RESEARCH ARTICLE

Transformational Leadership, Job Satisfaction, and Intention to Quit: A Sequential Mediation Model of Meaning in Work and Work Engagement

Mohammed Yasin Ghadi
Mu'tah University, Karak, Jordan
mohammadghadi@mutah.edu.jo
mg665@uow.edu.au

Abstract: This study aims to determine the indirect impact of transformational leadership on two job related outcomes: general job satisfaction and intention to quit, by integrating sequential mediating mechanisms of employees' perceptions toward the job (i.e., the experience of meaningful work) and employees' perceptions toward own self (i.e., employee engagement) as underlying mechanisms to understand transformational leadership impact in the Australian context. The proposed model was tested using a heterogeneous sample of employees working in various Australian sectors. The study sample consisted of 530 full-time employees working in Australia. This was done by applying structural equation modelling and MEDTHREE technique. The results of structural equation modeling and MEDTHREE analyses imply that transformational leadership influences both job satisfaction and intention to quit directly, as well as indirectly. Further results of sequential mediation analysis revealed that meaningful work and employee engagement carry a reasonable amount of mediational effect between transformational leadership and related outcomes with a higher percentage for meaningful work. Future research could develop the model by clarifying whether other possible variables influence the relationship between transformational leadership, meaningful work, and employee engagement. Moreover, a comparative cross-cultural study is needed. Finally, future research could test the direct effect of the four dimensions of transformational leadership using the MLQ on the three attributes of employee engagement. Implication and limitations of research are discussed in the study.

Keywords*: transformational leadership, meaningful work, employee engagement, three-step causal chain, nested model approach, MEDTHREE analysis*

JEL Classifications: *O15 and D23*

Prior studies provide a broad but grounded affirmation that transformational leaders influence followers to achieve beneficial job-related outcomes (Walumbwa, Lawler, & Avolio, 2007; Wells & Peachey, 2011; Lowe, Kroeck, & Sivasubramaniam, 1996). Studies have also tested several mediating mechanisms through which transformational leadership is enacted (Walumbwa, Wang, Lawler, & Shi, 2004; Castro, Mar, & Carlos, 2008; Nielsen, Yarker, Brenner, Randall,

& Borg, 2008; Wefald, Reichard, & Serrano, 2011). According to Yukl (2010), these different processes include followers' attitudes towards leaders, such as trust in their leader (Avolio, Zhu, Koh, & Bhatia, 2004) and relational identification with leaders (Kark & Shamir, 2002; Walumbwa & Hartnell, 2011); followers' feelings about themselves such as self-efficacy (Pillai & Williams, 2004), collective efficacy (Nielsen & Cleal, 2011; Walumbwa & Hartnell, 2011),

self-concordance (Bono & Judge, 2003), psychological empowerment (Avolio et al., 2004; Castro et al., 2008), and creative identity (Wang & Zhu, 2011); and employee perceptions towards features of the job such as meaningful work (Piccolo & Colquitt, 2006; Purvanova, Bono, & Dzieweczynski, 2006; Arnold, Turner, Barling, Kelloway, & Mckee, 2007).

Nevertheless, few studies examine how transformational leadership influences job-related outcomes by hypothesising sequential mediating processes. The problem of the study stems from Walumbwa and Hartnell (2011, p. 154) argument that few studies have examined whether multiple mediators sequentially mediate the aforementioned relationships, and that further investigation is required to explain the processes through which transformational leadership affects beneficial outcomes. The current study addresses specific calls from Avolio, Walumbwa, and Weber (2009), that despite significant progress in understanding how and when transformational leadership behaviors are more effective, further research should explore the process and boundary conditions for transformational leadership with valuable work outcomes. Avolio et al. (2009) called for more studies on "the underlying psychological processes, mechanisms, and conditions through which charismatic and transformational leaders motivate followers to higher levels of motivation and performance" (p. 429). The aims of this study are to:

- test the influential role of transformational leadership's on-job satisfaction and intention to quit and
- transformational leadership's underlying influence through a unique psychological process; one based on the nature of the relationship of employees' perceptions of work (i.e.,, meaningful work) and perceptions of self (i.e., employee engagement, Walumbwa & Hartwell 2011).

Figure 1 illustrates the operational framework proposed in this study.

