

Transformational leadership and affective commitment in the South African Mining Industry: The mediating role of organisation climate

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Abstract

The changing dynamics in contemporary organizations have prompted many companies to re-design their organizational environment, strategies, leadership style and policies to accommodate these changes. The need for inspired leadership is now more evident in this dynamic context, and it has prompted various stakeholders to increasingly expect leadership to provide solutions to organizational problems. This study aimed to determine the mediating role of organizational climate in the relationship between transformational leadership and affective commitment in selected platinum mining companies in South Africa. The study utilized Structural Equation Modelling analysis (SEM) to test for direct and indirect effects using IBM-SPSS-Amos™ 28. The study was underpinned by social exchange theory and the positivist paradigm served as the foundation for the study following a quantitative research method. The data was collected from a sample of 214 employees from the mining industry using a convenience sampling strategy. The findings indicate that transformational leadership and organizational climate positively influence affective commitment. This study recommends that mine managers must create supportive climates and adopt transformational leadership styles for the sustainability of their businesses.

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1. Introduction and background

The mining industry plays a significant role in the economy of many countries worldwide. It is, among others, the principal source of energy for many industrial production processes, and construction activities that have direct consequences on the quality of life of the people living in a given country. Mining and metallurgical industries can be witness to economic, social, and ground-breaking improvements for any country. Due to its nature, the industry calls for continuous investment in developing and sustaining positive cultures to ensure employee commitment to the attainment of organizational goals. It is crucial to have unique structures and procedures customized to the mining industry due to its specific characteristics and complexities, as well as the high rate of leadership failures. These structures and processes need to be different from those that have been successful in other industries. Transformational leadership is an active example of successful leadership, known to produce superior performance in various organizations and is indicated as a style readily available to deal with ambiguity and change. However, there is a lack of evidence of empirical research conducted in the South African mining industry that has examined the mechanisms through which transformational leadership influences employees' affective commitment to their organization.

The mining industry contains individuals from multinational culturally heterogeneous backgrounds each with different competency levels. Cultural groups served well in the past, but a need for cooperation and an organizational climate conducive to trust, safety and open communication is a priority nowadays. The mining sector in South Africa is hierarchical, therefore top management must improve perceived organizational support at all departmental levels to meet organizational needs (Burger, Pelser & Ellis, 2019). Lower-level leaders must use specific work behaviours and object-oriented activities to influence leaders who are not directly under their control (Asif, Li, Hussain, Jameel & Hu, 2023). The worldwide and South African mining industry needs innovative leaders because the current leadership styles and models are unsustainable (Uys & Webber-Youngman, 2019). South Africa has a diverse mineral industry and a competitive mining industry with over 52 commodities, including the world's largest gold reserves, titanium, zirconium, iron ore, and coal (Burger *et al.*, 2019). In recent years, ethical scandals, worker safety disasters, and leadership failures have increased in the South African mining industry. Public concern and industry distrust have increased due to these instances (De Klerk & Swart, 2023; Lamm & Lips-Wiersma, 2018).

2. Problem Statement

Many companies have redesigned their organizational climate, strategies, leadership styles, and policies to meet the changing workforce dynamics (Akpapere, Jengre & Mogre, 2019); Wang, Hou & Li, 2022). The mining industry's complex structure, expensive recruitment and training costs, and poor employee

commitment have raised concerns among organisations worldwide (Burger *et al.*, 2019). The challenge is whether managers have the transformational leadership skills and motivation to lead and involve leaders and mining workers in accomplishing organizational goals. Prinsloo and Hofmeyr (2022) concur that various factors are causing instability in the South African mining industry. These include leadership failures which may affect employee safety, organizational climate, and employee commitment (De Klerk & Swart, 2023). In support of this, authors such as Thasi and van der Walt (2020) have noted that the South African mining sector faces rising productivity demands, employee dissatisfaction, and high turnover due to leadership failures and an unfavourable organizational climate (Thasi & van der Walt, 2020). All these challenges influence employee thinking which shapes their attitudes towards an organisation. Understanding employee thinking therefore requires examining South Africa's private sector leadership styles,—organizational climate and employee work outcomes such as affective commitment. Even though research has been conducted on this phenomenon, various studies on transformational leadership, organizational climate and affective commitment have produced mixed results (Hussainy, 2022; Quan *et al.*, 2023; Rahmat, Abdillah, Priadana, Wu & Usman., 2020). Hence this study attempts to address these gaps in the literature by examining the mechanisms through which transformational leadership influences employees' affective commitment, thereby testing the mediating role of organizational climate in the relationship between transformational leadership and affective commitment.

A study of this nature yields a significant contribution to the field of organizational behaviour. First, it addresses the frequent calls for more organizational behaviour research in the private sector companies in the global south. Furthermore, this study is the first to test the mediation mechanism of organizational climate on the relationship between Transformational Leadership and Affective commitment in the South African Mining Industry. From a practical perspective, the results of this study can offer important insights for effective decision-making amongst South African mining industry managers.

3. Literature Review

The previous section explained the study's backdrop and difficulty. The next segment considers the overview of both the theoretical and empirical literature from previous studies. The section also reviewed studies on organizational climate, transformational leadership, and affective commitment as well as the theoretical underpinning of the study. This literature review aims to provide an understanding of the relationship between transformational leadership, affective commitment and the organizational climate within the South African mining industry.

