




# Transformational leadership influences on work engagement and turnover intention in an engineering organisation



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**Orientation:** This study examined how transformational leadership (TFL) moderates the relationship between work engagement (WE) and perceptions of turnover intention (TI) in an engineering organisation.

**Research purpose:** The study seeks to address the paucity of research on the moderating effect of TFL on the relationship WE and TI in the South African working environment and more specifically in the engineering organisation.

**Motivation for the study:** The engineering sector is an important contributor to the DGP, but faces a skills shortage. Transformational leadership can play a key role in the retention of skills.

**Research approach/design and method:** The study comprised 129 engineers in a South African engineering organisation. The study used a nonexperimental, quantitative research approach, while the population included a convenience nonprobability sample ( $N = 124$ ) of permanently employed engineers in a South African engineering organisation (women = 18%). Perceptions of TFL, WE and TIs were measured, and data were analysed by applying hierarchical moderator regression analysis to predict employee TI from WE in interaction with TFL.

**Main findings:** The results indicate that TFL dimensions, namely idealised influence, inspirational motivation, intellectual stimulation and individualised consideration, moderated the relationship between WE dimensions, namely vigour and dedication and TI. Perceptions of a leader who articulated the organisation's vision, acted as a role model, was inspiring, stimulated creativity and developed followers would enhance employees' levels of energy, dedication and efforts and hence reduce TI.

**Practical/managerial implications:** Transformational leadership is vital for positive employee engagement and employee retention. Leaders should therefore have TFL competencies and be adept in engaging with their followers.

**Contribution/value-add:** This study adds value to the current engineering organisation as well as TFL, WE and TI literature by examining the effects of WE and TI, positing that TFL is a sound moderator in the relationship between the WE and TI.

**Keywords:** transformational leadership; idealised influence; inspirational motivation; intellectual stimulation and individualised consideration; work engagement; turnover intention.

## Introduction

Workforces are critical factors for organisational success in this turbulent and competitive business world, because the workforce influences the efficiency of how work is done. If managed well, effectiveness can be achieved. A high-performing workforce can be realised if the organisation's management can provide conducive conditions and support, one of which refers to policies related to turnover (Manoppo, 2020). Turnover intention often happens in an organisation and can occur as a result of resignation, retrenchment, layoff, dismissal or the death of an employee. Turnover intention refers to a subjective probability that an individual will change their job within a certain period (Price, 2001). Turnover intention can occur because of low employee morale and engagement, an expression of negative attitude towards work that describes a person's negative experiences and emotions that may decrease job satisfaction (Lum, 2018), poor performance (Iqbal et al., 2017), low attachment to the organisation (Haque et al., 2019) and an increasing tendency to exit the organisation (Liu & Liu, 2021). Transformational leadership

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(TFL) is perceived to reduce TI. It has been found to have a strong association with decreased turnover rates, employee commitment, job satisfaction and high organisational performance (Manoppo, 2020). A toxic relationship between leaders and employees has several effects: low level of performance, low work engagement (WE), increased absenteeism and turnover. Previous studies by Takawira et al. (2014) reveal that TFL and WE diminished staff turnover and absenteeism. Park and Piece (2020) declare that TFL negatively affects workers' TI. According to Zhang and Li (2020), TI could be reduced by improving WE. Previous research found that TFL relates to WE (Amor et al., 2020; Nurtjahjani et al., 2021), while WE is associated negatively with TI. Nevertheless, there seems to be a lack of research which examines how transformation leadership moderates the relationship between WE and TI in a South African (SA) engineering organisation.

### South African engineering industry work context

The SA engineering industry contributed 6% to the gross domestic product (GDP) in the first quarter of 2021 (Statistics SA, 2019). Despite this contribution to the GDP, the sector faces a shortage challenge of skilled engineers. According to the South African Institution of Civil Engineering (SAICE) Report (2021), the SA engineering sector lost 1.73% of its members, aged 30–60, as they have been seeking greener pastures and other opportunities in countries such as New Zealand and Australia for the past 3 years. Naresh Pather, president of Consulting Engineer South Africa (CESA), corroborated this by saying that it was concerning that a considerable number of engineers are leaving the industry to seek employment opportunities in more fulfilling economic parts of the globe in related industries (Cokayne, 2019). A survey which Rust et al. (2021) conducted revealed that among 1367 SAICE members, 932 (68%) indicated that they are willing to continue to be a part of the country's labour force. However, aspects such as over-politicisation of infrastructure, a lack of training and development and career paths, under-remuneration, corruption and poor leadership prevent them from remaining in the labour force. All these aspects have led to SA engineers leaving the sector and searching for jobs in more rewarding sectors instead (SAICE Report, 2021). This has cost and affected the country in terms of money and resources to produce world-class engineers, impacting economic growth. Nevertheless, a leader's ability to shape a vision creates a positive organisational culture to influence and engage engineers' performances. This study aimed to examine how TFL leaders moderate the relationship between WE and TI in this unique occupational employment setting.

The study contributes to engineering industry literature in SA in two ways. Firstly, although past research has examined the effects of TFL on WE and TI, the influence of TFL on WE and TI has been relatively overlooked in SA's working environment. Secondly, and more importantly, the moderating role of TFL on the relationship between WE and TI in an SA engineering construction organisation has yet to be explored. This study adds value to the current engineering

organisation as well as TFL, WE and TI literature by examining the moderating effects of TFL in the association between WE and TI. Therefore, this study sought to examine how engineers' perceptions of their TFL moderate their level of WE and TI in an SA engineering organisation.

The article is structured as follows: firstly, the WE, TI and TFL concepts are reviewed; secondly, the hypotheses and framework are developed; thirdly, the research method, procedure and data analysis used to investigate the effects of TFL and the relationship between WE and TI are described; fourthly, the study's findings are presented; fifthly, the study's findings and its practical implications are discussed, while limitations and guidelines for future research are outlined; and finally, the study is concluded.