To meet the potential requisite criteria for possible mediation in this model, two conditions need to be justified: transformational leadership must be related to both meaningful work and employee engagement; and the combining of meaningful work and employee engagement into the analysis to reduce the initially observed link between transformational leadership and both work outcomes (i.e., job satisfaction and intention to quit).
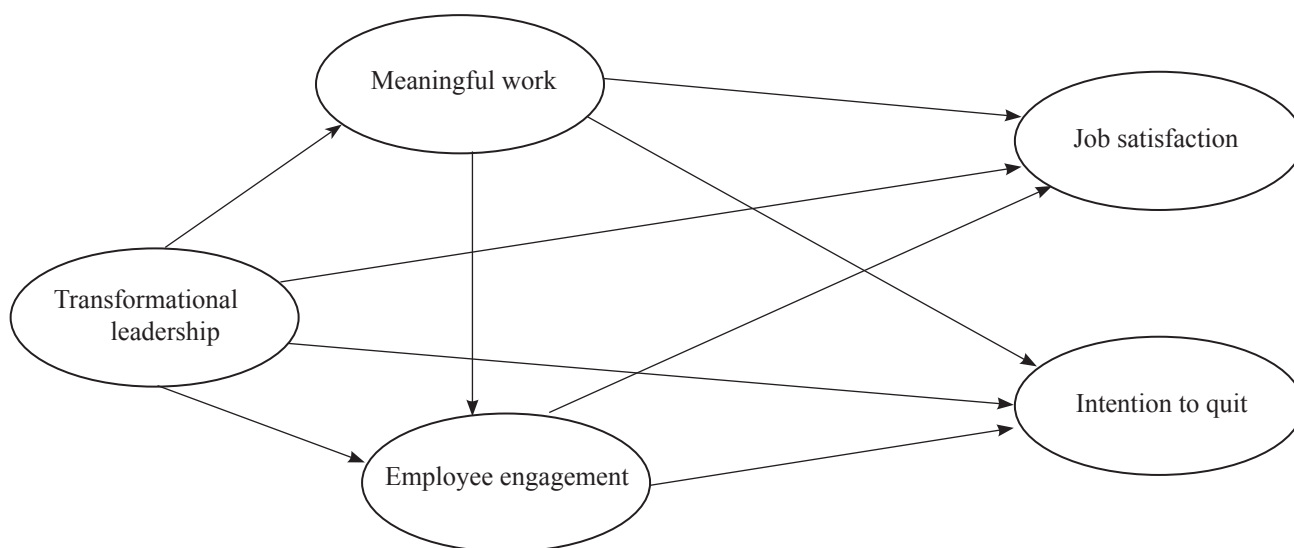

Figure 1. The proposed operational framework of the study.

Transformational Leadership

Transformational leadership theory is evolved as one of the most dominant paradigms in the leadership literature. The theory of transformational leadership was built on Maslow's (1954) Theory of hierarchy of needs, in which employees perform effectively based on the levels to which these needs are achieved. Empirical and theoretical studies argued on its substantial validity for achieving behavioral outcomes among subordinates such as task performance (Piccolo & Colquitt, 2006), job satisfaction (Nielsen, Randall, Yarker, & Brenner, 2008), and organisational commitment (Avolio et al., 2004). Nevertheless, concerns have been raised regarding the different sub-dimensions of transformational leadership. This study follows the conceptualization that transformational leadership have four characteristics: idealised influence, inspirational motivation, intellectual stimulation and individualized consideration (Bass & Riggio, 2006).

Transformational leaders influence subordinates' behaviours by engaging in these characteristics. The first of these characteristics is idealised influence, which is a leader's ability to build loyalty and devotion without consideration for their own self-interest, and which helps followers to identify with them. The second behaviour is inspirational motivation, which involves a supervisor's ability to create a vision that appeals to subordinates and makes them an important part of the company. The third behaviour is intellectual stimulation, which involves leaders' ability to stimulate subordinates' efforts to be innovative through questioning assumptions and taking calculated risks, so subordinates can think in non-traditional way. The final behaviour is individualised consideration; here leaders act as mentors that pay special attention to the different needs for their followers in work. These four behaviors interact together and result in motivating followers with the energy-producing characteristics that enhances positive attributes among the followers (Tucker & Russell, 2004). One of these attributes that we argued on its positive relationship is work engagement.