3.1. Transformational Leadership

Transformational leadership has emerged as a theory widely adopted across fields. For instance, in the mining sector, the strength of transformational leadership has been investigated amidst complex and rapidly shifting work conditions such as work insecurity, automation, and climate change. It is crucial to study transformational leadership under the unique conditions of South African mining, where workers are demanded to act independently, take risks, and address uncertainties. Transformational leadership (TL) theory, originally proposed in the 1970s and popularized in the 1980s, suggests that it is possible to transform both individuals and organizations (Mahmood Gelaidan & Ahmad, 2010). Transformational leadership theory describes how a leader influences followers by substantially changing their goals and expectations; elevating their needs from purely economic to high-level social, self-respect, self-actualization, and esteem needs; as well as expanding their objectives by raising their foresight and yearning for greater development (Jiatong *et al.*, 2022). Pinto (2015) provides deeply considered definitions and descriptions of the transformational leadership attributes, elucidating their relevance, possible effects on the mining sector, and context. Transformational leadership has a broad definition that includes attributes that view an organization from a systemic perspective. A transformational leader who believes in change and development forms new beliefs about change in the way a company does business and communicates this to followers. Transformational leadership includes visions of the greater good which inspire commitment at the team level. This has a positive correlation with the level of commitment among the stakeholders of an organization. Understanding each transformational leadership dimension permits expectations to be established for leaders and followers. Transformational leaders often exhibit these four characteristics: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Bass & Avolio (1993) conceptualized transformational leadership with four core characteristics based on the charismatic leadership theory. Transformational leaders serve as role models; enhance followers' leads through inspiration; challenge followers' mindsets to rebuild the understanding of their tasks and pay attention to followers' progress and needs. Transformational leadership has emerged as a theory widely adopted across fields. For instance, in the mining sector, the strength of transformational leadership has been investigated amidst complex and rapidly shifting work conditions such as work insecurity, automation, and climate change.

The overriding quality that makes transformational leadership unique and applicable in any type of organization comes from the fact that this leadership style involves a sincere, responsible, honest, and trustworthy relationship between the leader and the followers (Mburu, 2020). It is also based on a solid foundation of the leader's core values and mission, which implies ongoing reciprocal communication between people throughout the organization (Syakur *et al.* 2020) Furthermore, this leadership style thrives within a learning ethical environment with a strong sense of purpose and shared beliefs, goals, incentives, and outcomes. Transformational leaders inspire followers to support the company's goals and interests to exceed expectations (Khan, 2023). According to Alessa (2021), transformational leaders inspire followers to put their interests ahead of the group's. Transformational leaders may motivate and grow their

followers' moral principles to transform their behaviours, attitudes, beliefs, and expectations, which changes the organization as a whole (Tengi, Mansor & Zahari 2017). Khan *et al.* (2020) state that transformational leaders promote employee mindfulness by presenting a vision that emphasizes corporate values, goals, and performance. Transformational leaders prioritize helping others over-achieving their own goals (Alessa, 2021).

3.1.1 Dimensions of Transformational Leadership

Transformational leadership, which affects employees' psychological connection to their organization has been among the most studied leadership theories for 30 years (Peng, Liao & Sun, 2020). Transformational leadership uses idealized influence, inspiring impact, intellectual stimulation and individualised consideration to increase employee affective commitment (Meyer & Allen, 1991).

Idealized influence: Idealized influence involves shaping behaviours aligned with organizational goals (Afshari, 2021). Leaders must be aware of the goals and enthusiastically embrace them and encourage other employees to embrace the issues or ideals. Setting a high standard for others is key (Chebon *et al.*, 2019). Transformational leaders have the biggest impact on their followers by instilling commitment, success, adoration, respect, and competency through clear communication (Khan *et al.*, 2020). In a study by Afshar (2021), using Iranian and Australian samples, he found statistically significant connections between idealized influence and employee's organizational commitment.

Inspirational motivation: Transformational leaders inspire their followers by presenting a compelling future vision in this dimension, t (Rubia *et al.*, 2023). Inspirational motivation involves raising awareness of the organization's mission, vision, and dedication to the vision (Chebon, Aruasa & Chirchir, 2019). Chebon *et al.* (2019) found that a transformational leadership style motivates employees to exceed expectations, appeals to followers' higher-order needs and moral values, generates passion and commitment to the organization's mission and values, instils pride and faith in followers, communicates personal respect, intellectually stimulates subordinates, and fosters creativity.

Intellectual stimulation: In this dimension, transformational leaders intellectually stimulate followers, question their ideas, and foster innovative problem-solving (Rubia, Niere & Jortil, 2023). Leaders can inspire creativity among followers by questioning assumptions, reframing problems, and introducing new approaches to common situations (Kozioł-Nadolna, 2020). According to Alessa (2021), transformational leaders due to them being intellectually stimulated, encourage their subordinates to rethink leadership,

Individual consideration: Individualized consideration is a leadership style that helps followers feel satisfied by attending to the individual's needs, mentoring them, and supporting self-actualization (Rubia *et al.*, 2023). It measures how successfully a leader mentors, coaches, and guides followers. Leaders address followers' issues and provide support and understanding for diverse backgrounds (Kozioł-Nadolna, 2020).

