta-analytic review encompassing 25 years of research across 113 primary studies. Their findings indicated that the indirect effect of transformational leadership on turnover intention was mediated by job performance.

Based on the review of the literature, I anticipate that job performance will serve as a significant mediator in the relationship between transformational leadership and turnover

intention.

II.6 Moderators: Pay Satisfaction, Leader-Follower Tenure, and Employee Age

This study investigated the impact of pay satisfaction, leader-follower tenure, and employee age on the relationship between transformational leadership and turnover intention. Here, I will review the relevant literature for each moderator and explain its role in the research design.

II.6.1 Pay Satisfaction

Research on pay satisfaction has noted the importance of employees' perceptions of pay, rather than their absolute pay level. Further, pay satisfaction can significantly influence their job attitudes, perceptions, and behaviors (Miceli & Lane, 1991; Williams et al., 2006, as cited in Bhave, 2012). When they relate to pay satisfaction, reality and perception can influence employee satisfaction in that it is more about the employee's perception of being paid fairly and less about the reality of the situation (Dulebohn & Werling, 2007). Two employees receiving the same compensation can have different levels of satisfaction with their compensation, based on their assessment of how fairly they are compensated (Shaw et al., 1999).

Employees with low satisfaction with their compensation have the potential to put less effort into their roles or begin the process of deciding to leave the organization (Tran, 2016). Even if pay is not the main motivation for an employee to take or stay in a job, if the employee feels they are unfairly compensated compared to their peers, they are more likely to intend to leave their job (Tran, 2016). Hence, according to Naido (2018), pay satisfaction has a direct and negative impact on job turnover intention.

While researchers have established that pay satisfaction clearly impacts turnover intention and that transformational leadership impacts turnover intention, to my knowledge, no studies have explored the moderating effect of pay satisfaction on the relationship between

transformational leadership and turnover intention. The current study sought to address that gap in the literature by exploring how employees' perceptions of pay fairness and opportunities for pay increases impact the relationship between transformational leadership and turnover intention.

II.6.2 Leader-Follower Tenure

Leader-follower dyadic tenure refers to the duration of time a leader and follower have collaborated (Altunoğlu & Babacon, 2019). The duration of the leader-follower relationship could influence followers' trust in their leader (Dirks & Ferrin, 2002). It is reasonable to believe that an employee will be less likely to leave a leader they trust. As previously mentioned, trust constitutes a component of the Idealized Influence dimension within Transformational Leadership Theory.

The correlation between transformational leadership and turnover intention has been extensively examined, revealing a direct and negative relationship between the two. However, to the best of my knowledge, no study has investigated how the length of time a leader and follower have worked together can moderate the relationship between transformational leadership and job turnover intention. The goal of this study was to address the call made by Altunoğlu and Babacan (2019) to further investigate the influence of leader-follower tenure on the outcomes of transformational leadership.

II.6.3 Follower Age

Age is defined as the number of years an individual has lived (Hanapiyah et al., 2018). While some studies have investigated the relationship between age and turnover intention, it would appear that none have explored how follower age impacts the relationship between transformational leadership and turnover intention. Therefore, the present study aims to fill this gap in the literature.

III CONCEPTUAL FRAMEWORK AND HYPOTHESES

III.1 Introduction

As described in this study's research questions, the objective was to explore the connections between transformational leadership (TL), turnover intention (TI), employee job performance, follower pay satisfaction, leader-follower tenure (LFT), and follower age. The framework proposes a direct relationship between transformational leadership and turnover intention; follower job performance as a mediator of the transformational leadership; job turnover relationship and follower pay satisfaction; leader-follower tenure and follower age as moderators of the transformational leadership/turnover intention relationship. The conceptual framework is illustrated in Figure 1.

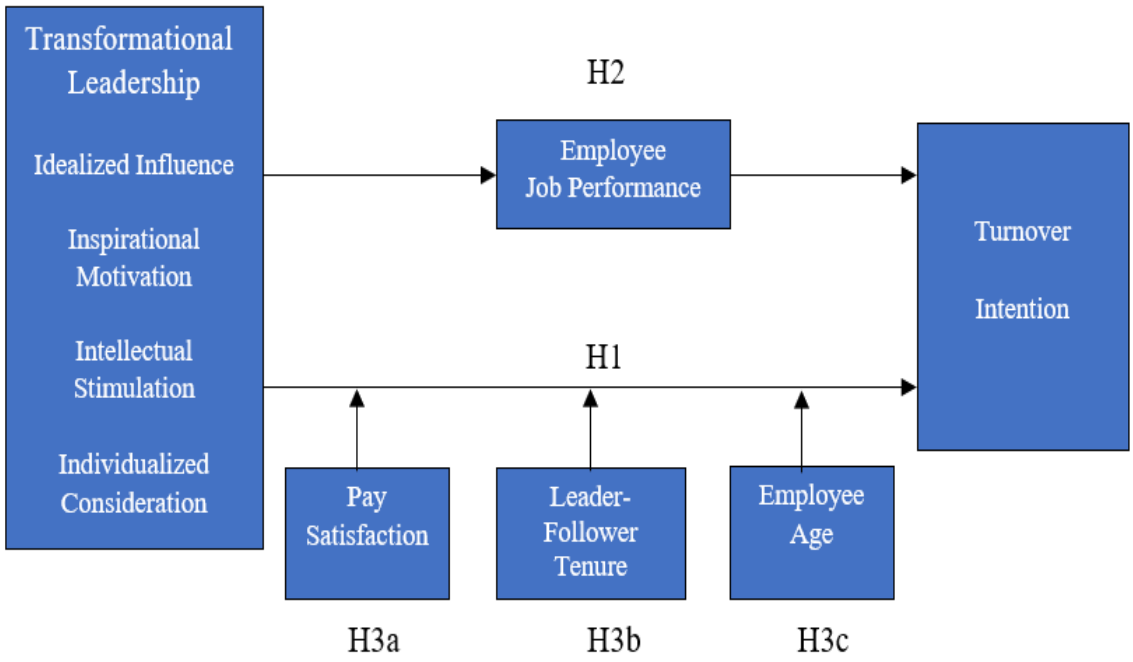

Figure 2 Conceptual Framework

III.1 Hypotheses

In response to research question 1, I hypothesized the following:

H1: There is a direct and negative impact of T.L. on T.I.

Numerous studies, including those referenced earlier, have evidenced that transformational leadership can influence job turnover intention. The intention here was to investigate this notion to ascertain whether a correlation exists between transformational leadership and job turnover intention. It was anticipated that as transformational leadership behaviors increase, job turnover intention will decrease.

In response to research question 2, I hypothesized the following:

H2: Employee job performance mediates the relationship between T.L. and T.I.

Drawing from existing literature, I anticipated that job performance would serve as a negative mediator in the relationship between transformational leadership and turnover intention. I hypothesized that elevated levels of job performance would bolster the negative association between transformational leadership and turnover intention.

In response to research question 3, I hypothesized the following:

H3a: The level of pay satisfaction will significantly moderate the relationship between TL and TI.

Based on the existing literature, I anticipated that pay satisfaction would moderate the relationship between transformational leadership and turnover intention, i.e., that the negative relationship would be more pronounced among employees with higher levels of satisfaction with their pay.

H3b: LFT moderates the direct impact of T.L. on T.I. such that the impact is more substantial for higher LFT.

Leader-follower tenure, characterized as the duration of collaboration between a leader

and follower (Altunoğlu & Babacon, 2019), has the potential to influence the association between transformational leadership and turnover intention. For instance, employees with longer tenure may exhibit greater trust in their leader, which would be evidenced by a stronger inclination to remain with the organization. Conversely, newer employees may be more inclined to leave due to their lack of established rapport with their leader. Considering these factors, I posited that leader-follower tenure may substantially moderate the relationship between transformational leadership and turnover intention.

H3c: Follower age moderates the impact of T.L. on T.I. such that the impact is stronger for younger employees.

Age is defined as the number of years an individual has lived (Hanapiyah et al., 2018). This study sought to explore the relationship between transformational leadership, follower age, turnover intention. To my knowledge, no study has positioned follower age as a moderator of the relationship between transformational leadership and job turnover intention. I hypothesized that the negative relationship between transformational leadership and job turnover intention will be stronger for younger followers. Existing studies suggest transformational leaders invest in the development of their followers. I hypothesized that younger employees are more focused on career development than older employees nearing retirement and therefore, transformational leaders will have more impact on younger followers.

IV METHODOLOGY

IV.1 Research Design

I used a quantitative research approach to test the research question and the five hypotheses. I also utilized the SEM technique using SmartPLS-4; according to Byrne (2012), SEM is a suitable method for assessing the degree to which the entire set of variables in a hypothesized model aligns with the available data. Initially, I assessed the reliability and validity of the instruments. Next, I utilized SEM analysis to evaluate the proposed hypotheses. PLS path modeling is a well-established approach for estimating intricate cause-and-effect relationship models in management research (Gudergan et al., 2008). In PLS-SEM, the rule of thumb is that the sample size should be ten times the number of arrows directed toward the construct (Hair et al., 2016). This aspect renders PLS-SEM particularly appropriate for the current research. In this study, 10 arrows are pointing at the constructs, while the sample size is 150, significantly surpassing the necessary threshold.