Work Engagement

Work engagement is a relatively new construct that has been developed in the seminal work of Kahn (1990). The underlining theories for his idea were built on several previous studies related to self-expression,

self-employment, and the state of absorption in work. Kahn (1990) defined employee engagement as the "harnessing of organisation member's selves to their work roles: in engagement, people employ and express themselves physically, cognitively, emotionally and mentally during role performances" (p. 694). Employees in work are either engaged or disengaged according to the appearance of three conditions: resources are available, work is meaningful, and psychological safe to present their own self in work. Some authors followed this perspective of engagement (May, Gilson, & Harter, 2004).

In this study, a commonly cited definition from Schaufeli, Salanova, Gonzalez-Roma, & Bakker, (2002) is used. They stated that work engagement is a persistent and pervasive affective-cognitive state of being characterized by vigor, dedication, and absorption. Vigor refers to high energy levels and states of mental resilience while working. Dedication refers to involvement and experiencing a sense of pride and challenges. Absorption refers to being highly concentrated on and happily engrossed in work.

Meaningful Work

The major transformations that have occurred in recent years such as demographic changes, globalisation, and technological development have affected employees' behaviors and their perceptions regarding work. This enhances scholars to propose different approaches in defining meaning in work. Furthermore, the appearance of "meaning in work" in different models such as spirituality (Milliman, Czaplewski, & Ferguson, 2003), empowerment (Spreitzer, Kizilos, & Nason, 1997) and job characteristics model (Hackman & Oldham, 1976) might affect the multidimensionality of the construct. For instance, Chalofsky (2003) argued that linking "meaning" with "work" produces three different conceptualizations which might indicate different perspectives: meaning at work, meaning of work, and meaning in work (or meaningful work). Meaning at work implies a relationship between the person and the organization or the workplace, in terms of commitment, loyalty, and dedication. Meaning of work refers to a sociological and anthropological concern for the role of work in society—in terms of the norms, values, and traditions of work in the day-to-day life of people. Chalofsky (2003) further differentiated meaning in work as an inclusive state

of being where individuals express the meaning and purpose of their lives through activities or work (p. 73).

Employees find meaning in their work when work has a goal, purpose, and value that is connected to the employee and his ability to create meaning and when there is consistency between employees' values and goals in one hand and organisational and work values and goals on the other hand (Ghadi, Fernando, & Caputi, 2015).

Job Satisfaction

Job satisfaction is one of the most studied attitudes in the organizational fields (Lu, While, & Barriball, 2005), and the literature provides strong empirical evidence of the direct relationship between transformational leadership and job satisfaction (Walumbwa & Lawler, 2003; Rafferty & Griffin, 2004; Walumbwa et al., 2004; Walumbwa, Orwa, Wang, & Lawler, 2005b; Nguni, Sleegers, & Denessen, 2006; Walumbwa et al., 2007). While both academic researchers and practitioners agree about the substantial importance of job satisfaction, various approaches describe the term. We follow Locke's (1976) definition of general job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (p. 1276).

Since the introduction of transformational leadership theory, several theoretical and empirical research studies have found that transformational leadership behaviors greatly enhance the job satisfaction of followers (Bass, 1985). Many researchers (Medley & Larochelle, 1995; Judge & Piccolo, 2004; Walumbwa, Lawler, Avolio, Wang, & Shi, 2005a; Walumbwa et al., 2007) observe that a transformational leadership style includes a sense of motivational power and inspirational appeal, positively motivating followers to be satisfied. Practically, when acting as a mentor coach, a leader can bring a deeper understanding and appreciation to each follower by offering them special attention. This attention is likely to motivate employees to transcend their own self-interests for the good of the group or organisation (Bass & Riggio, 2006). Hence, employees will be happier when they accomplish more than expected. Transformational leaders' behaviors also diminish work pressure, and enhance employees' mood and enjoyment in the workplace, resulting in enhanced employee job satisfaction (Castro et al., 2008). Walumbwa, Orwa,

et al. (2005) reported that when employees feel that their supervisor gives them special attention, they are more likely to assume greater responsibility, enhancing employees' sense of accomplishment.

The experience of meaningful work is also related to employees' job satisfaction (Spreitzer et al., 1997; Gavin & Mason, 2004; Fairlie, 2011a, 2011b; Steger & Dik, 2010). Scroggin (2008, p. 70) argued that when a fit occurs between an employee's expectations of the organization and what it provides, the employee will likely experience high self-esteem, positively influencing how meaningful the work is. In a meta-analysis, Judge and Bono (2001) found a significant and positive relationship between self-esteem and job satisfaction ($r = 0.26$; $p < 0.001$).