### Theoretical perspectives and hypotheses

Social exchange theory (SET) (Blau, 1964) and resource-based theory (Coase, 1937) (RBT) were used to understand the effect of TFL on the association between WE and TI. Social exchange theory expounds on the social behaviour and interaction between motivated individuals to receive rewards for what they give up. According to Blau (1964), individuals' actions are enthused and stirred by what they anticipate and presume to achieve or attain from a relationship in which they have been placed. The SE theories base the exchange relationships on trust. For example, employees of TF leaders feel obliged to reciprocate to their leaders because of the trust and respect they possess for their leader. A trust relationship is a positive driver of individual behaviour and attitudes (Stafford & Kuiper, 2015). In practice, employees may perceive that their TF leaders communicate the vision, act as role models, display ethical morals, are problem solvers and create a good working environment. They tend to be engaged in their work tasks and have less intent to quit (Sow et al., 2016). Thus, the RBT can be traced back to early research by Coase (1937) and Williamson (1975). The RBT argues that an organisation should refrain from achieving strategic fit with the external environment but aim to maximise their internal resources to create future opportunity (Kozlenkova et al., 2014). This theory assumes that the core competencies in the organisation are unique; employees are viewed as an investment and not a cost, and learning, knowledge sharing, innovation and involvement in decision-making are encouraged (Wright et al., 2011). In reality, RBT focuses on rewarding workers by defined rules, principles and culture, which may assist the organisation in having quality, talented, and able employees who can connect successfully with their TFL, be engaged and not leave.

### Work engagement

Work engagement has emerged as an essential concept in the literature for the past two decades (Albrecht, 2010; Mitonga-Monga, 2018; Saks & Gruman, 2011). It is perceived as a critical factor that enhances employee performance and

organisational growth (Saks & Gruman, 2011). Work-engaged employees are likely to show fewer harmful organisational behaviours such as absenteeism and intention to leave (Runhaar et al., 2013). In contrast, they are likely to be physically and emotionally connected to their work, motivated and eager to develop their work-related skills and knowledge (Al Zaabi et al., 2016). Work engagement is conceptualised as an individual's psychological and physical presence at work (Kahn, 1990), an antithesis of burnout (Maslach & Leiter, 1997; Schaufeli et al., 2002) and owing to organisational support (Saks, 2006).

Kahn (1990) describes engagement as harnessing organisation members' selves to their work roles. Engaged people employ effort and express themselves physically, cognitively and emotionally in their tasks. Schaufeli et al. (2002) defined WE as a positive, fulfilling, work-related state of mind characterised by vigour, dedication and absorption. Vigour is characterised by a high level of energy, mental resilience while working, the willingness to invest effort in one's work and persistence in the face of adverse situations. A sense of significance characterises dedication, enthusiasm, inspiration, pride and challenges; and absorption is characterised by being fully and happily engrossed, immersed in one's work, whereby time passes quickly to the extent that one finds it difficult to detach from work (Schaufeli & Bakker, 2004).

Conversely, Maslach and Leiter (1997) perceive WE to be the opposite of burnout. These authors argue that burnout comprises three components: mental exhaustion, cynicism and reduced professional efficacy. Burned-out workers are likely to be energy depleted, exhausted, uninvolved and ineffective, while work-engaged employees are involved, enthusiastic and energised at work. Thus, engaged individuals are characterised by high levels of energy, involvement instead of cynicism and self-efficacy instead of inefficacy (Al Zaabi et al., 2016). Briefly, WE is seen as a positive side of workers' involvement at work, while burnout is considered to be negative. Maslach and Leiter's (1997) contribution was that they used the same instrument to measure engagement and burnout, which complicated the empirical research in respect of the association between both constructs (Schaufeli et al., 2002).

Work engagement is an essential aspect for organisations, because it has many positive outcomes, including a significant influence on both employees and organisations (Mitonga-Monga & Cilliers, 2015). Work-engaged employees are psychologically, physically and emotionally connected to the organisation, working towards achieving organisational goals, leading to positive work-related outcomes such as reduced absenteeism and intention to leave. Saks (2006) found that WE negatively related with absenteeism. Additionally, Lacap (2020) found that WE influences employees' propensity to leave, and he believes that by encouraging behaviours that increase productivity, they may lessen employees' intents to quit the organisation (Lacap, 2020).

## Turnover intention

Turnover intention refers to an individual's premeditated desire to leave an organisation (Tett & Meyer, 1993). It results from a psychological state of alienation from one's job or organisation (Hoole, 1997). It is also perceived as an individual considering quitting and seeking new employment opportunities elsewhere (Cicek et al., 2021). Because TI is described as a wish to exit the organisation for greener pastures or better opportunities, intention to leave is the phase immediately before vacating, mostly considered to be the intention to leave the employer organisation in the next 6 months (Rubenstein et al., 2019). Hussain et al. (2020) assert that employees who intend to leave generally tend to demonstrate actual exiting behaviours. There might be several reasons for employees leaving the organisation, which include retirement, layoff, family and health problems, as well as opportunities for better wages or salaries, increased respect and improved working conditions (Cicek et al., 2021; Dysvik & Kuvaas, 2010; Hoole, 1997). Based on the existing literature and meta-analysis, which covers studies within 25 years, Fried et al. (2008) assert that stress is associated with work performance and indirectly influences employees' likelihood to quit.

Furthermore, employees' disengagement, job dissatisfaction and negative perceptions of supervisors at work were the most probable consequences of employee TI or, in other words, WE, leadership and job satisfaction have an inverse relationship with TI (Hussain et al., 2020; Memon et al., 2014). Employee TI is detrimental and costly for organisations, as it jeopardises their strategic choices and competitiveness, resulting in additional expenses to hire, recruit and train new staff members (Shibiti, 2019). Organisations can lessen intention to leave by employing leaders with transformational competencies, who can share and create an ethical climate (Memon et al., 2014) and an organisational learning culture (Hussain et al., 2020) and provide fair human resource practices that may lower TI among staff members.