IV.2 Sample Selection and Data Collection

The study targeted plant operations employees within the U.S. mining industry as its population. Data collection involved recruiting a sample of plant operations personnel from this industry to participate in an online survey administered via the Qualtrics platform. From May 2023 to September 2023, respondents were presented with a series of questions utilizing four distinct and validated instruments to assess transformational leadership, employee job performance, pay satisfaction, and job turnover intention. Additionally, the survey included eight demographic inquiries about gender, age, race, education, parental involvement in the industry, leader-follower tenure, organizational tenure, and annual income. Gender, education, organizational tenure, annual income, and parental involvement in the industry were selected as control variables. Participants were expected to complete the survey within 5-10 minutes, and on

average, respondents finished in 4 minutes and 31 seconds.

I utilized the online crowdsourcing platform, Cloud Research, in conjunction with company email addresses, to recruit participants who met the specified criteria and matched the target population. Screening criteria were applied to ensure that respondents were employed in the U.S. construction material industry and reported to a supervisor. Ultimately, the final sample comprised 150 respondents from the mining industry, with 109 sourced from the online platform and 41 from company emails. Given that my study involved six variables and following the conventional guideline for Structural Equation Modeling (SEM) recommending a minimum of 20 observations per variable (Kline, 2015), I concluded that my sample size was sufficient.

The demographic profile of the participants in this study showed a predominance of male respondents, accounting for seventy-two percent (72%), with twenty-seven percent (27%) being female. Participant ages ranged from 20 to 64 years old, with twenty-three percent (23%) falling within the 20-30 age bracket; forty percent (40%) between 31-40 years; twenty-two percent (22%) between 41-50 years; fourteen percent (14%) between 51-60 years; and one percent (1%) aged 60 and above.

Regarding racial distribution, sixty-seven percent (67%) identified as white or Caucasian; twenty-three percent (23%) as black or African American; five percent (5%) as Hispanic or Latino; three percent (3%) as Asian; and two percent (2%) as American Indian or Alaska Native.

In terms of education, one percent (1%) had less than a high school diploma; nineteen percent (19%) were high school graduates or equivalent; thirty-eight percent (38%) had some college experience without obtaining a degree; twenty-eight percent (28%) held a bachelor’s degree; and twelve percent (12%) had a master’s degree.

The distribution of organizational tenure revealed that three percent (3%) had less than

one year; thirteen percent (13%) had 1-2 years; twenty-four percent (24%) had 2-5 years; thirty-one percent (31%) of participants had tenure of 5-10 years; thirteen percent (13%) had 10-15 years; seven percent (7%) had 15-20 years three percent (3%) had 20-25 years; and three percent (3%) had over 25 years.

Regarding leader-follower tenure, fourteen percent (14%) had less than one year; seventeen percent (17%) had 1-2 years; thirty percent (30%) reported tenure of 2-5 years with their supervisors; twenty-two percent (22%) had 5-10 years; eight percent (8%) had 10-15 years; four percent (4%) had 15-20 years; and two percent (2%) had over 25 years.

Results as to annual income distribution showed that fifteen percent (15%) earned $0-$39,000; thirty percent (30%) earned between $40,000 and $59,999; nineteen percent (19%) earned $60,000-$79,999; twenty-two percent (22%) earned $80,000-$99,999; and twelve percent (12%) earned above $100,000.

Lastly, in terms of parental involvement in the industry, seventy-seven percent (77%) of participants did not have a parent working in the industry, while twenty-three percent (23%) did. Complete demographic statistics are presented in Table 3.

Table 3 Demographics

Respondents' profile	Categories	Percentages
Gender	Male	72.7%
	Female	27.3%
Age	19-30	23.1%
	31-40	40.0%
	41-50	22.7%
	51-60	14.7%
	60-70	1.3%
Race	American Indian or Alaska Native	2.0%
	Asian	3.30%
	Black or African American	22.70%
	White or Caucasian	66.70%
	Hispanic or Latino	5.30%
Education	Less than high school diploma	1.30%
	High school graduate or equivalent	19.30%
	Some college, no degree	38.00%
	Bachelor's degree	28.70%
	Master's degree or higher	12.70%
Organizational Tenure	Less than 1 year	3.30%
	1-2 years	13.30%
	2- 5 years	24.70%
	5- 10 years	31.30%
	10- 15 years	13.30%
	15- 20 years	7.30%
	20- 25 years	3.30%
	25+ years	3.30%
Leader-Follower Tenure	Less than 1 year	14.70%
	1-2 years	17.30%
	2- 5 years	30.70%

	5- 10 years	22.00%
	10- 15 years	8.70%
	15- 20 years	4.00%
	25+ years	2.70%
Annual Income	0- 39,999	15.30%
	40,000- 59,999	30.00%
	60,000- 79,999	19.30%
	80,000- 99,999	22.70%
	100000+	12.70%
Parent in the industry	No	77.30%
	Yes	22.70%

Note: N = 150

IV.3 Instrumentation Measures

IV.3.1 Independent Variable

This study focused on one independent variable, transformational leadership, assessed using 20 items extracted from Bass and Avolio's (2004) Multifactor Leadership Questionnaire (MLQ), originally comprising 45 items. Each item was rated on a Likert-scale format featuring five response options ranging from "Not at all" to "Frequently, if not always." The MLQ evaluated transformational leadership across five dimensions: (a) idealized influence (attributed); (b) idealized influence (behavior); (c) inspirational motivation; (d) intellectual stimulation; and (e) individualized consideration. Sample items from the questionnaire included: "My supervisor talks optimistically about the future," "My supervisor spends time teaching and coaching," and "My supervisor acts in ways that build my respect."

IV.3.2 Dependent Variable

The dependent variable, turnover intention, was assessed employing Michaels and Spector's (1982) three-item Turnover Intentions Scale. Respondents rated each item on a Likert-scale format comprised of six response options ranging from "strongly disagree" to "strongly agree." Turnover intention was evaluated through the following statements: "I often seriously consider leaving my current job," "I intend to quit my current job," and "I have started to look for other jobs."

IV.3.3 Mediating Variable

Job performance was assessed using a three-item instrument developed by Williams and Anderson (1991). Respondents utilized a Likert-scale format, with six response options per item ranging from "strongly disagree" to "strongly agree." Job performance was evaluated based on the following statements: "I adequately complete assigned job duties," "I meet performance requirements of the job," and "I perform tasks that are expected of my supervisor."

IV.3.4 Moderating Variables

Pay satisfaction was evaluated using four items selected from Paul Spector's (1994) Job Satisfaction Survey. Respondents utilized a Likert-scale format, with six response options per item ranging from "strongly disagree" to "strongly agree." The four items included were: "I feel I am being paid a fair amount for the work I do," "Raises are too few and far between," "I feel unappreciated by the organization when I think about what they pay me," and "I feel satisfied with my chances for salary increases."

Leader-follower tenure and follower age were assessed through two demographic questions. Leader-follower tenure was gauged using the question, "How long have you worked under your current supervisor?" while follower age was determined with the query, "How old are you?"

IV.3.5 Control Variables

Control variables were employed in this study to address potential alternative explanations. Specifically, participants were requested to respond to inquiries regarding their organizational tenure, annual income, educational attainment, gender, and whether they had a parent employed in the industry.

V RESULTS AND ANALYSIS

V.1 Introduction

This chapter provides an extensive overview of the data analysis results. The data were analyzed using PLS-SEM, encompassing both the examination of the measurement and structural models. The measurement model was employed to ascertain the reliability and validity of the constructs, while the structural model evaluated the significance of hypothesized relationships. Several hypotheses were formulated to assess the influence of predictors on the outcome.

H1: There is a direct and negative impact of TL on TI

H2: Follower job performance mediates the relationship between TL and TL.

H3a: Pay satisfaction significantly moderates the relationship between TL and TI.

H3b: LFT moderates the direct impact of TL on TI such that the impact is stronger for higher LFT.

H3c: Follower age moderates the direct impact of TL on TI such that the impact is stronger for older employees.

V.2 Measurement Model

The evaluation of construct quality in this study hinges on scrutinizing the measurement model, starting with an examination of factor loadings, followed by establishing construct reliability and validity. Figure 3 below depicts the finalized measurement model for SmartPLS 4.