3.2 Organizational Climate

Despite various studies on organizational climate, its definition and characteristics remain unclear (Madhukar & Sharma, 2017) making it an intriguing topic to research. Organizational climate is described as the characteristics that reveal the organization and distinguish it from other organizations, as well as influence employees' behaviour and reflect their perceptions of the organization (Hussainy, 2022). Quan *et al.* (2023) define it as employees' view of an organization while Rahmat *et al.* (2020) views it as common perceptions or norms for work. South Africa faces numerous organizational climate challenges that impact productivity and necessitate organizations to cultivate behaviours and skills to improve organizational climate (Strauß, Greven & Brettel, 2021). Organizational climate characteristics encourage physical, emotional, and mental involvement of individuals to efficiently share information and knowledge and promote debate about its implications at applicative, structural, and governmental levels (Quan *et al.*, 2023). Motivations, interpretations, and perceptions based on personal and contextual factors make up organizational climate (Quan *et al.*, 2023). It is about a company's rules, practices, and beliefs that explain why certain types of knowledge are chosen in different circumstances because it shapes individual views and social interactions. Organizational climate affects top-down and bottom-up connections and individual and knowledge-related behaviour (Quan *et al.*, 2023).

3.3. Affective Commitment

Affective commitment, at its core, is the intrinsic desire of the employee to remain as a member of the organization. It mirrors the emotional bond between the individual and the organization (Dung, 2020). Meyer and Allen (1991) observe that employees sharing an affective commitment remain in employment with an organization due to a sense of identification, belongingness, emotional attachment, and involvement. Such employees have positive view of the organization. Meyer and Allen contend that employees of this type fit the organization, themselves, and the other members. Meyer and Allen (1991) group organizational commitment into normative, continuance and affective commitment. Normative commitment is an employee's sense of commitment to the organization, while continuance commitment is the value of opportunity cost if they quit or stay in the organization (Khan *et al.*, 2021). Rubia *et al.* (2023) claim that affective commitment improves turnover, absenteeism, work performance, and organizational and civic behaviour. Jeswani and Hampton (1992) in (Tarricone, 2023), state that most human potential and output in organizations could be amplified through the development of an affective commitment in the form of trust, collective efforts, common interests, high expectations, and the creation of a positive emotional attachment. A positive result is that employees are motivated and enthusiastic about their work and put extra effort into their work. According to a study by Cogin (2012), further positive outcomes are represented by lower job turnover (Hefny, 2021). Affective commitment is important because it contributes positively to the organization's desired values and beliefs and is a sense

of belongingness that plays a vital role in cooperating with the staff of the working organization, who is resistant to change (Astuty & Udin, 2020).

A review of existing literature shows that while many studies exist on similar topics globally, little research has been conducted in the context of the mining industry in developing countries such as South Africa. Understanding commitment in the context of the mining sector is crucial for developing effective human resource management policies and practices, as the mining environment conditions are typically debilitating and hazardous.

3.4 Challenges faced by the mining industry

The mining industry has, and continues to be, one of the most dangerous professions exposing employees to hazardous work environments. Mining operations and work environments expose mineworkers to a variety of adverse health conditions that may negatively affect their quality when they operate under the given challenges (Matshingane, 2017). Working in extreme heat and darkness, higher occurrences of TB, HIV, and other diseases; and increased chances of injury and death are just a few examples of what mining employees are subjected to daily (Matshingane, 2017). Considering the nature of underground mines, they tend to have poor ventilation systems hence the accumulation of harmful gases such as carbon dioxide and silence the symptoms of a possible gas explosion (Dursun, 2020). There are a variety of potential hazards that miners are exposed to during various operations, including suffocation, falls, explosions, poisoning, and crushing (Panhwar *et al.*, 2017). However, the most dangerous hazard is of unaccounted miners who go missing in underground mining. The challenges faced by the mining industry in South Africa, are multi-faceted and complex. The mining sector is subject to diverse regulatory environments across various countries and regions, many of which significantly affect how mining operations are undertaken.

Mining entails the extraction of minerals from the earth, yet there are many legal stipulations surrounding the practice. Regulatory environments in the mining sector encompass compliance regarding mineral rights, workforce considerations, health, safety, and environmental requirements (Mbewe, 2017). Mining can be classified into two techniques: underground mining and surface mining (Khalifa *et al.* 2020). In underground mining, shafts and tunnels are excavated in the earth to reach metal ores and gems deep under the surface. Large machines drill out the rock, it is dug up and transported to the surface for processing. In contrast, surface mining methods are used to extract mineral deposits that are located near the surface. In surface mining, pits are excavated in the earth to reach mineral deposits (Khalifa *et al.* 2020). For

underground mines such as the mine where this study was conducted, blasting and cutting are commonly used (Que *et al.*, 2018).