The final variable of interest is employee engagement at work. The recent increased interest in employee engagement owes to its association with several work-related outcomes at the individual level (Bakker, 2009; Serrano & Reichard, 2011). When an employee has high feelings of vigor, dedication, and absorption, they are likely to show more personal initiative (Schaufeli & Bakker, 2004; Wefald et al., 2011) and proactive behaviors (Macey & Schneider, 2008), producing cognitive or emotional motivation (Kahn, 1990) that contribute to employee job and workplace satisfaction.

Intention to Quit

When an employee perceives their immediate leader as exhibiting transformational leadership behaviors, they will reduce and mitigate their intentions to leave (Avey, Hughes, Norman, & Luthans, 2008). Furthermore, when immediate manager is able to achieve established goals, employees will most likely trust and stay with the manager, thus reducing intentions and plans to quit the job. Also, inspirational managers help in building emotional commitment towards goals and missions, and as a result, followers develop a sense of pride and belonging to the organisation, mitigating employees' intention to quit the job. Through the enhancement of trust and loyalty, through inspirational motivational leaders, followers will be emotionally committed to leaders and organizations (Bass & Riggio, 2006).

Cartwright and Holmes (2006) stated that meaningful work prompts employees to think about staying or leaving their job. The more an employee sees the work as meaningful, the higher

the employee's personal growth (Spreitzer et al., 1997) and internal motivation (May et al., 2004). Or, when an employee has a perfect understanding of the nature and expectations of the task environment (i.e., the work has a goal, purpose, and value that is connected to the employee), when the employee feels congruence between their own core values and the job requirements and organizational mission (Isaksen, 2000; Morin, 2009), and when the employees have a good understanding of how their role contributes to the organization's purpose, their psychological state is enhanced and they experience meaningful work. The relationship between engagement and intention to quit can also be explained using self-determination theory (Ryan & Deci, 2000), which suggests that when basic human needs (such as self-growth and development) are supported, employees may have increased well-being and intrinsic motivation.

According to Clausen and Borg (2010), the absence of meaning in work relates to a greater intention to quit. Hence, there is a negative relationship between meaningful work and employees' intentions to quit.

There is evidence to show that employee engagement is both negatively and strongly correlated to employee intention to quit. Halbesleben and Wheeler (2008) determined that engaged employees are usually more committed to their work and hence have a lower desire to quit. They argued that this negative relationship can be attributed to two reasons: engaged employees tend to invest vast amounts of their effort and energy in their jobs (vigor and dedication), and engaged employees robustly identify with and are attached to their work.

The relationship between engagement and intention to quit can also be explained theoretically using self-determination theory (Ryan & Deci, 2000). Self-determination theory suggests that when the basic human needs of employees (such as self growth and development) are supported, employees are likely to have increased well-being and intrinsic motivation. This in turn contributes to employees' feelings of self-worth, self-determination, and self-fulfilment. These feelings about one's self enhance feelings of engagement at work (Xanthopoulou, Baker, Heuven, Demerouti, & Schaufeli, 2008). When these attributes are experienced, employees are motivated to show behaviors of engagement and will have less desire to think about quitting their job.

The Sequential Mediation of Meaningful Work and Employee Engagement

Transformational leadership facilitates meaningful work by showing, developing, stimulating, and inspiring employees to go beyond their self-interest for the sake of the organization's goals and mission (Rosso, Dekas, & Wrzesniewski, 2010; Serrano & Reichard, 2011). Sivanathan, Arnold, Turner, & Barling (2004, p. 247) argued that transformational leadership increases personal meaning by enhancing employees "levels of morale and activating their higher-order needs, transforming stressful work situations into challenges, increasing employees" identification, and reducing stress levels. Meaningful work is therefore vital, is a better indicator than others for predicting work-related outcomes (see Steger & Dik, 2010 for revision). Meaningful work is an important mediating factor of the relationship between transformational leadership and various important outcomes, including well-being (Arnold et al., 2007) and organizational citizenship behavior (Purvanova et al., 2006).

Substantial empirical support exists for the mediating role of employee engagement on a set of antecedents (Schaufeli & Bakker, 2004; Wefald et al., 2011). However, limited studies have examined the mediating effect of employee engagement on the relationship between transformational leadership and job-related outcomes (i.e., job satisfaction and intention to quit). Several theories explain how this works. Halbesleben (2011) summarized three unifying evidence-based theories. The job demand-resource model (Schaufeli & Bakker, 2004) and self-determination theory (Ryan & Deci, 2000) help in explaining the mediating role of employee engagement between a set of conditions in the work and work-related outcomes (Schaufeli & Bakker, 2004; Hakanen, Bakker, & Schaufeli, 2006; Bakker & Demerouti, 2008; Schaufeli & Salanova, 2008). The JD-R model proposes that feelings of engagement at work can be developed through the motivational psychological process (Hakanen et al., 2006), which acts as the underlying theory for using employee engagement to explain the relationship between a set of job resources and related outcomes (Schaufeli & Bakker, 2004).