## Transformational leadership

Transformational leadership refers to an individual's leadership that improves morale and increases employee motivation and commitment towards the organisation's goals, values and objectives. Transformational leadership is a style that establishes direction, aligns followers and motivates and inspires them to use innovative ideas to carry out their duties (Gyensare et al., 2016). Transformational leaders are individuals who produce high levels of dramatic change and who work well in complex organisations that need significant shifts (Park & Pierce, 2020). Transformational leaders are role models and exemplary individuals who encourage, motivate, empower and care about their staff members' well-being (Nurtjahjani et al., 2021). A fundamental principle among transformational leaders is to encourage their followers to use discretionary power to surpass standard performance levels (Gyensare et al., 2016). Transformational leadership is defined by inspirational motivation, idealised influence, intellectual stimulation and individualised consideration

(Avolio, 1999; Bass & Avolio, 1994). Inspirational motivation refers to how TF leaders motivate others (followers) by communicating expectations and inspiring them to prioritise the organisation's interests above their individual interests. Idealised influence refers to TF leaders' behaviours such as being role models, displaying high ethical and moral conduct and articulating the organisation's vision. Intellectual stimulation refers to how TF leaders encourage creative and innovative ideas, while problem-solving skills and individualised consideration refer to the extent to which TF leaders engage in developing followers and create a supportive work environment. Thus, work-engaged employees who perceive their TF leaders to hold high expectations behave as role models, empower them to contribute novel ideas and display genuine care by recognising their individual needs; they are also satisfied with the ethicality of their TF leaders (Hakim & Ibrahim, 2017) and hence lower their TI (Lum, 2018). However, with abusive or hostile leadership, employees may distrust, be less engaged in achieving the organisational goals and portray a high propensity to leave the organisation.

### Transformational leadership, work engagement and turnover intention relationships

Researchers have been exploring the link between TFL, WE and TI (Amor et al., 2019; Breevaart & Bakker, 2018). Several studies show that leadership style is a prominent variable that drives employees to engage, perform and deter their propensity to leave the employer organisation (Mitonga-Monga, 2020). For example, Sow et al.'s (2016) study found that TFL relates positively to employees' WE. Transformational leadership predicts WE and creates empowering working conditions that motivate employees to achieve organisational goals (Amor et al., 2019; Nurtjahjani et al., 2021). Positive perceptions of TFL relate to a high level of WE, while negative perceptions relate to TI. Employees who perceive their TF leader to be a role model, ethical, empowering and caring for their well-being will likely demonstrate a high level of WE, lessening their intention to leave the organisation. However, if employees are not happy with their leader's behaviours and mistrust him or her, they will likely increase their TI (Hakim & Ibrahim, 2017). A study by Amankwaa and Anku-Tsede (2015) and Lum (2018) revealed that WE relates negatively to TI. Work-engaged employees who are enthusiastic, proud, energetic and engrossed in their work are likely to lessen their desire to leave the organisation (Xiong & Wen, 2020). Ghazawy (2021) examined the effect of WE on TI and found that WE reduced TI. A regression analysis showed that WE has a significant effect on employees' intention to leave the employer organisation. Thus, the researchers hypothesised that WE relates negatively with TI:

H<sub>1</sub>: WE relates significantly and negatively with TI.

### Moderating role of transformational leadership

Previous studies have confirmed that TFL predicts WE (Amor et al., 2019; Martinez et al., 2020; Nurtjahjani et al., 2021) and negatively affects TI (Sun & Wang, 2017). In

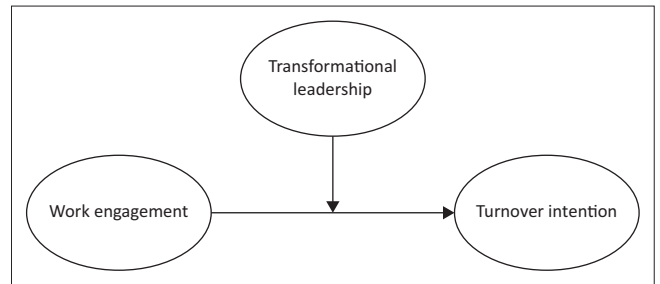


FIGURE 1: Proposed theoretical model.

contrast, limited readings have examined the moderating effect of TFL in the association between WE and TI. Martinez et al. (2020) believe that positive leaders' behaviours such as motivation, creativity and clear vision may increase employees' level of engagement and decrease their likelihood to exit the organisation. Gyensare et al. (2016) and Dutu and Butucescu (2019) found that TFL predicted WE positively and that it predicts TI negatively. The authors argue that when leaders use their motivational skills and support and encourage innovation and creativity, they create or promote employees' positive attitudes and behaviours. There is also evidence that TFL impacts WE positively, resulting in reduced TI (Larkin, 2017). Therefore, one may hypothesise that TFL moderates the relationship between WE and TI:

H<sub>2</sub>: TFL will moderate the relationship between WE and TI.

### Goal of the study

The TI has been shown to influence costs to the organisation directly and indirectly, including recruitment and selection costs and costs to train new staff (Lum, 2018). The empirical study on the antecedents of TI in developing countries such as South Africa is well documented. However, the way in which TFL affects the relationship between WE and TI in a SA engineering industry is still unknown. Therefore, the purpose of this study was to examine the moderating effect of TFL in the relationship between WE and TI. Based on the study's conceptual model (see Figure 1), the specific research question is as follows: how does TFL moderate the relationship between WE and TI?

To address this question, the following hypotheses were formulated:

H1: WE relates to TI significantly and negatively.

H2: TFL relates to WE significantly and positively.

H3: TFL moderates the relationship between WE and TI.