3.5. The Relationship Between Transformational Leadership and Organisational Climate

Transformational leadership facilitates the creation of a conducive organizational climate (see Velarde *et al.*, 2022; Kim & Park, 2020; Tebogo & Steyn, 2018; Makhathini *et al.*, 2018). Transformational leadership recognizes changes, addresses individual development needs, encourages intellectual growth, accepts goals, sets high expectations, acts as a role model, and creates a shared future vision (Gulluce *et al.*, 2016). This results in the creation of a conducive organizational climate that elicits high levels of effort from employees. Transformational leadership creates an environment of trust and individualized support, which motivates team members to stay committed to their work (Gaviria-Rivera & López Zapata, 2019). Not only that, but transformational leadership also affects employee attitudes and behaviours, including the affective commitment to the organization (Peng, *et al.* 2020). In a conducive organizational climate, transformational leaders can motivate, transform, and inspire their people to improve affective commitment and perform better than expected (Gulluce *et al.*, 2016). This is supported by de Vries, Knies, and Leisink (2022), who stated that transformative leaders encourage, transform and inspire employees to perform better and commit to organizational goals.

Authors such as Gaviria-Rivera and López Zapata (2019) also found that transformational leadership improves organizational climate. This is because Transformational leaders work with their employees or followers beyond self-interest to identify needed changes, create a vision to influence and inspire change and execute the change with the committed employee (Bass, 1999). This level of self-interest shift will improve organizational climate and staff engagement to the vision. According to the transformational theory, the leader-follower relationships are strong and characterized by trust, (Uys & Webber-Youngman, 2019). This trust helps transformational leaders improve the motivation of their employees and inspire them by showing them the value and meaning of the task (Jun & Lee, 2023). It can thus be hypothesised that:

H¹: Transformational Leadership positively influences organizational climate

3.6. The relationship between Affective Commitment and Organizational Climate

Different employee perceptions of organizational climate, leadership style, and supervisor support can contribute to employee affective commitment (Cho & Kao, 2022). Ma *et al.* (2020) found that leadership traits improve employee engagement. The organizational climate affects employee attitudes like dedication, according to private and public sector research. Peng *et al.* (2020), indicated that transformational leadership improves employee motivation, behaviours and affective commitment. Meanwhile, Belay (2023) found that supervisor support, reward and recognition, unfairness, autonomy,

and poor teamwork all have statistically significant effects on employees' affective commitment to the organization, but poor teamwork and unfairness negatively impact it. Kao *et al.* (2023) claim that formal organization management systems struggle to normalize employee affective commitment. Zhen *et al.* (2022) found that a goal-oriented organizational climate improves employee commitment. Kotzé and Nel (2020) believes that platinum mining employees' affective commitment is statistically positively correlated with organizational climate. It can thus be hypothesised that:

H²: Organisational Climate positively influences affective commitment.

3.7. The relationship between Transformational Leadership and Affective commitment

Organizational literature shows that transformative leadership improves job satisfaction, organizational commitment, and performance (Susanto *et al.*, 2023). Frontline workers are accountable to their immediate supervisor for their productivity and performance (Rathi & Lee, 2017). Through these reporting lines and accountability, leaders help build leader-member and organization-member relationships. Thus, top management analyzes employee needs and provides rewards to reduce turnover (Alharbi & Abuelhassan, 2020). Rubia *et al.* (2023) examined the level of the Deans' transformative leadership and organizational commitment of faculty/staff at the Zamboanga Peninsula higher education institutions. The study found that the Deans' transformative leadership had a similar impact on continued behaviour and normative commitment, suggesting that leadership affects them in a complex way. Amin *et al.* (2023), revealed a substantial positive correlation between affective commitment and transformative leadership. Transformational leadership has a great influence on organizational commitment (Al-Yami *et al.*, 2018). Amin *et al.* (2023) found that transformational leadership improves organizational commitment. Rubia *et al.* (2023) found a weak but statistically significant link between transformative leadership and emotional, normative, and continuation commitment.

Leaders should fulfill their actual, fair, and moral responsibilities and provide supervisory support to emulate progressive initiatives for lower-level employees. This will improve subordinates' organizational commitment and work engagement (Asif *et al.*, 2023). Asif *et al.* (2023) found that employees who trust their supervisor and senior management feel more obligated and fulfilled in their jobs, reducing their likelihood of leaving. According to the social exchange theory, organizational support can boost employee emotional commitment (Abdullah & Wider, 2022).

Organizational climate, transformational leadership, and organizational commitment have been studied, but the strength and direction of their relationship are unclear. Most studies on transformative leadership and employee attitudes have focused on the public sector, with little attention devoted to the private sector (Caillier, 2016; Caillier & Sa, 2017; Peng *et al.*, 2020). This study contributes to scholarly literature as it examines the relationship between organizational climate, transformational leadership, and

organizational commitment in a platinum mining company in South Africa. It can therefore be hypothesised that:

H³: Transformational Leadership positively influences affective commitment.

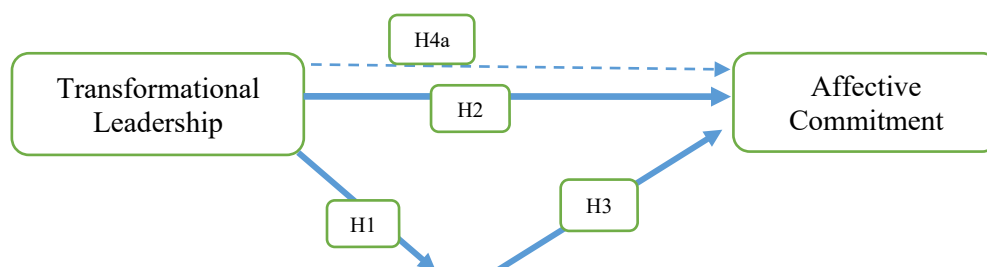
3.8. The mediation role of organizational climate