The motivational process can have an intrinsic or extrinsic motivational role (Bakker & Demerouti, 2008; Schaufeli, Taris, & Rhenen, 2008). Intrinsically, motivational process and job resources promote employees to grow, learn, and develop by fulfilling

their fundamental human needs, such as autonomy and competence (Schaufeli & Bakker, 2004, p. 298). The intellectually stimulating leader creates a supportive environment where followers are encouraged to learn to think creatively (Avolio & Bass, 2002), which in turn should increase job competence. Conversely, in the extrinsic motivational process the availability of job resources nurtures employees to dedicate greater effort and ability to more difficult work goals (Schaufeli & Bakker, 2004). Together, these two motivational processes indicate that an effective transformational leader enhances followers' feelings of engagement, by ensuring task completion and opportunities for personal growth. This positive emotional state also

makes it harder for employees to detach from their work, leading engaged employees to reduce their thoughts about quitting.

Hypothesis 1: Transformational leadership is indirectly related to employees' job satisfaction through the mediating influence of employees' experiences of meaningful work and, in turn, employees' engagement at work.

Hypothesis 2: Transformational leadership is indirectly related to employees' intentions to quit the job through the mediating influence of employees' experiences of meaningful work and, in turn, employees' engagement at work.

Table 1. *Demographic Characteristics of Participants (n = 530)*

Item	Category	Frequency	Percentage %
Gender	Male	259	48.9
	Female	271	51.1
Age	20–30	128	24.2
	31–40	178	33.6
	41–50	126	23.8
	51–60	82	15.5
	61 years or more	16	3.0
Working hours/ week	10 hours or less	6	1.1
	11–20 hours	36	6.8
	21–30 hours	72	13.6
	31–40 hours	235	44.3
	41 hours or more	181	34.2
Duration of service in work	Less than 6 months	45	8.5
	7 months–1 year	69	13
	2–5 years	198	37.4
	6–10 years	110	20.8
	11–20 years	73	13.8
	21 years or more	35	6.6
Duration of service under supervisor	Less than 6 months	77	14.5
	7 months–1 year	115	21.7
	2–4 years	184	34.7
	5–8 years	77	14.5
	9 years or more	77	14.5

Methods

Sample and Data Collection

Online invitations were sent via email to 4,200 potential participants. Of these, 555 responses were returned. We excluded 25 participants' responses, which had missing values on some of the variables, resulting in an overall response rate of 12.6%, which is acceptable for this type of survey (Punch, 2003). The sample consisted of full-time employees reporting directly to a supervisor in various industrial and service sectors in Australia. Respondents' privacy was protected by obtaining ethics approval from the University of Wollongong's Human Research Ethical Committee and the study fully adhered to the ethical standards set by the University. The researcher administered web composite survey and sent it to professional company for data collection.

The demographic characteristics of the study sample are illustrated in Table 1.

Measures

The global transformational leadership scale (GTL) of Carless, Wearing, and Mann (2000) was used to assess transformational leadership behavior. Numerous studies have used this scale (Arnold et al., 2007; Nielsen, Yarker, et al., 2008). Carless et al. (2000) reported that the GTL is reliable ($\alpha = 0.93$) and has strong convergent validity with factor loadings of the seven items ranged from 0.78 to 0.88, with a mean of .84 (SD = 0.05). Participants were asked to rate their immediate supervisor by indicating the extent to which they engaged in behaviors of transformational leadership. The response format of the GTL ranges from 1 (not at all) to 5 (frequently, if not always). Examples for these items include "My supervisor communicates a clear and positive vision of the future."

The Utrecht work engagement scale (UWES-17) (Schaufeli et al., 2002) was used to measure employee engagement. The scale has three subscales, which have good psychometric qualities (Bakker, 2009). A review of several studies that used this scale determined that reliability was acceptable (α typically ranged between 0.80 and 0.90) (Kim, Shin, & Swanger, 2009; Schaufeli & Bakker, 2003). The result of confirmatory factor analysis reveals that the UWES-17 is a three-factor model to measure employee engagement (Bakker & Demerouti, 2008; Bakker, 2009; Schaufeli & Bakker, 2010). Feelings of engagement were measured by asking participants to report their preference on a seven-point Likert scale from 0 (never) to 6 (always). Examples for these items include "At my work, I feel bursting with energy" and "I am enthusiastic about my job."