## Method

### Respondents and setting

A convenience sampling technique was used on a sample of 129 ( $n = 129$ ) engineers in a South African organisation who fully participated in this study. Among the respondents, 81.4% were men, and 17.8% were women. Most respondents were between the age groups 35 and 44 (37.2%), and the least were

**TABLE 1:** Demographic variables.

Variable	Participant attributes	Frequency	%
Gender	Female	105	81.4
	Male	23	17.8
Age (years)	18–24	2	1.6
	25–34	39	30.2
	35–44	48	37.2
	45–54	24	18.6
	55–64	16	12.4
Education level	Matric	45	34.9
	Diploma	67	51.9
	Bachelor's degree	9	7.0
	Honours	6	4.7
Tenure	Master's degree	2	1.6
	Less than 1–5 years	70	54.3
	6–10 years	25	19.4
	11–20 years	25	19.4
	21–25 years	2	1.6
Work experience	26 + years	4	2.3
	0–5 years	77	59.7
	6–10 years	50	38.8
	11–20 years	2	1.6

between 18 and 24 (1.6%). Most respondents held a diploma (51.9%), and few held a master's degree (1.6%). The largest number of respondents had 1–5 years' tenure, while the lowest number of respondents (1.6%) had 21–25 years' tenure. Lastly, most respondents had 0–5 years of experience (59.7%), and the minority had 11–20 years of experience (1.6%). The demographic variables of the respondents are depicted in Table 1.

## Measuring instruments

The participants completed a biographical and demographical survey, as well as the following instruments: the Multifactor Leadership Questionnaire (MLQ: Bass & Avolio, 1994), the Utrecht Work Engagement Scale (UWES: Schaufeli et al., 2002) and the Turnover Intention Scale (TIS: Mitchell et al., 2001). The psychometrics of these measurements are described below.

The UWES is a nine-item measure in the self-reported instrument, measuring vigour, dedication and absorption. The UWES uses a seven-point Likert scale (0 = never; 6 = every day). Example items from the measure include the following: 'At my work, I feel bursting with energy'; 'I am enthusiastic about my job'; and 'I get carried away when I'm working'. The UWES has evidenced internal consistency reliability alpha coefficients, ranging from 0.79 to 0.89 (Schaufeli et al., 2002). This study obtained a Cronbach's alpha coefficient ranging from 0.75 to 0.83 for the UWES.

The TIS is a three-item measure of participants' perceptions of whether to stay or leave the organisation, scored on a six-point Likert scale (0 = never, very satisfying or highly unlikely; 5 = always, dissatisfying or highly likely). Example items from the measure include: 'I intend to leave the company in the next 12 months'. For the TIS scale, Halbesleben and Wheeler (2008) report an internal consistency (Cronbach's

alpha) ranging from 0.88 to 0.91. This study obtained a Cronbach's alpha coefficient of 0.67 for the TIS.

The MLQ is a self-reported measure of participants' perceptions of their TF leaders' behaviours in four dimensions, namely leaders' idealised influence, intellectual stimulation, inspirational motivation and individualised consideration. The MLQ items are scored on a six-point Likert scale that ranges from 0 = not at all to 5 = frequently. Example items from the questionnaire include the following: 'Others have complete faith in me'; 'I give personal attention to others who seem rejected'; 'Express with a few simple words what we could and should do'; and 'I enable others to think about old problems in new ways'. In terms of the MLQ, Bass and Avolio (1994) report a Cronbach's alpha coefficient that ranges from 0.70 to 0.83. This study obtained a Cronbach's alpha coefficient ranging from 0.79 to 0.89 for the MLQ.

## Procedure

Permission to conduct the study was obtained from the Higher Degree Ethics Committee at the University of Johannesburg (reference number IPPM-2020-414[M]) and the engineering organisation which participated in the study. The respondents consented to participate in the survey electronically after receiving written information about the purpose of the study and its voluntary nature. The researcher assured the participants of the confidentiality and anonymity of their responses. The participants received a Google Forms link (Alphabet, Inc., Mountain View, California, United States), and they were asked to complete the survey during working hours.

## Data analysis

The study analysed the data using the Statistical Package for the Social Sciences (SPSS) software, version 27 (IBM Corporation, Armonk, New York, United States) (IBM SPSS, 2022). In the first stage, a confirmatory factor analysis determined the factorial structure in the first stage. A Kaiser-Meyer-Olkin (KMO) measure of sampling accuracy value > 0.50, factor loading from 0.6 and higher and an eigenvalue of 1 were employed while computing the CFA using varimax. The researchers decided to consider only factors loading from 0.60 (Hair et al., 2019).

The data distribution was evaluated by the researchers using skewness and kurtosis, and items that did not reach the cut-off values were excluded from further study. Skewness and kurtosis have threshold values of < 2 and < 4, respectively (Finch & West, 1997).

Item analysis was used to determine the reliability (Cronbach's alpha coefficients). Cronbach alpha coefficients were calculated to measure the reliability of the scale. According to the Hair et al. (2019), a Cronbach alpha coefficient of 0.70 may be regarded as an acceptable measure to support internal consistency reliability. However, scholars such as Hulin et al. (2001) indicated that an alpha coefficient threshold between

0.60 and 0.70 could be acceptable for research purposes (Cohen, 1992). The skewness and kurtosis scores were examined to evaluate the distribution of the data, and items that did not meet the cut-off points were discarded from further analysis. The cut-off scores for skewness and kurtosis are both  $< 2$  and  $< 4$ , respectively (Finch & West, 1997).

In the second stage, the descriptive statistics were calculated to determine the mean and standard deviations. In the third stage, correlation analysis was conducted to determine the relationship between the variables. In the fourth stage, hierarchical moderator regression analysis was computed to determine if TFL moderates the relationship between WE and TI. Prior to conducting the moderator regressions, a collinearity diagnosis was performed to ensure that zero-order correlations were below the rule of thumb ( $r \geq 0.80$ ), that the variance inflation factors did not exceed 10 and that the tolerance values were close to 1 (Hair et al., 2019). A simple slope test was conducted for the value of the moderator at the  $-1$  standard deviation (SD) mean  $+ 1$  SD, as well as standard deviations above and below the mean to explore the interactions (Hair et al., 2019). The significant value was set at the 95% confidence interval level ( $p \leq 0.05$ ) to counter the probability of type I errors. For this study, the practical significance of  $R^2$  values was determined by calculating effect sizes ( $f^2$ ).

## Ethical considerations

Ethical clearance was obtained from the ethical clearance committee of the University of Johannesburg (ref. no. IPPM-2020-414[M]).