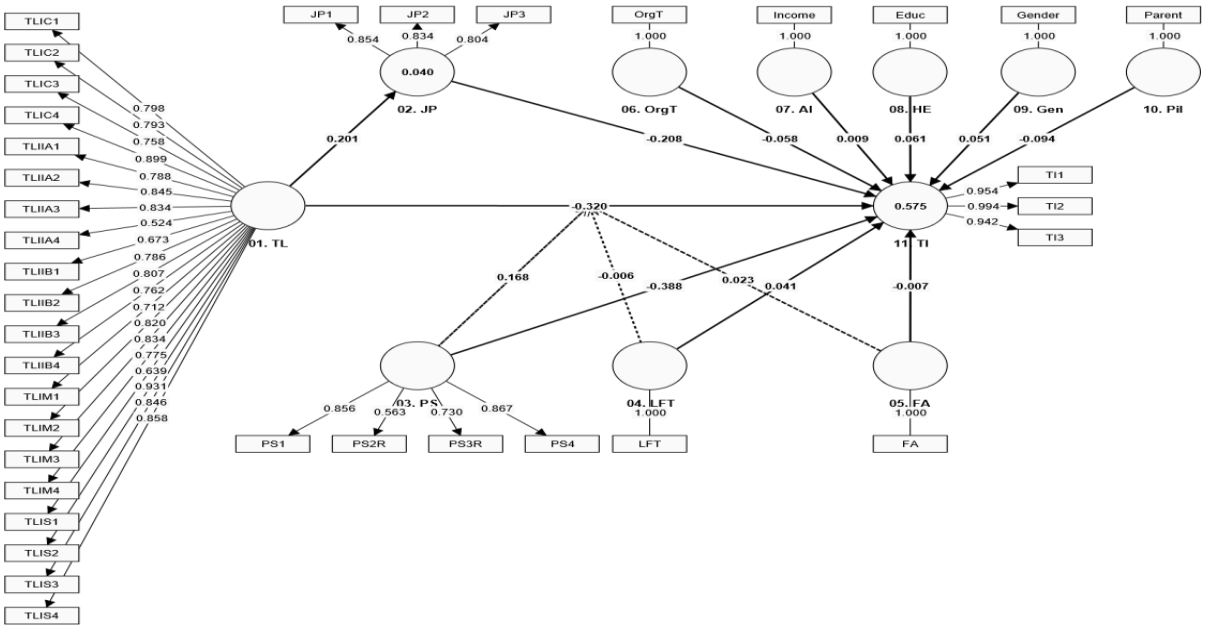

Figure 3 Measurement Model

V.2.1 Factor Loadings

According to Pett et al. (2003), factor loading denotes:

> [The] degree to which each item in the correlation matrix correlates with the specified principal component. Factor loadings can vary from -1.0 to +1.0, where higher absolute values signify a stronger correlation of the item with the underlying factor. (p. 299). None of the items in the study exhibited a factor loading below the recommended threshold of .50 (Hair et al., 2016). Consequently, no items were eliminated. Table 4 displays the factor loadings.

Table 4 Factor Loadings

	TL	JP	PS	TI
TLIC1	0.798			
TLIC2	0.793			
TLIC3	0.758			
TLIC4	0.899			
TLIIA1	0.788			
TLIIA2	0.845			
TLIIA3	0.834			
TLIIA4	0.524			
TLIIB1	0.673			
TLIIB2	0.786			
TLIIB3	0.807			
TLIIB4	0.762			
TLIM1	0.712			
TLIM2	0.820			
TLIM3	0.834			
TLIM4	0.775			
TLIS1	0.639			
TLIS2	0.931			
TLIS3	0.846			
TLIS4	0.858			
JP1		0.854		
JP2		0.834		
JP3		0.804		
PS1			0.856	
PS2R			0.563	
PS3R			0.730	
PS4			0.867	
TI1				0.954
TI2				0.994
TI3				0.942

*Notes***:** TLIC; Transformational leadership Individualized Consideration, TLIIA; Transformational leadership Idealized Influence (Attributed), Transformational leadership Idealized Influence (Behavior), JP; Job Performance, PS; Pay Satisfaction, TL; Turnover Intention, N=150

V.2.2 V.2.2 Reliability Analysis

Construct reliability refers to a reliability measure employed to assess the consistency of outcomes across items within the same assessment. As per Mark (1996), "Reliability is defined

as the extent to which a measuring instrument is stable and consistent. The essence of reliability is repeatability. If an instrument is administered over and over again, will it yield the same results" (p. 285). The two primary methods commonly used to establish reliability are Cronbach's Alpha and Composite Reliability (CR). The findings for both Cronbach's Alpha and Composite Reliability are delineated in Table 5. Cronbach's Alpha ranged from .770 to .967, while Composite Reliability results ranged from .845 to .975. Both reliability indicators surpass the requisite threshold of .70 (Hair et al., 2011), hence confirming the establishment of construct reliability. The outcomes for construct reliability are presented in Table 5.

Table 5 Construct Reliability Analysis (Cronbach Alpha and Composite Reliability)

	Cronbach's alpha	Composite reliability (rho c)
TL	0.967	0.970
JP	0.775	0.870
PS	0.770	0.845
TI	0.961	0.975

Notes: TL; Transformational Leadership, JP; Job Performance, PS; Pay Satisfaction, TI; Turnover Intention

V.2.3 Convergent Validity

As Bagozzi et al. (1991) noted, “[c]onvergent validity pertains to the extent to which multiple measurements of the same concept yield consistent results. The underlying premise is that if two or more measures of the same phenomenon are valid, they should exhibit a high degree of covariance" (p. 425). When the Average Variance Extracted (AVE) exceeds or equals the recommended threshold of .50, it indicates that items effectively converge to measure the latent construct, thus confirming convergent validity (Fornell & Larcker, 1981). In the present study, the convergent validity results, based on AVE statistics, demonstrate that all constructs surpass the requisite threshold of .50. Therefore, convergent validity is affirmed. Table 6 displays the AVE value for each construct.

Table 6 Construct Convergent Validity (AVE)

	Average variance extracted (AVE)
TL	0.623
JP	0.690
PS	0.584
TI	0.929

Notes: TL; Transformational Leadership, JP; Job Performance, PS; Pay Satisfaction, TI; Turnover Intention

V.2.4 Discriminant Validity

Discriminant validity refers to the extent to which measures of different concepts are distinguishable. The principle underlying this notion is that if two or more concepts are distinct, then valid measures of each should not exhibit excessively high correlations. (Bagozzi et al., 1991, p. 425).

V.2.5 Fornell and Larcker Criterion

According to the criterion outlined by Fornell and Larcker (1981), discriminant validity is confirmed when the square root of Average Variance Extracted (AVE) for a construct surpasses its correlation with all other constructs. In this study, the square root of AVE (indicated in Bold and Italics) for each construct exceeded its correlation with other constructs (refer to Table 7). Hence, discriminant validity is effectively established.

Table 7 Fornell & Larcker Criterion

	TL	JP	PS	LFT	FA	OrgT	AI	HE	Gen	PiI	TI
TL	***0.789***										
JP	0.201	***0.831***									
PS	0.547	0.094	***0.764***								
LFT	0.098	0.083	0.047	***1***							
FA	0.015	0.113	0.056	0.178	***1***						
OrgT	0.085	0.128	0.086	0.438	0.362	***1***					
AI	0.132	-0.049	0.021	-0.077	0.062	0.161	***1***				
HE	-0.119	-0.036	-0.153	-0.044	-0.013	-0.195	0.297	***1***			
Gen	0.016	-0.01	0.004	0.122	-0.105	0.264	0.255	-0.122	***1***		
PiI	0.012	-0.109	0.092	0.135	-0.09	0.14	-0.034	-0.212	0.046	***1***	
TI	-0.614	-0.276	-0.638	-0.021	-0.082	-0.129	-0.03	0.202	-0.013	-0.062	***0.964***

Notes: TL; Transformational Leadership; JP; Job Performance, PS; Pay Satisfaction, LFT; Leader-Follower Tenure, FA; Follower Age, OrgT; Organizational Tenure, AI; Annual Income, HE; Highest level of education, Gen; Gender, PiI; Parent in the industry, TI; Turnover Intention. Bold and Italics represent the Square-root of AVE.

V.2.6 Heterotrait-monotrait ratio (HTMT)

HTMT (Heterotrait-Monotrait ratio) is derived by estimating the correlation between constructs. Discriminant validity is determined based on the HTMT ratio. However, there is ongoing debate in the existing literature regarding the appropriate threshold for HTMT. Kline (2011) proposed a threshold of .85 or lower, whereas Teo et al. (2008) suggested a more lenient threshold of .90 or lower. The HTMT results (refer to Table 8) indicate that the HTMT ratio for each construct falls below both the .85 and .90 thresholds. Hence, discriminant validity is duly established.

Table 8 Heterotrait-monotrait ratio (HTMT)

	TL	JP	PS	LFT	FA	OrgT	AI	HE	Gen	PiI	TI
TL											
JP	0.228										
PS	0.584	0.166									
LFT	0.103	0.095	0.053								
FA	0.06	0.129	0.074	0.178							
OrgT	0.098	0.146	0.132	0.438	0.362						
AI	0.139	0.056	0.039	0.077	0.062	0.161					
HE	0.12	0.042	0.186	0.044	0.013	0.195	0.297				
Gen	0.068	0.035	0.073	0.122	0.105	0.264	0.255	0.122			
PiI	0.041	0.124	0.085	0.135	0.09	0.14	0.034	0.212	0.046		
TI	0.629	0.32	0.682	0.021	0.086	0.133	0.031	0.206	0.034	0.062	

Notes: TL; Transformational Leadership; JP; Job Performance, PS; Pay Satisfaction, LFT; Leader-Follower Tenure, FA; Follower Age, OrgT; Organizational Tenure, AI; Annual Income, HE; Highest level of education, Gen; Gender, PiI; Parent in the industry, TI; Turnover Intention

V.3 Structural Model

After evaluating the measurement model, the subsequent step involves assessing the structural paths to determine path coefficients (which represent relationships among study constructs) and their statistical significance. Figure 4 below illustrates the final structural model derived from SmartPLS 4.