To better understand the relationship between transformational leadership style and employee affective commitment, organizational climate has been included as a mediator. A commitment-based model of human resources states that good management, leadership, and organizational climate increase employees' affective commitment to the organization, consequently improving performance (Astuty & Udin, 2020). Based on this model, transformational leadership is essential for employee affective commitment. Employees' views of transformational leadership and organizational climate are related because employees who perceive a positive organizational climate are happier. An improved organizational climate can also boost employees' affective commitment (Kim & Park, 2020). According to Farahnak *et al* (2020), transformational leadership influences different organizational levels and raises follower confidence and performance toward goal attainment by considering follower needs and growth potential (Khan *et al.*2020). Mutonyi *et al.*, 2020 indicated that the relationship between transformative leadership and organizational commitment is mixed. That is, the effect of transformational leadership on organizational commitment may be enhanced in the presence of certain organizational or contextual conditions.

Transformational leaders elevate followers' needs and motivations, build trust and emotional support, and go beyond work relationships. (Nuel *et al.*2021). Transformational leadership involves charismatic, visionary, and inspirational organizational responsibilities. Significant leaders inspire their followers to work hard, confidently, and enthusiastically. Transformational leadership is revolutionary and enhances commitment and performance. (Nuel *et al.*2021). This study examined how organizational climate influences transformational leadership and affective commitment. The results confirmed that organizational climate mediated the relationship.

H^{4a}: Organisational climate mediates the relationship between Transformational leadership and Affective commitment

Following the discussion above, this study proposes the conceptual model in Figure 1 below:



Organisational Climate

Source: Authors' research compilation

4. Theoretical underpinning

The Social Exchange Theory (SET) has been used to understand how multifarious aspects of transformational leadership relate to organisational climate and affective commitment. SET focuses on the exchange of resources in relationships. Because this exchange occurs over time, affective experiences develop that carry over, improve the relationship, and reinforce the behaviours necessary to sustain the relationship. Employees begin to rely on these social relationships as they fulfil their personal and emotional needs, ensuring long-term power. Over time, both parties develop norms, rules, and shared values that reinforce their understanding of each other's roles and strengthen the working relationship (Meira & Hancer, 2021)

SET identifies three main principles that guide behaviour within social exchanges. (1) The principle of reciprocity suggests that to build a beneficial and ongoing relationship, exchanges must involve mutual obligations and rewarding experiences. (2) The principle of distributive justice states that inputs and outputs should be distributed equitably. (3) The principle of procedural justice focuses on the use of fair procedures to resolve conflicts (Ahmad, Nawaz, Ishaq, Khan, & Ashra, 2023). Employees who perceive that they have been treated poorly or unfairly in a work situation will feel a lack of commitment to that company; conversely, employees who perceive that they have been treated fairly will experience a heightened level of affective commitment. (De Clercq, Kundi, Sardar, & Shahid, 2021). Organizational climate, on the other hand, is a collection of observable phenomena that can provide information about the "climate" that is perceived by the employees, but not necessarily experienced or understood. In turn, this organizational climate is developed by a company's leadership (Kuenzi, Mayer, & Greenbaum, 2020).

5. Research Methodology

5.1. Research sampling of participants

This study selected respondents using convenience sampling whereby participants were selected based on their accessibility and availability to the researcher (Stratton, 2021). Geographic proximity, accessibility and the willingness to participate made convenience sampling ideal for this investigation. Raosoft's 2004

online sample size calculator was used to determine the sample size. Using a 5% margin of error and 95% confidence level, a minimum recommended sample size of 278 employees was determined for the target population of 1,000 employees. Of the 278 questionnaires distributed, 214 were completed (77.0%). This study includes 14 platinum mining companies in South Africa's North West Province.

5.2. Research paradigm

The research paradigm includes attitudes and philosophical assumptions that shape research topics and methods (Melnikovas, 2018). The study used a positivist paradigm for this investigation (Dawadi, Shrestha & Giri, 2021). A quantitative approach was employed to explore the relationship between organizational climate, transformational leadership, and organizational commitment in a South African platinum mining corporation.

5.3. Data collection instrument

This study collected data using a questionnaire because it allows the researcher to collect huge amounts of quantitative data from a bigger population and asks all respondents identical questions (Waring & Nutbrown, 2012). Four closed-ended sections: demographic information, organizational climate questionnaire, transformational leadership questionnaire, and affective commitment made up the questionnaire.

Transformational Leadership was measured using seven items adapted from the short version of the Global Transformational Leadership (GTL) Scale of Carless et al. (2000). The collected GTL scale focuses on the perceptions of employees about their supervisor's leadership characteristics and - behaviours. The *organizational climate* was measured using 29-item organizational climate questions adapted from Koys and DeCotiis (1991). The organizational climate questionnaire measures employee perceptions and perspectives of the eight dimensions of organizational climate, namely: "autonomy, cohesion, trust, pressure, support, recognition, fairness, and supervisor encouragement of innovation". The *affective commitment* was measured utilising eight items of affective commitment adapted from Allen and Meyer (1990).