## Results

### Confirmatory factor analysis

Principal component analysis and varimax rotation were used to determine the factorial structure and reliability of the study's constructs. As shown in Table 1, KMO index values were 0.785 for inspirational motivation, 0.813 for intellectual stimulation, 0.871 for idealised influence, 0.872 for individual consideration, 0.709 for vigour, 0.708 for dedication, 0.676 for absorption and 0.617 for TI. As indicated in Table 2, eigenvalues were above  $> 1$  for all the study's constructs, and all the factor loadings were above 0.60 (Hair et al., 2019). Table 1 shows that the Cronbach's alpha coefficients ranged from 0.67 to 0.83.

### Descriptive statistics and correlation analysis

Table 3 presents the descriptive statistics of the study's variables. As shown in Table 3, the mean scores ranged from ( $M = 2.28$  to  $M = 4.15$ ). As shown in Table 3, the participants obtained high mean scores for individualised consideration ( $M = 3.83$ ;  $SD = 0.68$ ), followed by inspirational motivation ( $M = 3.70$ ;  $SD = 0.70$ ) and total TFL ( $M = 3.70$ ;  $SD = 0.38$ ), respectively, and then idealised influence ( $M = 3.68$ ;  $SD = 0.80$ ), while the lowest mean score was recorded for intellectual stimulation ( $M = 3.58$ ;  $SD = 0.79$ ). In terms of WE, participants obtained a relatively high mean score for vigour

**TABLE 2:** Confirmatory factor analysis: Transformational leadership, work engagement and turnover intention ( $N = 124$ ).

Items	Components								$\alpha$
	IM	IS	II	IC	VI	DE	AB	TI	
TL1	0.830	-	-	-	-	-	-	-	0.79
TL2	0.760	-	-	-	-	-	-	-	
TL3	0.720	-	-	-	-	-	-	-	
TL4	0.718	-	-	-	-	-	-	-	
TL5	0.646	-	-	-	-	-	-	-	
TL6	-	0.838	-	-	-	-	-	-	0.86
TL7	-	0.815	-	-	-	-	-	-	
TL8	-	0.804	-	-	-	-	-	-	
TL9	-	0.783	-	-	-	-	-	-	
TL10	-	0.738	-	-	-	-	-	-	
TL11	-	-	0.891	-	-	-	-	-	0.89
TL12	-	-	0.877	-	-	-	-	-	
TL13	-	-	0.837	-	-	-	-	-	
TL14	-	-	0.803	-	-	-	-	-	
TL15	-	-	0.737	-	-	-	-	-	
TL16	-	-	-	0.874	-	-	-	-	0.87
TL17	-	-	-	0.832	-	-	-	-	
TL18	-	-	-	0.822	-	-	-	-	
TL19	-	-	-	0.801	-	-	-	-	
TL20	-	-	-	0.704	-	-	-	-	
WE1	-	-	-	-	0.893	-	-	-	0.83
WE2	-	-	-	-	0.858	-	-	-	
WE3	-	-	-	-	0.841	-	-	-	
WE4	-	-	-	-	-	0.865	-	-	0.81
WE5	-	-	-	-	-	0.857	-	-	
WE6	-	-	-	-	-	0.823	-	-	
WE7	-	-	-	-	-	-	0.845	-	0.75
WE8	-	-	-	-	-	-	0.826	-	
WE9	-	-	-	-	-	-	0.771	-	
TI1	-	-	-	-	-	-	-	0.776	0.67
TI2	-	-	-	-	-	-	-	0.752	
TI3	-	-	-	-	-	-	-	0.651	
<b>Eigenvalues</b>									
% of variance	54.36	63.43	68.98	69.02	74.68	72.02	66.35	39.20	-
Cronbach's alpha coefficients	0.79	0.86	0.89	0.87	0.83	0.81	0.75	0.67	-

WE, work engagement; TI, turnover intention; TL, transformational leadership; IM, inspirational motivation; IS, intellectual stimulation; II, idealised influence; IC, individualised consideration; VI, Vigour; DE, dedication; AB, absorption.

( $M = 4.15$ ;  $SD = 0.78$ ), followed by overall WE ( $M = 3.93$ ;  $SD = 0.68$ ), then absorption ( $M = 3.83$ ;  $SD = 0.77$ ) and the lowest mean score for dedication ( $M = 3.80$ ;  $SD = 0.88$ ). In respect of TI, participants obtained lowest mean score ( $M = 2.28$ ;  $SD = 0.91$ ) variables.

### Relating transformational leadership, work engagement and turnover intention

Table 3 illustrates that inspiration motivation related positively with vigour ( $r = 0.71$ ; large effect size,  $p \leq 0.05$ ), dedication ( $r = 0.75$ ; large effect size,  $p \leq 0.05$ ) and absorption ( $r = 0.66$ ; large effect size,  $p \leq 0.05$ ). Inspirational motivation related negatively with TI ( $r = -0.49$ ; medium effect size,  $p \leq 0.05$ ). Table 3 shows that intellectual stimulation related positively with vigour ( $r = 0.62$ ; large effect size,  $p \leq 0.05$ ), dedication ( $r = 0.66$ ; large effect size,  $p \leq 0.05$ ) and absorption ( $r = 0.57$ ; large effect size,  $p \leq 0.05$ ). Intellectual stimulation related negatively with TI

**TABLE 3:** Descriptive statistics, correlations.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
Overall TL	3.70	0.68	1	0.92***	0.94***	0.94***	0.87***	0.83***	0.69***	0.74***	0.65***	-0.51***
Inspirational motivation	3.70	0.70	-	1	0.80***	0.86***	0.75***	0.84***	0.71***	0.75***	0.66***	-0.49**
Intellectual stimulation	3.58	0.79	-	-	1	0.86***	0.77***	0.73***	0.62***	0.66***	0.57***	-0.42**
Idealised influence	3.68	0.80	-	-	-	1	0.71***	0.72***	0.69***	0.59***	0.54***	-0.48**
Individualised consideration	3.83	0.68	-	-	-	-	1	0.78***	0.56***	0.75***	0.65***	-0.45**
Overall WE	3.93	0.68	-	-	-	-	-	1	0.84***	0.85***	0.84***	-0.50***
Vigour	4.15	0.78	-	-	-	-	-	-	1	0.55***	0.59***	-0.36**
Dedication	3.80	0.88	-	-	-	-	-	-	-	1	0.56***	-0.46**
Absorption	3.83	0.77	-	-	-	-	-	-	-	-	1	-0.44**
Turnover intention	2.28	0.91	-	-	-	-	-	-	-	-	-	1