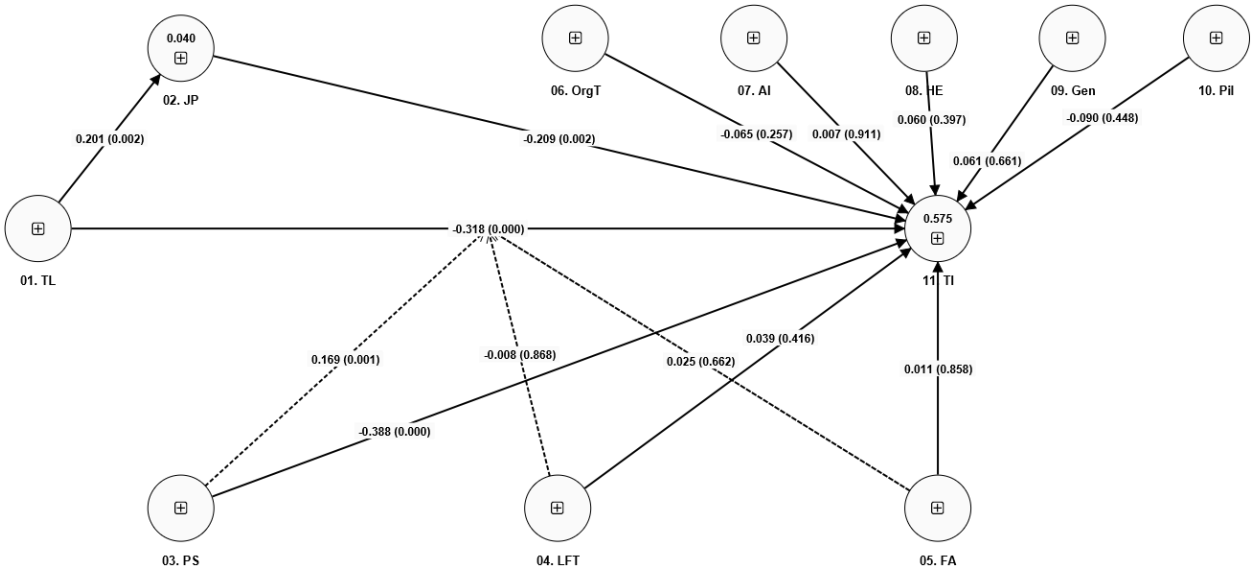

Figure 4 Structural Model

V.3.1 Direct Effect

H1 questioned whether transformational leadership significantly and negatively influences turnover intention. The findings indicate that transformational leadership exerts a significant and negative effect on turnover intention ($\beta = -0.318$, $t = 4.497$, $p < 0.001$), thus supporting H1. These results are outlined below in Table 9, while the structural model is depicted above in Figure 4.

Table 9 Direct Relationships

Hypothesis	Beta Coefficient	T statistics	P values
TL -> TI	-0.318	4.497	***

Notes: TL; Transformational Leadership; TI; Turnover Intention; ***P <.001

V.3.2 Mediation Analysis

H2 examined whether employee job performance serves as a mediator in the relationship between transformational leadership (TL) and turnover intention (TI). Mediation analysis was conducted to evaluate the mediating role of job performance (JP) in the TL-TI relationship. The results presented in Table 10 indicate a significant indirect effect of TL on TI through JP (H2: $\beta = -0.042$, $t = 2.125$, $p < .05$). The total effect of TL on TI was also significant ($\beta = -0.360$, $t = 5.328$, $p < .001$), and with the inclusion of the mediator, the effect of TL on TI remained significant ($\beta = -0.318$, $t = 4.497$, $p < .001$). These findings suggest a complementary partial mediating role of job performance in the TL-TI relationship, thereby supporting H2.

Table 10 Mediation Analysis Results

Hypothesis TL -> JP -> TI	Indirect Effect	
Beta Coefficient	T statistics	P values
-0.042	2.125	***
	Direct Effect	
-0.318	4.497	***
	Total Effect	
-0.360	5.328	***

Notes: TL: Transformational Leadership, JP: Job Performance, TI: Turnover Intention; ***P <.001

V.3.3 Moderation Analysis

H3a asked whether the level of pay satisfaction significantly moderates the relationship between Transformational Leadership (TL) and Turnover Intention (TI). Without the inclusion of the moderating effect (TL*PS), R-Sq value for TI was .421. This shows that a 42.1% change in TI is accounted for by TL. With the inclusion of the interaction term, the R-Sq increased to 57.5%, indicating an increase of 15.4% in the variance, as explained by the dependent variable (TI).

Additionally, upon analyzing the significance of the moderating effect, the results demonstrated a positive and significant moderating impact of pay satisfaction (PS) on the relationship between Transformational Leadership (TL) and Turnover Intention (TI) ($\beta = 0.168$, $t = 3.332$, $p < .050$), thus supporting H3a. This suggests that as pay satisfaction increases, the negative relationship between TL and TI becomes stronger. A summary of the moderation analysis is presented in Table 11.

Table 11 Moderation Analysis

Relationship	Beta	T values	P values	Results
PS x TL -> TI	0.168	3.332	0.001	Supported
LFT x TL -> TI	-0.006	0.136	0.892	Not Supported
FA x TL -> TI	0.023	0.409	0.683	Not Supported

Note: STDEV: Standard deviation

The F-square effect size was .059. According to Cohen's (1988) proposition, 0.02, 0.15, and 0.35 constitute small, medium, and large effect sizes of the moderation respectively.

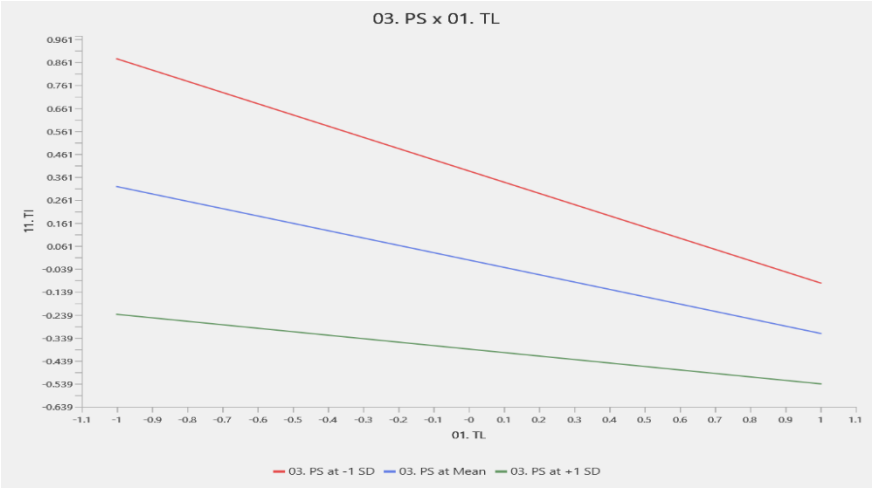

Figure 5 Moderation Slope Analysis

H3b evaluated whether leader-follower tenure (LFT) significantly and positively moderates the relationship between TL and TI. The results revealed that LFT has an insignificant impact on the relationship between TL and TI ($\beta = -0.006$, $t = 0.136$, $p = 0.892$). Therefore, H3b was not supported.

H3c assessed whether follower age (FA) significantly moderates the relationship between TL and TI. The results revealed that LFT has an insignificant impact on the relationship between TL and TI ($\beta = 0.023$, $t = 0.409$, $p = 0.683$). Therefore, H3c was not supported.

V.4 Additional Analysis

To gain a deeper insight into the individual impact of each of the four dimensions (Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration) of transformational leadership on turnover intention, I conducted regression analysis using SPSS 29. I ran separate regression analyses for each dimension, controlling for organizational tenure, income, education, gender, and parent in the industry. The results of each

regression analysis are presented in Tables 12 through 15.

The initial regression analysis (Table 12) examined the relationship between Idealized Influence and turnover intention while controlling for various factors. The results of the analysis are as follows:

- The regression model yielded an R-squared value of 39%, indicating that Idealized Influence and the included control variables collectively explain 39% of the variance in turnover intention.

- The F-statistic of 15.144 with a p-value of < 0.001 suggests that the overall model is statistically significant.

- The beta coefficient for Idealized Influence is -1.052. This indicates that for every one-unit increase in Idealized Influence, there is a decrease of -1.052 in turnover intention.

- The p-value for Idealized Influence (< 0.001) indicates that the impact of Idealized Influence on turnover intention is statistically significant.

In practical terms, this implies that supervisors demonstrating traits of idealized influence are associated with lower turnover intentions among the employees they lead. Notably, all control variables in the model were statistically insignificant, suggesting that their inclusion did not significantly impact the relationship between Idealized Influence and turnover intention.

Table 12 Idealized Influence Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.623[a]	.389	.363	1.26850

a. Predictors: (Constant), Parent industry, Idealized Influence, Gender, Education, Organizational Tenure , Income

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	146.210	6	24.368	15.144	<.001[b]
	Residual	230.101	143	1.609		
	Total	376.311	149			

a. Dependent Variable: Turnover Intention

b. Predictors: (Constant), Parent industry, Idealized Influence, Gender, Education, Organizational Tenure , Income

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound
1	(Constant)	5.796	.684		8.471	<.001	4.444	7.149
	Idealized Influence	-1.052	.120	-.589	-8.792	<.001	-1.289	-.816
	Organizational Tenure	-.033	.073	-.032	-.450	.653	-.177	.112
	Income	.009	.092	.007	.098	.922	-.172	.190
	Education	.221	.120	.135	1.834	.069	-.017	.459
	Gender	.063	.251	.018	.251	.803	-.434	.559
	Parent industry	-.103	.255	-.027	-.406	.685	-.607	.400

a. Dependent Variable: Turnover Intention

Note: This table shows the regression analysis for Idealized Influence when controlled by demographic characteristics

The subsequent regression analysis (Table 13) examined the relationship between Inspirational Motivation and turnover intention while controlling for various factors. Here are the results of the analysis:

- The regression model produced an R-squared value of 33%, indicating that Inspirational Motivation and the included control variables collectively explain 33% of the variance in turnover intention.