5.4. Ethics

The researcher kept participant data private (Struwig & Stead, 2022). The POPI Act no 4 of 2013 requires researchers to treat personal data ethically and respectfully (Coetzee *et al.*, 2019). Email, telephone, address, and demographic data including age, gender, race, birth date, and ethnicity are covered under the POPI Act 4 of 2013. Before data collection began, all participants signed a form stating their consent to participate in this study (Bertram & Christiansen, 2014). Participants were assured of academic usage of the research outcomes. Keep and properly dispose of study data for five years. The researcher assured participants that the final study report had no names or personal details to maintain confidentiality. The NWU Economic and Management Sciences Research Ethics Committee (EMS-REC) approved the study with ethics number: NWU-01816-23-A4.

5.5. Data analysis

This study used SPSS 28.0.1.0 to analyze data. SEM analysis was conducted using Amos version 28 to test the hypotheses of this study. The data was graphed and tabulated. Spearman rank rho-correlation coefficient was utilized to determine the association between organizational climate, transformational leadership, supervisor support, and affective commitment.

6. Results and Findings

6.1. Reliability and Validity

Data reliability and validity were assessed using Indicator reliability, Cronbach's alpha, Average Variance Extracted (AVE), Composite Reliability (CR), and Discriminant Validity. Indicator reliability: Reflective indicator loadings greater than 0.5 show that the item is a good measurement of a latent construct (see Hulland, 1999). Accordingly, all the indicator loadings exceeded 0.5 (see Table 1).

Internal consistency reliability: Composite reliability (CR) and Cronbach's alpha (α) can be used to assess internal consistency reliability. Gefen, Straub, and Boudreau (2000) state that a CR value of at least 0.7 indicates adequate internal consistency reliability. Hair *et al.* (2017) suggested that Cronbach alpha (α) values between 0.60 and 0.70 are widely considered desirable in research to indicate internal consistency reliability. As shown in Table 1 below, all the constructs satisfied the Cronbach alpha and Composite Reliability threshold values.

6.1.1. Convergent reliability: Convergent reliability is the extent to which a measure correlates positively with alternative measures of the same construct (Hair *et al.*, 2017). Convergent reliability is assessed using the Average Variance Extracted (AVE). The AVE should be greater than 0.5 (see Bagozzi, 1986; Hair *et al.*, 2016). The AVE for all the constructs in this study was greater than 0.5 (see Table 1 below); thus, the measurement scales showed good convergent reliability.

Table 1: Questionnaire items, Factor Loadings, Means, Standard Deviation Cronbach Values, Average Variance Extracted, and Composite Reliability.

Items		Factor Loading	M	SD	Alpha	AVE	CR
Transformational Leadership							
					0.88	0.68	0.90
T1	My supervisor communicates a clear and positive vision of the future	0.82	1.98	1.394			
T2	My supervisor treats staff as individuals supports and encourages their development	0.88	1.96	1.358			
T3	My supervisor gives encouragement and recognition to staff	0.81	1.97	1.341			
T4	My supervisor fosters trust, involvement, and cooperation among team members	0.89	2.01	1.402			
T5	My supervisor encourages thinking about problems in new ways and questions assumptions	0.74	1.94	1.367			

Items		Factor Loading	M	SD	Alpha	AVE	CR
T6	My supervisor is clear about his/her values and practices which he/she preaches	0.80	2.06	1.398			
Items		Factor Loading	M	SD	Alpha	AVE	CR
Organizational Climate							
					0.86	0.58	0.89
OC1	The relationships with my supervisor are good	0.84	2.08	1.378			
OC2	My supervisors' responsibilities are well defined	0.70	2.19	1.446			
OC3	I have the means necessary for doing my work	0.68	2.56	1.596			
OC4	My efforts are adequately rewarded	0.80	1.95	1.315			
OC5	My superiors value the order and accuracy in my work	0.74	2.22	1.438			
OC6	My bosses value the ideas I put forward for improving the job	0.82		1.365			
Items		Factor Loading	M	SD	Alpha	AVE	CR
Affective Commitment							
					0.88	0.63	0.91
AC1	I would be very happy to spend the rest of my career with this organisation	0.76	1.91	1.373			
AC2	I enjoy discussing my organization with people outside it	0.82	2.05	1.400			
AC3	I really feel as if the problems of this organization are my own	0.79	2.18	1.281			
AC4	I think I could easily become as attached to another organization as I am to this one	0.83	3.52	1.141			
AC5	I do not feel like 'part of the family' in my organization	0.78	4.06	1.367			
AC6	I do not feel 'emotionally attached' to this organization	0.78	4.19	1.246			

Discriminant Validity

Discriminant Validity was assessed using the Fornell-Larcker criterion (see Hair *et al.*, 2016). The Fornell-Larcker criterion compares the square root of the AVE values with the latent variable correlations with other constructs. The square root of the AVE of each construct should be higher than the correlation with any other construct (Hair *et al.*, 2016). The square root of the AVE of each latent variable is shown diagonally in bold in Table 2 below, along with the correlations of the latent variable with other latent variables. Table 2 indicates that the square root of the AVE of each latent variable is indeed higher than any correlation with any other latent variable. Thus, the measurement instrument satisfied discriminant validity.