Note:  $N = 124$ . \*\*\*,  $p \leq 0.001$ ; \*\*,  $p \leq 0.01$ ; \*,  $p \leq 0.05$ . +,  $r \geq 0.10$  (small effect); ++,  $r \geq 0.30 \geq r \leq 0.49$  (medium effect); +++,  $r \geq 0.50$  (large effect). WE, work engagement; TL, transformative leadership; SD, standard deviation.

**TABLE 4:** Moderating effect of transformational leadership on the relationship between work engagement (vigour and dedication) and turnover intention ( $N = 124$ ).

Variable	<i>B</i>	<i>SE<sub>B</sub></i>	<i>t</i>	<i>p</i>	95% Confidence interval		<i>R</i>	<i>R</i> <sup>2</sup>
					LLCI	ULCI		
<b>TI</b>								
Constant	6.19	3.67	1.69	0.09	-1.08	13.46	0.51	0.26
Vigour	0.49	0.31	1.56	0.12	-0.13	1.10	-	-
Individualised consideration	0.19	0.25	0.79	0.43	-0.29	0.68	-	-
Interaction vigour * Individualised consideration	-0.04	0.02	-2.04	0.04	-0.08	-0.00	-	-
<b>TI</b>								
Constant	5.18	3.25	1.60	0.11	-1.24	11.61	0.53	0.28
Dedication	0.50	0.31	1.64	0.10	-0.11	1.12	-	-
Idealised influence	0.32	0.20	1.59	0.11	-0.08	0.71	-	-
Interaction dedication * Idealised influence	-0.04	0.02	-2.80	0.01	-0.08	-0.01	-	-
<b>TI</b>								
Constant	6.20	2.88	2.15	0.03	0.50	11.90	0.52	0.27
Dedication	0.30	0.27	1.09	0.28	-0.24	0.84	-	-
Inspirational motivation	0.31	0.19	1.69	0.09	-0.05	0.68	-	-
Interaction dedication * Inspirational motivation	-0.04	0.2	-2.56	0.01	-0.7	-0.1	-	-
<b>TI</b>								
Constant	6.70	3.73	1.80	0.8	-0.69	14.09	0.53	0.28
Dedication	0.44	0.34	1.28	0.20	-0.24	1.11	-	-
Intellectual stimulation	0.20	0.24	0.86	0.39	-0.26	0.67	-	-
Interaction dedication * Intellectual stimulation	-0.4	0.02	-0.20	0.04	-0.8	-0.0	-	-

TI, turnover intention; LLCI, lower-level confidence interval; ULCI, upper-level confidence interval.

( $r = -0.42$ ; medium effect size,  $p \leq 0.05$ ). Table 2 indicates that idealised influence related positively with vigour ( $r = 0.69$ ; large effect size,  $p \leq 0.05$ ), dedication ( $r = 0.59$ ; large effect size,  $p \leq 0.05$ ) and absorption ( $r = 0.54$ ; large effect size,  $p \leq 0.05$ ). Idealised influence related negatively with TI ( $r = -0.48$ ; medium effect size,  $p \leq 0.05$ ). Table 3 shows that individual consideration related positively with vigour ( $r = 0.56$ ; large effect size,  $p < 0.05$ ), dedication ( $r = 0.75$ ; large effect size,  $p \leq 0.05$ ) and absorption ( $r = 0.65$ ; large effect size,  $p \leq 0.05$ ). Inspirational motivation related negatively with TI ( $r = -0.45$ ; medium effect size,  $p \leq 0.05$ ).

### Effects on turnover intention

As indicated in Table 4, in terms of the main effects, individualised consideration did not act as a predictor of TI,

since ( $F [3; 123] = 14.22$ ;  $p \geq 0.05$ ), ( $B = 0.19$ ;  $SE_B = 0.25$ ; 95% CI =  $[-0.29; 0.68]$ ;  $p = 0.43$ ). This denotes that individualised consideration was not associated with a decrease in percentage of TI. Furthermore, vigour did not act as a predictor of TI, since ( $F [3; 123] = 14.22$ ;  $p \geq 0.05$ ), ( $B = 0.49$ ;  $SE_B = 0.31$ ; 95% CI =  $[-0.13; 1.10]$ ;  $p = 0.12$ ). This indicates that vigour was not associated with a decrease in percentage of TI. The above was found after exploring an interaction, using values of the moderator at the mean, as well as the standard deviations above and below the mean (Hair et al., 2019).

As shown in Table 3, individualised consideration acts as a moderator in the relationship between vigour and TI, since ( $F [3; 123] = 14.22$ ;  $p \leq 0.05$ ), ( $B = -0.04$ ;  $SE_B = 0.02$ ; 95% CI =  $[-0.08; -0.00]$ ;  $p \leq 0.05$ ). Data are presented graphically in Figure 2.

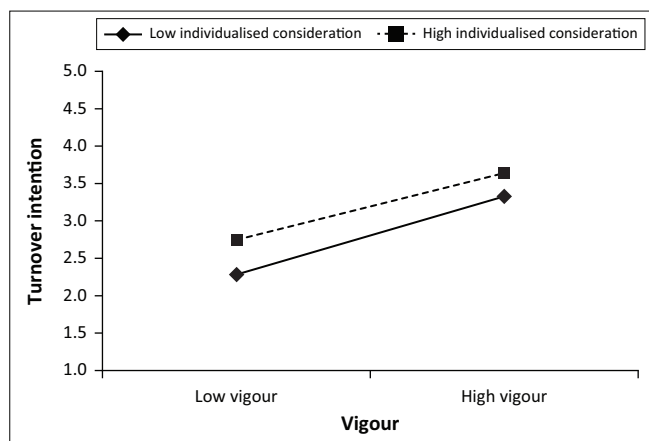


FIGURE 2: Interacting effect between individualised consideration, vigour and turnover intention.