- The F-statistic of 11.711 with a p-value of < 0.001 suggests that the overall model is statistically significant.

- The beta coefficient for Inspirational Motivation is -0.912. This suggests that for every one-unit increase in Inspirational Motivation, there is a decrease of -0.912 in turnover intention.

- The p-value for Inspirational Motivation (< 0.001) indicates that the impact of Inspirational Motivation on turnover intention is statistically significant.

In practical terms, this implies that supervisors demonstrating traits of Inspirational

Motivation are associated with lower turnover intentions among the employees they lead. Similar to the previous regression, all control variables in the model were statistically insignificant, suggesting that their inclusion did not significantly impact the relationship between Inspirational Motivation and turnover intention.

Table 13 Inspirational Motivation Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.574[a]	.329	.301	1.32835

a. Predictors: (Constant), Parent industry, Inspirational Motivation, Gender, Income, Organizational Tenure , Education

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.986	6	20.664	11.711	<.001[b]
	Residual	252.324	143	1.765		
	Total	376.311	149			

a. Dependent Variable: Turnover Intention

b. Predictors: (Constant), Parent industry, Inspirational Motivation, Gender, Income, Organizational Tenure , Education

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound
1	(Constant)	5.629	.732		7.685	<.001	4.181	7.077
	Inspirational Motivation	-.912	.120	-.531	-7.609	<.001	-1.149	-.675
	Organizational Tenure	-.043	.076	-.042	-.567	.572	-.195	.108
	Income	-.047	.095	-.038	-.495	.621	-.236	.141
	Education	.214	.127	.131	1.693	.093	-.036	.464
	Gender	.049	.263	.014	.187	.852	-.471	.570
	Parent industry	-.107	.267	-.028	-.402	.688	-.634	.420

a. Dependent Variable: Turnover Intention

Note: This table shows the regression analysis for Inspirational Motivation when controlled by demographic characteristics

The subsequent regression analysis (Table 14) examined the relationship between Intellectual Stimulation and turnover intention while controlling for various factors. Here are the results of the analysis:

- The regression model produced an R-squared value of 31%, indicating that Intellectual Stimulation and the included control variables collectively explain 31% of the variance in turnover intention.

- The F-statistic of 10.526 with a p-value of < 0.001 suggests that the overall model is statistically significant.

- The beta coefficient for Intellectual Stimulation is -0.894. This suggests that for every one-unit increase in Intellectual Stimulation, there is a decrease of -0.894 in turnover intention.

- The p-value for Intellectual Stimulation (< 0.001) indicates that the impact of Intellectual Stimulation on turnover intention is statistically significant.

The results support the idea that supervisors demonstrating traits of Intellectual Stimulation are associated with lower turnover intentions among the employees they lead. Similar to the previous regressions, all control variables in the model were statistically insignificant, suggesting that their inclusion did not significantly impact the relationship between Intellectual Stimulation and turnover intention.

Table 14 Intellectual Stimulation Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.553[a]	.306	.277	1.35106

a. Predictors: (Constant), Parent industry, Income, Intellectual Stimulation, Organizational Tenure , Gender, Education

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.283	6	19.214	10.526	<.001[b]
	Residual	261.028	143	1.825		
	Total	376.311	149			

a. Dependent Variable: Turnover Intention

b. Predictors: (Constant), Parent industry, Income, Intellectual Stimulation, Organizational Tenure , Gender, Education

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	5.288	.729		7.258	<.001	3.848	6.729
	Intellectual Stimulation	-.894	.125	-.516	-7.156	<.001	-1.140	-.647
	Organizational Tenure	-.104	.078	-.100	-1.343	.181	-.258	.049
	Income	.035	.099	.028	.357	.722	-.160	.231
	Education	.188	.129	.115	1.450	.149	-.068	.444
	Gender	.209	.267	.059	.781	.436	-.319	.736
	Parent industry	.004	.271	.001	.016	.987	-.532	.540

a. Dependent Variable: Turnover Intention

Note: This table shows the regression analysis for Intellectual Stimulation when controlled by demographic characteristics

The final regression analysis (Table 15) explored the relationship between Individualized Consideration and turnover intention while controlling for various factors. Here are the key findings:

- The regression model yielded an R-squared value of 37%, indicating that Individualized Consideration and the included control variables collectively explain 37% of the variance in

turnover intention.

- The F-statistic of 14.104 with a p-value of < 0.001 suggests that the overall model is statistically significant.

- The beta coefficient for Individualized Consideration is -0.881. This implies that for every one-unit increase in Individualized Consideration, there is a decrease of -0.881 in turnover intention.

- The p-value for Individualized Consideration (< 0.001) indicates that the impact of Individualized Consideration on turnover intention is statistically significant.

These results suggest that supervisors demonstrating traits of Individualized Consideration are associated with lower turnover intentions among the employees they lead. Similar to the previous regressions, all control variables in the model were statistically insignificant, indicating that their inclusion did not significantly affect the relationship between Individualized Consideration and turnover intention.

Table 15 Individualized Consideration Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.610[a]	.372	.346	1.28577

a. Predictors: (Constant), Parent industry, Individualized Consideration, Gender, Education, Organizational Tenure , Income

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	139.903	6	23.317	14.104	<.001[b]
	Residual	236.408	143	1.653		
	Total	376.311	149			

a. Dependent Variable: Turnover Intention

b. Predictors: (Constant), Parent industry, Individualized Consideration, Gender, Education, Organizational Tenure , Income

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	5.578	.685		8.148	<.001	4.225	6.931
	Individualized Consideration	-.881	.104	-.574	-8.451	<.001	-1.087	-.675
	Organizational Tenure	-.119	.074	-.115	-1.617	.108	-.266	.027
	Income	.030	.094	.024	.321	.749	-.155	.215
	Education	.177	.123	.109	1.443	.151	-.066	.421
	Gender	.046	.255	.013	.181	.857	-.458	.550
	Parent industry	-.081	.258	-.021	-.314	.754	-.591	.429

a. Dependent Variable: Turnover Intention

Note: This table shows the regression analysis for Individualized Consideration when controlled by demographic characteristics

VI DISCUSSION

VI.1 Introduction

The primary objective of this study was to investigate the interplay among job performance, pay satisfaction, leader-follower tenure, employee age, transformational leadership, and turnover intention within the U.S. mining industry. Specifically, the study examined the role of job performance as a potential mediator and pay satisfaction, leader-follower tenure, and employee age as moderators. I designed the study with the intent to answer the following research questions:

RQ1: What is the relationship between transformational leadership and turnover intentions?

RQ2: How does employee job performance mediate the relationship between transformational leadership and turnover intention?

RQ3: How do pay satisfaction, leader-follower tenure, and follower age moderate the relationship between transformational leadership and turnover intention?

To address these three questions, I designed and implemented a quantitative study, administered questionnaires to participants, and formulated five hypotheses. A succinct overview of the findings is presented in Table 16.

Table 16 Hypotheses Results

Hypotheses	Transformational leadership & Turnover Intention	Relationship	Result
H1	There is a direct and negative impact of TL on TI.	Statistically Significant	Supported
H2	Follower job performance mediates the relationship between TL and TI.	Statistically Significant	Supported
H3a	The level of pay satisfaction significantly moderates the relationship between TL and TI.	Statistically Significant	Supported
H3b	LFT moderates the direct impact of TL on TI such that the impact is stronger for higher LFT employees.	Statistically Insignificant	Not Supported
H3c	Follower age moderates the direct impact of TL on TI such that the impact is stronger for younger employees.	Statistically Insignificant	Not Supported

In the following sections, I will discuss the results of the hypotheses tested in this study, as well as the ways in which these results relate to existing literature covering the constructs included in the study. I will also discuss implications for practitioners, theoretical implications, opportunities for future research, and limitations of the study.

VI.2 RQ1 Transformational Leadership's Impact on Turnover Intention

My first research question focused on the direct relationship between transformational leadership and turnover intention. In H1, I predicted that transformational leadership would have a negative relationship with turnover intention. The data analysis results confirmed that transformational leadership has a negative and statistically significant relationship with turnover intention (β= -0.318). This result was expected, considering several earlier studies had concluded that transformational leadership has a direct and negative relationship with turnover intention (Dupré & Day, 2007; Lim et al., 2017; Pravichai & Ariabuddhiphongs, 2018).