Table 2: Discriminant Validity

	Organisational Climate	Transformational Leadership	Affective Commitment
Organisational Climate	0.76		
Transformational Leadership	0.70	0.82	
Affective Commitment	0.69	0.73	0.79

(The discriminant validity values are shown diagonally in bold)

6.2. Results

Confirmatory Factor Analysis

The suitability of data for factor analysis was assessed using the Kaiser-Meyer Olkin and Bartlett's Test of Sphericity. The KMO value was 0.89, above the minimum recommended value of 0.5 (see Hair *et al.*, 2006). In addition, Bartlett's of Sphericity was significant at $p = .000$, rendering the sample adequate for factor analysis. In assessing the model, the researchers used the following model fit indices: CMIN, IFI, CFI, and the RMSEA. After running the confirmatory factor analysis for the model, the results indicated that the model was good because it produced results that were within acceptable limits (see Hair *et al.*, 2010). The model fit indices obtained from the confirmatory factor analysis are CMIN= 1.66; $p = .000$; IFI = .92; CFI = .91; RMSEA = .08.

Structural Equation Modelling

SEM analysis was conducted using Amos version 28 to test the hypotheses of this study. The SEM output diagram, reflecting path relationships, is shown in Figure 1 below. Furthermore, as indicated in Table 3 below, all model fit values were within the acceptable range.

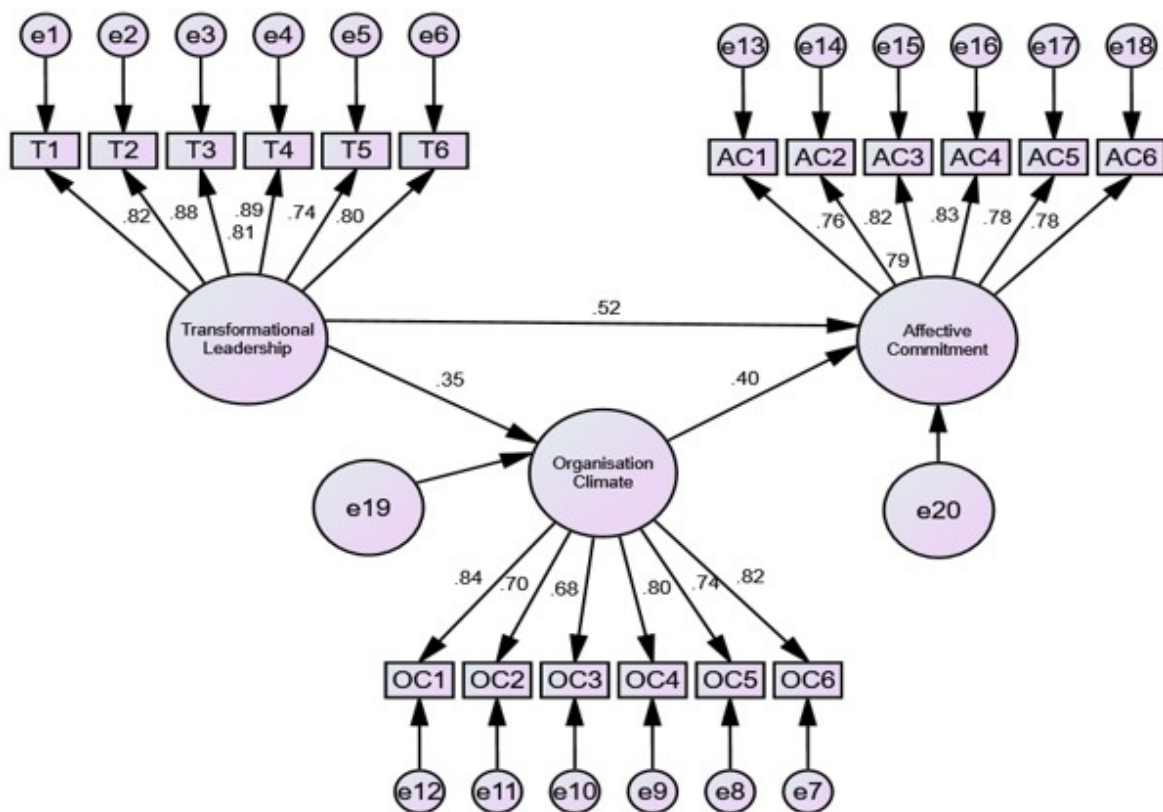


Figure 2: Structural Equation Modelling

Table 3: Model Fit Indices

Model Fit Index	Scores	Recommended Value
CMIN/Df	1.66	1 < CMIN/Df < 5
Root Mean Square Error of Approximation (RMSEA)	0.08	< 0.08
Incremental Fit Index (IFI)	0.92	< 1
Comparative Fit Index (CFI)	0.91	> 0.9

Direct Effects

As indicated in Table 4 below, Transformational Leadership significantly impacted organisational climate and affective commitment ($\beta = 0.35$, $p = 0.00$; $\beta = 0.52$, $p = 0.00$ respectively). Hence *H1* and *H2* were accepted. Furthermore, organisational climate also had a positive impact on affective commitment. ($\beta = 0.40$, $p = 0.00$) hence *H3* was accepted.