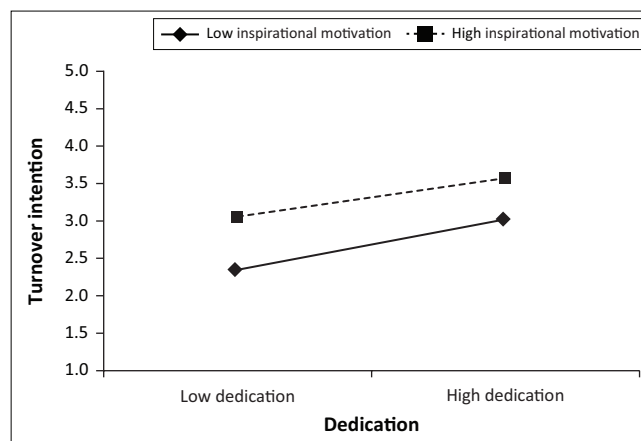


FIGURE 4: Interacting effect between inspirational motivation, dedication and turnover intention.

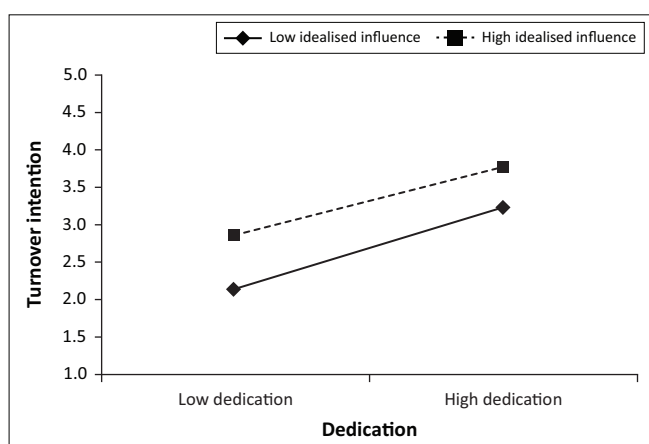


FIGURE 3: Interacting effect between idealised influence, dedication and turnover intention.

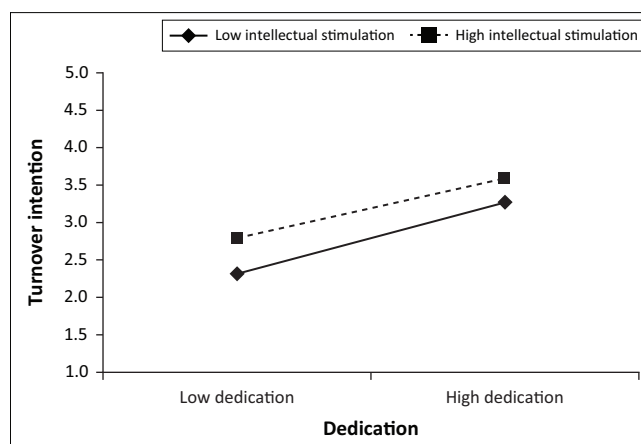


FIGURE 5: Interacting effect between intellectual stimulation, dedication and turnover intention.

As indicated in Table 4, in terms of main effects, idealised influence did not act as a predictor of TI, since ( $F [3; 123] = 15.83; p \leq 0.05$ ) and ( $B = 0.32; SE_B = 0.20; 95\% CI = [-0.08; 0.71]; p = 0.11$ ). This denotes that idealised influence was not associated with a decrease in percentage of TI. Furthermore, dedication did not act as a predictor of TI, since ( $F [3; 123] = 15.83; p \leq 0.05$ ) and ( $B = 0.50; SE_B = 0.31; 95\% CI = [-0.11; 1.12]; p = 0.10$ ).

This indicates that dedication was not associated with a decrease in the percentage of TI. As shown in Table 3, idealised influence acts as a moderator in the relationship between dedication and TI, since ( $F (3; 123) = 15.83; p \leq 0.05$ ) and ( $B = -0.04; SE_B = 0.02; 95\% CI = [-0.08; 0.01]; p = 0.01$ ). Data are presented graphically in Figure 3.

As indicated in Table 4, in terms of the main effects, inspirational motivation did not act as a predictor of TI, since ( $F [3; 123] = 15.09; p \leq 0.05$ ) and ( $B = 0.31; SE_B = 0.19; 95\% CI = [0.05; 0.68]; p = 0.10$ ). This denotes that inspirational motivation was not associated with a decrease in percentage of TI. Furthermore, dedication did not act as a predictor of TI, since ( $F (3; 123) = 15.09; p \leq 0.05$ ) and ( $B = 0.30; SE_B = 0.27; 95\% CI = [-0.24; 0.84]; p = 0.28$ ). This indicates that dedication was not associated with a decrease in

percentage of TI. This was found after exploring an interaction, using values of the moderator at the mean, as well as the standard deviations above and below the mean (Hair et al., 2019). As shown in Table 4, inspirational motivation acts as a moderator in the relationship between dedication and TI, since ( $F (3; 12) = 15.09; p \leq 0.05$ ) and ( $B = -0.04; SE_B = 0.02; 95\% CI = [-0.07; -0.01]; p = 0.01$ ). Data are presented graphically in Figure 4.

As indicated in Table 4, in terms of the main effects, intellectual stimulation did not act as a predictor of TI, since ( $F [3; 123] = 16.14; p \leq 0.05$ ) and ( $B = 0.20; SE_B = 0.24; 95\% CI = [-0.26; -0.67]; p = 0.39$ ). This proves that intellectual stimulation was not associated with a decrease in percentage of TI. Furthermore, dedication did not act as a predictor of TI, since ( $F [3; 123] = 16.14; p \leq 0.05$ ) and ( $B = 0.44; SE_B = 0.34; 95\% CI = [-0.24; 1.11]; p = 0.20$ ). This indicates that dedication was not associated with a decrease in percentage of TI. This was found after exploring an interaction, using values of the moderator at the mean, as well as the standard deviations above and below the mean (Hair et al., 2019). As shown in Table 4, intellectual stimulation acts as a moderator in the relationship between dedication and TI, since ( $F (3; 123) = 16.14; p \leq 0.05$ ), ( $B = -0.4; SE_B = 0.02; 95\% CI = [-0.8; -0.0]; p = 0.04$ ). Data are presented graphically in Figure 5.