Previously in this paper, I discussed the importance of organizations focusing on lowering voluntary employee turnover. Several key studies have shown that a key factor in voluntary employee turnover is job turnover intention, the process of deciding whether or not to leave a job, which has proven to be a significant predictor of actual voluntary turnover (Chau et al., 2009; Sun & Wang, 2016; Tett & Meyer, 1993). Organizations should pay close attention to job turnover intention because it can negatively affect the employee and the organization. When an employee is thinking about whether they should leave their job, it can affect that employee's job satisfaction (Carmeli & Weisberg, 2006), and may experience increased stress levels (Qureshi et al., 2012). Employees who have intentions of leaving their jobs can become a problem for the organization. Their job performance may deteriorate and they can become a distraction to other employees, resulting in decreased morale in the organization.

Even though the relationship between transformational leadership and turnover has been

well-researched, there was a need for more academic research in the U.S. mining industry. Few empirical studies have been conducted in this sector. The current study addresses that gap in academic studies in an industry that is critical to the sustainability of the U.S. infrastructure. The industry is facing many challenges related to employee retention. Academic studies such as this one are important to help those engaged in that field learn more about itself and the factors that impact its workforce the most.

VI.3 RQ2 Mediation, Job Performance

My second research question focused on the relationship between transformational leadership, follower job performance, and turnover intention. In H2, I predicted that job performance would mediate the relationship between transformational leadership and turnover intention. The data supported this claim. The data analysis showed that the indirect effect of the independent variable transformational leadership on the dependent variable turnover through the moderating variable job performance ($\beta = -0.042$) is statistically significant ($p < 0.05$). This result was accepted, considering current literature has established a mediation relationship between transformational leadership, job performance, and turnover intention (Khan, 2015; Wang et at., 2011). The model predicts that the followers' job performance will increase as the leader's transformational leadership behaviors increase, resulting in a decrease in the likelihood of the follower considering leaving the organization.

While other factors could mediate the relationship between transformational leadership and job turnover intention (job satisfaction, trust, morale, etc.), the results from the current study indicate that follower job performance can mediate the relationship between transformational leadership and job turnover intention.

VI.4 RQ3 Moderation, Pay Satisfaction, Leader-Follower Tenure, and Employee Age

The third and final research question of this study focused on moderation. Three variables were included in the conceptual model to assess their influence on the relationship between transformational leadership and job turnover intention. I developed hypotheses related to pay satisfaction, leader-follower tenure, and employee age to test their statistical significance as moderators of the relationship between transformational leadership and job turnover intention.

VI.4.1 Pay Satisfaction

As discussed earlier, pay satisfaction refers to an employee's perceptions of pay, rather than their absolute pay level, and can significantly influence their job attitudes, perceptions, and behaviors (Miceli & Lane, 1991; Williams et al., 2006, as cited in Bhave, 2012). Additionally, the literature has established that pay satisfaction is more about the employee's perception of being paid fairly and less about the reality of the situation (Dulebohn & Werling, 2007). Hypothesis H3a predicted that pay satisfaction would significantly moderate the relationship between transformational leadership and job turnover intention. The data supported this hypothesis. Data analysis results showed that pay satisfaction ($\beta=0.168$) statistically significantly ($p<0.05$) moderates the relationship between the independent variable transformational leadership and the dependent variable turnover intention.

This result suggests that as the level of pay satisfaction increases, the negative relationship between transformational leadership and turnover intention is strengthened. Existing literature has established a direct and negative relationship between pay satisfaction and turnover intention (Naido, 2018; Tran, 2016) and that transformational leadership also has a direct and negative relationship with turnover intention (Dupré & Day, 2007; Lim et al., 2017; Pravichai & Ariyabuddhiphongs, 2018) but, to the best of my knowledge, no studies have explored the impact pay satisfaction has on the relationship between transformational leadership. This finding

is relevant because it would suggest that an employee with a leader who exhibits high levels of transformational leadership behaviors and perceives they are being fairly compensated is less likely to initiate the process of deciding to leave an organization.

VI.4.2 Leader-Follower Tenure

Leader-follower dyadic tenure refers to the duration of time a leader and follower have collaborated (Altunoğlu & Babacon, 2019). Hypothesis H3b predicted that leader-follower tenure would significantly moderate the relationship between transformational leadership and job turnover intention. Specifically, I predicted that the impact would be stronger for longer-tenured employees due to their stronger relationships with transformational leadership due to building trust over a longer period.

Surprisingly, the impact of leader-follower tenure on the relationship between transformational leadership and job turnover intention was statistically insignificant. As stated earlier, there is a lack of research exploring the relationship between transformational leadership, leader-follower intention, and job turnover intention, so I would suggest more research in the future to validate or challenge the findings of this study.

VI.4.3 Age

Age is defined as the number of years an individual has lived (Hanapiyah et al., 2018). Hypothesis H3c predicted that employee age would significantly moderate the relationship between transformational leadership and job turnover intention. I expected to find a negative relationship between transformational leadership and turnover intention because younger employees may be more interested in their career development and as mentioned earlier, transformational leaders invest in the development of their followers. However, the impact of employee age on the relationship between transformational leadership and job turnover intention was statistically insignificant. To my knowledge, no studies have explored the impact employee

age has on the relationship between transformational leadership and job turnover intention.

VI.5 Additional Analysis of Four I's of Transformational Leadership

Initially, the goal of this study was to explore the individual impact of the four dimensions of transformational leadership, but as the study progressed, I felt it would be useful and interesting to analyze the direct impact each dimension has on job turnover intention. I used SPSS 29 to conduct linear regression analysis to explore these relationships. Next, I will briefly discuss the findings of the individual linear regression analyses.

VI.5.1 Idealized Influence

Some of the leadership behaviors or traits associated with the idealized influence dimension are exemplifying behaviors consistent with the organization's objectives; earning trust by taking a firm stance on challenging issues; acting as a role model; and highlighting the importance of values and purpose. The regression analysis of the relationship between idealized influence and turnover intention showed the relationship is significantly significant. The beta coefficient of -1.052 indicated that idealized influence had a direct and negative relationship with job turnover intention. This means the more a leader exhibits behaviors associated with idealized influence, the larger the decrease in the probability that those they lead will consider leaving the organization.

VI.5.2 Inspirational Motivation

Some of the leadership behaviors or traits associated with the inspirational motivation dimension are sharing the vision; inspiring and lifting others; setting and communicating lofty expectations for followers; and cultivating a sense of purpose among team members. My regression analysis of the relationship between inspirational motivation and turnover intention showed the relationship is significantly significant. The beta coefficient of -0.912 indicates that inspirational motivation has a direct and negative relationship with job turnover intention. This

means, that the more a leader exhibits behaviors associated with inspirational motivation, the more the turnover intention of those they lead will decrease.

VI.5.3 Intellectual Stimulation

Some of the leadership behaviors or traits associated with the intellectual stimulation dimension are being innovative, encouraging followers to voice innovative ideas and perspectives freely, and challenging conventional thinking. The regression analysis of the relationship between intellectual stimulation and turnover intention showed the relationship is significantly significant. The beta coefficient of -0.894 indicates that intellectual stimulation has a direct and negative relationship with job turnover intention. This means that the turnover intention of those they lead will decrease the more a leader exhibits behaviors associated with intellectual stimulation.

VI.5.4 Individualized Consideration

Some of the leadership behaviors or traits associated with the individualized consideration dimension are addressing the individual needs of each follower; recognizing that each person has distinct abilities and requirements; demonstrating concern for and providing support to individuals; and engaging in coaching and mentoring their followers to facilitate their growth and development. The regression analysis of the relationship between individualized consideration and turnover intention showed the relationship is significantly significant. The beta coefficient of -0.894 indicates that individualized consideration has a direct and negative relationship with job turnover intention. This means, that the more a leader exhibits behaviors associated with individualized consideration, the greater the decrease in turnover intention of those they lead.

VI.5.5 Summary of Additional Analysis

In summary, the additional analysis we conducted in SPSS 29 produced statistically

significant results for all four dimensions of transformational leadership. The data indicate that idealized influence has the strongest impact on job turnover intention with a beta coefficient of -1.052, followed by inspirational motivation with a beta coefficient of -0.912. Next is intellectual stimulation with a beta coefficient of -0.894 and finally, individualized consideration with a beta coefficient of -0.881. Table 17 displays a summary of the regression results of analyzing the four dimensions of transformational leadership separately.

Table 17 Summary of Additional Analysis

	R^2	Beta	P value
Idealized Influence	.389	-1.052	***
Inspirational Motivation	.329	-0.921	***
Intellectual Stimulation	.306	-0.894	***
Individualized Consideration	.372	-0.881	***

Note: ***P <.001

These results align with existing research that has established a direct and negative relationship between transformational leadership and job turnover intention (Dupré & Day, 2007; Lim et al., 2017; Pravichai & Ariyabuddhiphongs, 2018). Analyzing the four dimensions of transformational leadership can give us greater insights into specific leadership behaviors that can lower job turnover intention. I will further discuss the implications of our findings later in the following sections.

VI.6 Theoretical Implications

This study sought to add to the body of literature related to transformational leadership theory and job turnover intention. I believe that we have contributed to literature in three areas. Each contribution will be discussed in detail in the following sections.

First, the current study addressed a need for more empirical studies set in an industry that has not traditionally been studied from an academic lens. The U.S. mining industry plays a key

role in the economic health of the U.S. and is crucial for the stability of the infrastructure. With that being the case, it is important to study the industry empirically to learn more about the industry and ways it can improve. The results from this study show that the relationship between transformational leadership and job turnover is consistent with previous studies set in other industries (Dupré & Day, 2007; Lim et al., 2017; Pravichai & Ariyabuddhiphongs, 2018).