Table 4: Path Coefficients and Probability Values

Hypothesis	Path	Path Coefficient	P. Value	Decision
<i>H1</i>	Transformational Leadership >>>> Organisation climate	0.35	0.00	Accepted
<i>H2</i>	Transformational Leadership >>>>> Affective Commitment	0.52	0.00	Accepted
<i>H3</i>	Organisational Climate >>>>> Affective Commitment	0.40	0.00	Accepted

Mediation Effects of Organisational Climate

In assessing the mediation effects of knowledge application, the boot-strapping technique was used in SPSS AMOS 28. This study used bootstrapping by taking 5000 resamples at a 95% confidence interval level (Hair, 2006). The results showed that organisational climate partially mediated the relationship between transformational leadership and affective commitment ($\beta = 0.14$, $p = 0.01$); hence, *H3a* was accepted.

Table 5: Mediation Results

Path		Indirect Effect	Lower Bound	Upper Bound	P. Value	Decision
Transformational Leadership >>>>>>> Organisational Climate >>>>>> Affective Commitment	H4a	0.14	-0.135	0.282	0.01	Partial mediation

7. Discussion of Findings

Literature suggests that organisational climate and transformational leadership are important antecedents of affective commitment. Accordingly, several authors, have examined the relationship between organisational climate, Transformational leadership, and affective commitment (see Gulluce *et al*, 2016; Gaviria-Riverand & Lopez Zapata, 2019; Vries, Knies and Lesink, 2022; Cho & Kao, 2022). However, despite this increased body of evidence, more studies of this nature are required in the global south, especially in the private sector.

The empirical findings of this study confirmed all four proposed hypotheses. First, Transformational leadership was established to have a positive relationship with the organisational climate ($\beta=0.35$, $p=0.00$). This is in line with the findings of several studies (Kim & Park, 2020). The positive impact of Transformational Leadership on organisation climate underscores the importance of leadership in business organisations. Leaders create strategies that facilitate the development of a congenial working environment. These strategies are evident in human resource management, innovation, organisational infrastructure, and organisational structure. The effectiveness of these strategies has a bearing on organisational climate. However, Transformational leaders are known to be dynamic and effective strategists hence they can create a supportive organisation climate.

Second, Transformational leadership was found to have a positive impact on affective commitment ($\beta=0.52$, $p=0.00$). This finding resonates with the work of Gaviria, Rivera, Peng, Liao and Sui (2020). As transformational leadership addresses individual development needs and encourages intellectual growth, this stimulates positive attitudes amongst the workforces. When individual needs are addressed by management, employees develop a sense of belonging to the organisation. This triggers high levels of commitment to the organisation and its objectives.

Third, Consistent with the findings of Cho and Kim (2022), organisational climate had a positive impact on affective commitment ($\beta=0.40$, $p=0.00$). A conducive organisational climate is characterised by managerial support, trust, motivating rewards mechanisms, autonomy, and cohesion (McMurray & Scott, 2013). This climate can trigger positive employee attitudes toward the organisation and its goals. Fourth, as hypothesised organisational climate partially mediated the relationship between transformational leadership and affective commitment. ($\beta=0.14$, $p=0.01$). This finding corroborates the work of Kim and Park, (2020) who concluded that organisational climate mediates the relationship between Transformational leadership and various outcomes. A conducive organisational climate enables the leadership to influence the attitudes of the employees positively.

8. Managerial Implications

The mining industry contributes significantly to the South African Gross Domestic Product. This study offers significant implications and recommendations for managers, leaders, and supervisors, specifically

in the industry. This study identifies Transformational leadership as an important ingredient in influencing the attitudes of employees at the workplace. Mine managers are therefore required to gravitate toward Transformational Leadership to change organisations and individuals. This is crucial for the South African Mining industry, especially in the Fourth Industrial Revolution characterized by ever-changing technologies and human resource requirements.

This study reveals the importance of organisation climate in fostering affective commitment amongst employees. Their focus should emphasise the creation of a supportive environment that elicits high levels of effort from employees. As the mining industry is characterised by excessive job demands which may result in job burnout, managers have to create a climate that improves the well-being of employees. This includes the development of motivating reward mechanisms, optimal workloads, application of equitable HR practices and the provision of adequate support. All this can result in improved commitment of employees in the mining industry.

9. Conclusions, Limitations and Future Research

This paper focused on examining the relationship between, transformational leadership, organisation climate and affective commitment. In doing so, the researchers have contributed to the study of important organisational behaviour variables in the South African mining industry context. Transformational Leadership, Organisational Climate and Affective Commitment research work has largely been confined to the public sector. Little is known about these variables in the private sector context, hence this study acts as a solid foundation for future studies. The findings revealed that transformational leadership and organisational climate positively influence affective commitment. This brings to light the critical importance of these variables in business management. This study recommends that mine managers must create supportive climates and adopt transformational leadership styles for the sustainability of their businesses.

The limitations that could be addressed in future research include that the study focused only on South Africa's North West Province. Secondly, the study's research design and method limited the study as the cross-sectional design prevented time-dependent variable changes. The fact that data was gathered using an online questionnaire from participants who were selected through convenience sampling may result in bias. Furthermore, the study sample was limited to one platinum mining company in South Africa's North-West Province. These considerations may limit the generalization of this study's findings to other mining companies. Another limitation was that the measurement instrument used to analyze the variables for this study was customized to fit the study, which could cause bias. However, these measuring scales were chosen to maintain validity and reliability (Pulido-Martos, Gartzia, Augusto-Landa & Lopez-Zafra, 2023:18). This study cannot be generalized to the broader South African mining industry. However, these limitations do not impact the validity of the research findings.

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