## Discussion

This study examined whether TFL moderates the relationship between WE and TI. The results showed a significant positive relationship between TFL and WE variables; moreover, employees' perceptions of TFL and WE are negatively associated with TI. Furthermore, idealised influence, inspirational motivation, intellectual stimulation and individualised consideration moderated the relationship between vigour, dedication and TI. When an employee's score for the transformational variable was high, their self-reported vigour or dedication and TI were low. These findings are consistent with previous studies that reported that transformational leaders are crucial for exhibiting energising emotions to arouse similar emotional states among their employees (Amor et al., 2019; Avolio, 1999; Nurtjahjani et al., 2021), which eventually decreases TI (Lum, 2018; Nurtjahjani et al., 2021). The findings are likely to be explained by the fact that when employees perceive their leaders to articulate the organisation's vision, motivate them, encourage their creativity and support them, then this results in employees displaying energy, enthusiasm and pride in their work while immersing themselves in their daily tasks (higher level WE) (Amor et al., 2019; Breevaart & Bakker, 2018; Nurtjahjani et al., 2021), and resulting in low TI (Lum, 2018; Park & Pierce, 2020).

Employees who perceive their leaders to behave as role models, care about their well-being, hold high expectations, communicate a clear vision, encourage and empower them to innovate will likely be engaged in their work and contribute towards organisational performance. This, in turn, could decrease TI and absenteeism (Caillier, 2016; Goler et al., 2018; Perko et al., 2016). The results show that leaders' behaviours such as idealism, inspiration and intellect influence WE and TI. This implies that positive perceptions of their leaders' characteristics, which include leading by example, displaying charisma and inspiring them to achieve more than expected, may result in employees being proud, enthusiastic and determined to engage, thereby lessening their voluntary quitting intentions. These findings are consistent with the previous studies of Amor et al. (2019) and Martinez et al. (2020), which found that employees, through positive leadership, engaged in work routines. Transformational leadership perceptions would moderate TI behaviours from perceptions activation, and alertness attentiveness by leaders (Park & Pierce, 2020), motivating them to be involved in their work (Mitonga-Monga, 2020).

Employees with low TIs may perceive their leaders to care about their well-being and act in their best interests, which will motivate them to perform and remain with the employer organisation (Amankwaa & Anku-Tsede, 2015). Employees are more likely to be engaged and perform better in their jobs when they believe their leaders are role models, have high standards, convey a clear vision, give them influence and care about their well-being. This could, in turn, reduce absenteeism and turnover intent (Caillier, 2016; Goler et al., 2018; Perko et al., 2016). The results show that transformational leaders (i.e. idealised, inspirational and intellectual) influence

dedication. This implies that when employees perceive their leader to lead by example and display charismatic behaviours, inspiring them to achieve more than expected, it will likely result in them being proud, enthusiastic and determined to be engaged, thereby lessening their voluntary quitting intentions. These findings correspond with those of previous studies by Caillier (2016) and Park and Pierce (2020), which found that employees engaged in work routines through positive leadership. Employees with low TIs may perceive their leaders to care about their well-being and act in their best interests, which will motivate them to perform and remain with the employer organisation (Park & Pierce, 2020).

## Implications for human resource practices

Scholars and practitioners strive to understand how supervisors' TFL relates to their employees' WE and TI in skills shortage and retention (Park & Pierce, 2020). These findings suggest that organisations should have leaders with exceptional TFL competencies to retain employees who are work engaged and skilled. Furthermore, the results, proving that TFL (individualised consideration, Idealised influence, inspirational and intellectual stimulation) moderates the relationship between vigour and dedication WE and TI, suggest that training leaders to be more transformational may provide meaningful returns in investment (Walumbwa & Hartnell, 2011) and improve employee retention. Consistent with Gyensare et al. (2016), the study's authors suggest that engineering industries should put more effort into retaining their leaders, while encouraging them to be dedicated and improve their mutual relationship with followers, as seen in the core concept of SET. This will help engineering industries to retain employee talents and skills (Gyensare et al., 2016). Therefore, decreasing employees' TI through TFL perceptions with WE has copious positive effects on organisations.

## Limitations and future direction

This study contains strengths and weaknesses. Firstly, the study was conducted in one sector, namely the engineering industry in South Africa. Hence, the findings were unrepresentative of those in other sectors. Secondly, the study investigates only the influence of TFL perceptions on the relationship between WE and TI. At the same time, other related variables were excluded, such as job security, compensation, human resource practices, organisational culture and organisational climate. Future research should explore the effects of other leadership theories, human resource practices, corporate culture and corporate climate on the relationship between WE and certain other work-related outcomes. Furthermore, combined methods could be used to gather data to explore and understand the lived TFL experiences by employees with WE in various industries.

## Conclusion

This study examined the moderating effect of TFL on the relationship between employees' WE and TI in the South

African engineering industry. The findings indicate that employees' perceptions of their transformational leaders' behaviours influence their perceptions of WE and their TI. These findings suggest a need for organisations to strive to develop transformative leaders' competencies. The resulting outcomes for the employer organisation would be likely with leaders that encourage employees to be work engaged and to perform, which would encourage them to lessen their intent to quit.

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### Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

### Authors' contributions

T.N. was the main author; J.M.-M. was the supervisor and co-author; C.H. was the collaborator, co-author and corresponding author.

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### Data availability

The data that support the findings of this study are available on request from the corresponding author.

### Disclaimer

The views and opinions expressed in this article are those of the authors and do not reflect those of the University of Johannesburg.

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