Second, the current study addressed a gap in the literature by exploring the moderating effect pay satisfaction has on the relationship between transformational leadership and job turnover intention. This showed that pay satisfaction statistically significantly moderates the relationship between transformational leadership and job turnover intention. These findings reveal how an employee's perception of the fairness of their compensation can either increase or decrease levels of job turnover intention by the employee. The final model of this study is illustrated below in Figure 6.

Third, this study supports the claim in the existing literature that employee job performance can mediate the relationship between transformational leadership and job turnover intention (Khan, 2015; Wang et at., 2011). The results of this study further the research in this area by exploring the relationship between transformational leadership, job performance, and job turnover intention in an industry lacking in empirical studies. This study supports results from previous studies that job performance mediates the relationship between transformational leadership and job turnover intention.

Fourth, the current study evaluated leader-follower tenure and employee age as possible moderating variables to the relationship between transformational leadership and job turnover intention. To the best of my knowledge, no other studies have explored the effect either of the constructs has on the transformational leadership and job turnover intention relationship. The

findings for both variables were statistically insignificant, however, including these variables advances the knowledge of transformational leadership and job turnover intention. These relationships should be studied more in the future.

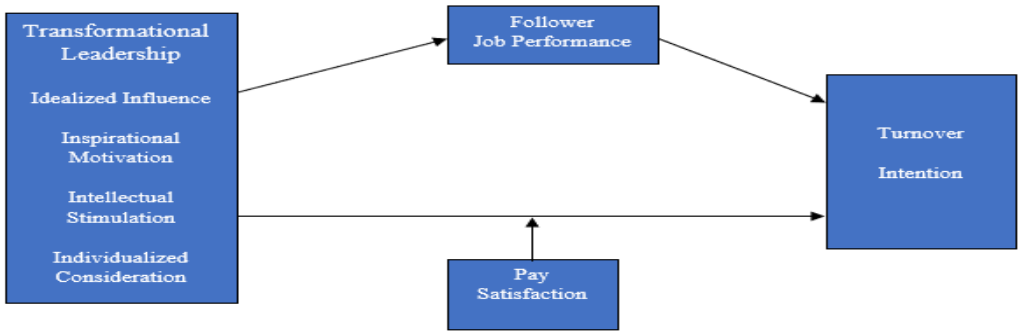

Figure 6 Final Model

Finally, this study supports the relevance of transformational leadership theory by confirming the idea that leaders who exhibit transformational leadership behaviors have a positive effect on employee retention. These findings are important because many industries face challenges in retaining employees. Furthering academic research in this area will help mitigate these challenges.

VI.7 Practitioner Implications

The purpose of this study was to address the problem of employee retention in the U.S. mining industry. Employee retention and job turnover are hot topics across multiple industries, so the results of this study would be of interest to many organizations beyond the mining industry. The results of the current study support the idea that transformational leadership can impact an employee's intent to leave, as well as establishing the idea that the level of employee pay satisfaction can influence an employee's intent to leave an organization. For organizations to remain competitive and healthy, high turnover rates must be addressed and this study provides contributions to help organizations decrease job turnover intention and increase employee

retention.

That being the case, this study can be useful for practitioners, particularly U.S. mining organizations struggling to overcome a lack of interest in working in the industry, the "skills gap," and the "Grey Tsunami." This study focused on leaders and followers working in the plant operations capacity within the U.S. mining industry, but the results may be useful to practitioners in other industries and capacities. The following paragraphs will outline implications and recommendations to aid practitioners in their struggle against employee turnover.

First, the findings of this study indicate that organizations interested in decreasing employee turnover rates and increasing employee turnover success should pay attention to job turnover intention, specifically, as it relates to the leadership behaviors exhibited by their leaders. Organizations could conduct employee satisfaction surveys and exit interviews to gauge the impact of leadership behavior on turnover intention and actual turnover. The transformational leadership survey used in the current study could be altered for use as a diagnostic tool by various organizations. The organization could then review the results of the surveys and interviews to gauge how its employees view the behaviors of their direct supervisor.

Second, organizations can educate their leaders regarding the impact their behaviors have on employee turnover intention and actual employee turnover. Making leaders aware of the impact their behavior has on employee turnover can help them become better leaders. Organizations can use the results from the analysis of the four dimensions of transformational leadership to frame training programs for their leaders. They can target the attributes associated with each dimension to craft a program that will equip their leaders to be more transformational in their leadership approach. This is not to say that every leader will exhibit every transformational leadership attribute all the time, but if leaders know what they are and

intentionally incorporate them into their leadership style, they could improve employee retention.

Third, this study highlights the impact of transformational leadership on the job performance of employees and how job performance mediates the relationship between transformational leadership and turnover intention. Organizations can educate their leaders on the impact their behaviors have on the job performance of their followers. Well-informed leaders are better equipped to exhibit behaviors that will improve the job performance of their followers and lower the intent of their followers to leave.

Fourth, organizations should pay attention to the level of pay satisfaction of their employees. As discussed earlier, the concept of pay satisfaction relates to how employees perceive the fairness of their compensation and not the actual amount of compensation (Miceli & Lane, 1991; Williams et al., 2006, as cited in Bhave, 2012). The pay satisfaction questions used in this study can be useful for organizations to assess the satisfaction or dissatisfaction of their employees with their compensation. If results indicate that employees are dissatisfied with pay practices, the organizations should modify their compensation practices to improve the pay satisfaction of their employees.

VI.8 Limitations and Future Research

One limitation of this study is that it only explored one leadership style. Leaders may need to use different leadership styles depending on the situation. Future studies in the current study should include the exploration of other leadership styles such as transactional or laissez-faire. Exploring different leadership styles could help organizations build more robust leadership training programs to equip their leaders with the necessary tools to increase the satisfaction of their followers and lower their intent to leave.

Second, this was a quantitative study for which self-reported data from online survey respondents were collected. While care was taken to secure accurate responses, future studies

using a qualitative study approach to collect more rich data. Employee interviews can dig deeper into the constructs and relationships tested in the current study, potentially uncovering more factors that impact job turnover intention.

Another limitation of the present study is that it is a cross-sectional study and thus does not allow drawing conclusions about how the leader-follower relationship can change over time. Future research using a longitudinal case study approach could examine the effects of transformational leadership over time; it could be helpful to know which leadership styles work best, based on the stage of an employee's career life cycle. Researchers could work with organizations to develop empirically based leadership training program to better equip their leaders to positively affect employee retention.

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APPENDICES

Appendix A: Study Components

Component	Specification
Journal	Human Resource Management Harvard Business Review Sloan Management Review Journal of Construction Engineering and Management
Title	Exploring the Impact of Transformational Leadership on Job Turnover Intention: A Study of Plant Operations
Problem Setting (P)	Leaders today face challenges related to strategically retaining critical employees. Leaders need to understand how job satisfaction and their leadership style impact employee retention.
Area of Concern (A)	Job turnover intention
Framing (F)	F_A: Transformational Leadership Theory (Bass, 1997).
Methods (M)	Cross-sectional, quantitative study of the impact of transformational leadership and the job turnover intentions of office professionals. The study also included the mediating effects of follower job performance and the moderating impact of pay satisfaction, leader-follower tenure, and follower age. 150 participants were recruited to complete an online survey via Qualtrics. SPSS 28 and SmartPLS 4 were used for data analysis.
RQ	RQ1 What is the relationship between transformational leadership and turnover intentions? RQ2 How does employee job performance mediate the relationship between transformational leadership and turnover intention? RQ3 How do pay satisfaction, leader-follower tenure, and follower age moderate the relationship between transformational leadership and turnover intention?
Contribution to body of knowledge (C)	$C_{P:}$ Lessons for leaders on how their leadership style and job satisfaction impact employee job turnover intention. The study will also provide insight into other factors such as employee job performance, pay satisfaction, leader-follower tenure, and employee age. $C_{A:}$ A detailed empirical account and theoretical framework of the relationship between transformational leadership, job performance, pay satisfaction, leader-follower tenure, employee age, and job turnover intention.

Note: Adapted from Mathiassen, 2017

Appendix B: Demographics of Respondents

	Demographics	
FA1	**How old are you? Ex. 45**	Moderating Variable
LFT1	**How long have you worked under your current supervisor?** Less than 6 months 6 months- 1 year 1- 5years 5- 10 years 10- 20 years 20+ years	Moderating Variable
CV1	**How long have you worked for your current employer?** Less than 6 months 6 months- 1 year 1- 5years 5- 10 years 10- 20 years 20+ years	Control Variable
CV2	**What is your job title?**	Demographic Variable
CV3	**What is your annual income?** 1. 0-39,999 2. 40000-59999 3. 60000-79999 4. 80000-99999 5. 100000+	Control Variable
CV4	**What is your highest level of education completed?** 1. Less than high school diploma 2. High school diploma or equivalent 3. Some college, no degree 4. Bachelor's degree 5. Master's degree or higher	Control Variable
CV5	**Gender** 1. Male 2. Female 3. Other 4. Prefer not to answer	Control Variable
CV6	**What is your race/ethnicity?** 1. American Indian Alaska Native 2. Asian 3. Black or African American 4. Native Hawaiian or Other Pacific Islander 5. White or Caucasian 6. Hispanic or Latino 7. A race/ethnicity not listed	Demographic Variable

Appendix C: Transformational Leader Questions

	Transformational Leadership	
	This section is to describe the leadership style of your direct supervisor as you perceive it. Please answer all items on this answer sheet. Please answer this questionnaire anonymously.	
	Not at all Once in a while Sometimes Fairly often Frequently, if not always	0 1 2 3 4
TLIS1	[redacted]	0 1 2 3 4
TLIIA1	[redacted]	0 1 2 3 4
TLIS2	[redacted]	0 1 2 3 4
TLIM1	My supervisor talks optimistically about the future	0 1 2 3 4
TLIIB1	[redacted]	0 1 2 3 4
TLIM2	[redacted]	0 1 2 3 4
TLIB2	[redacted]	0 1 2 3 4
TLIC1	My supervisor spends time teaching and coaching	0 1 2 3 4
TLIIA2	[redacted]	0 1 2 3 4
TLIC2	[redacted]	0 1 2 3 4
TLIIA3	[redacted]	0 1 2 3 4
TLIIB3	[redacted]	0 1 2 3 4
TLIIA4	[redacted]	0 1 2 3 4
TLIM3	[redacted]	0 1 2 3 4
TLIC3	[redacted]	0 1 2 3 4
TLIS3	[redacted]	0 1 2 3 4
TLIC4	[redacted]	0 1 2 3 4
TLIS4	[redacted]	0 1 2 3 4
TLIIB4	[redacted]	0 1 2 3 4
TLIM4	[redacted]	0 1 2 3 4

Note: Avolo & Bass, 1995

Appendix D: Job Performance Questions

	Job Performance	
	PLEASE Choose THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.	
	Strongly disagree Moderately disagree Slightly disagree Slightly agree Moderately disagree Strongly agree	1 2 3 4 5 6
JP1	I adequately complete assigned job duties.	1 2 3 4 5 6
JP2	I meet the performance requirements of the job.	1 2 3 4 5 6
JP3	I perform tasks that are expected of my supervisor.	1 2 3 4 5 6

Note: Williams & Anderson, 1991

Appendix E: Pay Satisfaction Questions

	Pay Satisfaction	
	PLEASE Choose THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.	
	Strongly disagree Moderately disagree Slightly disagree Slightly agree Moderately disagree Strongly agree	1 2 3 4 5 6
PS1	I feel I am being paid a fair amount for the work I do.	1 2 3 4 5 6
PS2	Raises are too few and far between.	1 2 3 4 5 6
PS3	I feel unappreciated by the organization when I think about what they pay me.	1 2 3 4 5 6
PS4	I feel satisfied with my chances for salary increases.	1 2 3 4 5 6

Note: Spector, 1985

Appendix F: Turnover Intention Questions

	Turnover intention	
	Strongly disagree Moderately disagree Slightly disagree Slightly agree Moderately disagree Strongly agree	1 2 3 4 5 6
TI1	I often seriously consider leaving my current job.	1 2 3 4 5 6
TI2	I intend to quit my current job.	1 2 3 4 5 6
TI3	I have started to look for other jobs.	1 2 3 4 5 6

Note: Michaels & Spector, 1982

Appendix G: Informed Consent

Georgia State University
Informed Consent

Title: Factors Impacting the Job Turnover Intentions of Office Professionals in the US Mining Industry
Principal Investigator: Wesley J Johnston, Ph.D.
Student Principal Investigator: Chris Edwards

Introduction and Key Information

You are invited to take part in a research study. It is up to you to decide if you would like to take part in this study. This study aims to learn more about leadership styles and how they affect people in companies. Your role in the study will take a maximum of 30 minutes to complete an online survey. This study will not expose you to any physical risks. As a result of your participation in this research study, you may gain more insight into the leadership style of your leader(s) and how their style affects you. Overall, we hope to gain information about leadership styles and how they affect people in companies. If you do not wish to take part in this study, the alternative is to decline participation.

Purpose

The study aims to learn more about leadership styles and how they affect people in companies. This study looks to provide data informing and educating organizations and leaders about leadership styles and how they affect people in the company. You are invited to take part in this research study because you are an equipment operator in the healthcare or construction aggregate industry. A total of 200 people will be asked to take part in this study.

Procedures

If you decide to take part, you will be asked to participate in a survey regarding your experiences, perceptions, and thoughts about your leader's leadership style and how it affects you. The survey will be administered in an online setting. Your responses to the survey will remain anonymous. Your participation will take approximately a total of 30 minutes.

Future Research

Researchers will remove all information that may identify you and may use your data for future research. If we do this, we will not ask for any additional consent from you.

Risks

In this study, you will not be exposed to any physical risks. No injury is expected from this study, but please contact the research team as soon as possible if you believe you have been harmed. Georgia State University and the research team have not set aside funds to compensate for any injury.

Benefits

As a result of your participation in this research study, you may gain more insight into the leadership style of your leader(s) and how their style affects you. If you like, we may also provide you with a summary of the results. Overall, we hope to gain information about leadership styles and how they affect people in companies.

Alternatives
The alternative to taking part in this study is not to take part in the study.

Voluntary Participation and Withdrawal
You do not have to be in this study. If you decide to be in the research and change your mind, you have the right to drop out at any time.

Confidentiality
We will keep your records private to the extent allowed by law. The following people and entities will have access to the information you provide:
Wesley J Johnston, Ph.D., Chris Edwards, Dr. Likoebe Maruping, Ph.D., and Dr. Carol Curasi, Ph.D.
GSU Institutional Review Board
Office for Human Research Protection (OHRP)
We will use a study number rather than your name on study records. No record will be kept matching your name to your study number. Your name and other facts that might point to you will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. The information you provide will be stored safely in a secure encrypted data storage device accessible only by these researchers. The recordings and transcriptions will be used to identify themes via data analysis. When we present or publish the results of this study, we will not use your name or other information that may identify you.

Contact Information
Contact Wesley J Johnston, Ph.D. at wesleyj@gsu.edu and 404/413-7851, Chris Edwards at cedwards40@student.gsu.edu and 740/714-6140, Dr. Likoebe Maruping at lmaruping@gsu.edu, Dr. Carol Curasi, Ph.D. at ccurasi.gsu.edu.
If you have questions about the study or your part in it
If you have questions, concerns, or complaints about the study.

The IRB at Georgia State University reviews all research that involves human participants. You can contact the IRB if you want to speak to someone not involved directly with the study. You can contact the IRB for questions, concerns, problems, information, input, or questions about your rights as a research participant. Contact the IRB at 404-413-3500 or irb@gsu.edu.

Consent
We will give you a copy of this consent form to keep.
If you are willing to volunteer for this research, please sign below.

_____
Printed Name of Participant

_____ _____
Signature of Participant Date

_____ _____
Principal Investigator or Researcher Obtaining Consent Date

Appendix H: Research Protocol

RESEARCH PROTOCOL

Title: Exploring the Impact of Transformational Leadership on Job Turnover Intention: A Study of Plant Operations

Summary

Numerous researchers have defined turnover intention as the conscious psychological willingness to quit the workplace (Griffeth et al., 2000; Ohana & Meyer, 2010; Alniacik et al., 2011; Panatik et al., 2012). According to Tett and Meyer (1993), turnover intention has been described as the last in a sequence of withdrawal cognitions, a set of cognitions including thinking of quitting and the intent to search for alternative employment. Job turnover intention is the primary source of employee turnover, and its cost to organizations can be high.

Turnover intention across all industries is more critical than ever. Our research focuses on the construction aggregate industry. Leaders across this industry are faced with the challenge of navigating the effects of an existing problem to retain employees. This problem has dramatically worsened over time, especially in the United States. The construction aggregate industry is faced with balancing production standards and the high costs of maintaining operations to stay financially viable. These requirements and the growing demand to maintain a stable workforce make it challenging to keep workers from jumping ship.

This study aims to research and explore the impact of transformational leadership on turnover intention in typical construction aggregate industry settings in relation to the specific job role of office professionals. The mediating effect of job satisfaction on the relationship between transformational leadership and turnover intention will be explored. Based on current literature, little research has been done on turnover intention in the construction aggregate industry.

Goals and Objectives

This study aims to provide insight into how transformational leadership behaviors affect office professionals in the construction aggregates industry. The study will compare the results from the two distinct industries to identify similarities and differences. The results of this study will help managers and their organizations increase job satisfaction and lower job turnover intention. Increasing job satisfaction and decreasing turnover intention will increase competitive advantage, improve financial performance, and reduce employee burnout. Consequently, more satisfied employees will lead to higher customer satisfaction.

Study Design

This will be an empirical study obtaining information from Office Professionals in the Construction Aggregates Industry. Data will be gathered over three months from online surveys of the target population.

Data Management

Information will be gathered by the student investigator and stored on a password-protected computer. SPSS 28 will be used for the analysis of the data.

Outcomes

The results of this study will be shared with the participants and potentially published.

Ethical Considerations

This research involves minimal risk to the participants, all at least 18 years old, who voluntarily participate in the study.

VITA

Education

Georgia State University – Doctor of Business Administration

Clayton State University- Master of Business Administration

Georgia State University- Bachelor of Business Administration

Georgia State University- Associate of Business Administration