Participants' experiences of meaningful work were measured using six items developed by May et al. (2004), which has been used previously in several studies (e.g., Morin, 2009), and shown to have a strong psychometric properties. Participants' experiences of meaningful work were measured by asking them to rate their perceptions of the six items on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Examples of items include "My job activities are personally meaningful to me," "My job activities are significant to me," and "I feel that the work I do on my job is valuable." The six items were averaged to create a single index for assessing meaningful work. May et al. (2004) reported a high reliability of the scale ($\alpha = 0.90$).

General job satisfaction was measured using the seven items developed by Kofodimos (1993). This scale is widely used in the literature to assess participants' satisfaction with their general job, rather than with a specific facet of their work context. The seven items were measured on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) (as specified by Kofodimos, 1993). One example of the items used is "I feel challenged by my work." The items were averaged to create a single index. Kofodimos (1993) reported that this scale had high reliability ($\alpha = 0.81$).

Intention to quit was assessed using three items developed by Colarelli (1984). This scale assesses participants' intentions to stay with the current job, or to quit and look for a new job, in the next year. One example of the items used in this scale is "I frequently think of quitting my job." The three items are measured on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) (as specified by Colarelli, 1984). Previous studies have used these items to assess intention to quit and report high reliability ($\alpha = 0.82$ for Saks [2006] and $\alpha = 0.81$ for Shuck [2010]).

Statistical Analysis

Confirmatory factor analysis (CFA) using structural equation modelling was used to test the construct validity, reliability, and goodness of fit of each measure. A combination of absolute, badness, and incremental

fit indices were selected to evaluate the measurement models (Hu & Bentler, 1999; Byrne, 2001; Hair, Black, Babin, & Anderson, 2010). These indices included the ratio of chi-square to degree of freedom (χ^2/df) (Marsh, Balla, & Mcdonald, 1988; Hair et al., 2010); goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI; Bagozzi & Yi, 1988; Schumacker & Lomax, 2004); root mean square error of approximation (RMSEA; Byrne, 2001), standardized root mean residual (SRMR; Diamantopoulos & Siguaw, 2006) and comparative, Tucker and normed fit indices (CFI, TFI, and NFI; Markland, 2007; Hair et al., 2010).

The causal steps approach developed by Baron and Kenny (1986) suffered several limitations such as low ability to detect the mediation effect and an inability to explicitly quantify the magnitude of the mediation effect (Hayes, 2009). The limitations of this method make it inappropriate for testing mediation hypotheses (Hayes, 2009; MacKinnon & Fairchild, 2009). Therefore, the tests related to evaluation of the sequential mediation hypotheses were undertaken. Taylor, Mackinnon, and Tein (2007) and Hair et al. (2010) argued that sequential mediation hypothesis occurs when an independent variable (X) influences a dependent variable (Y) through two related mediators (M1 and M2). Because traditional approaches of simple mediation are not suitable for testing these types of hypotheses, two tests were used to examine Hypotheses 1 and 2. First, following the recommendations of James, Mulaik, and Brett (2006), an approach using a series of nested models was used, which compares the goodness-of-fit indices for the structural model with other alternative models (Marsh et al., 1988). Alternative models must be based on previous research or need to be theoretically plausible. Differences between nested models are usually verified by comparing the goodness-of-fit indices for each model and by using differences in χ^2 values relative

to the difference in their degrees of freedom. When the χ^2 difference is significant, for the given degrees of freedom and of a chosen significance level, the model that has the lower χ^2 value than the alternative models is selected. Generally, the best fitting model is the model that has the lower value of χ^2; if the proposed model has the lowest χ^2 then both hypotheses are supported (Anderson & Gerbing, 1988; Marsh et al., 1988).

Several studies have used this analytic strategy as a preliminary step for supporting or rejecting the sequential mediation model (Piccolo & Colquitt, 2006; Carmeli, Ben-Hador, Waldman, & Rupp, 2009; Nielsen, Yarker, Randall, & Munir, 2009; Piccolo, Greenbaum, Hartog, & Folger, 2010). However, to measure the indirect and total indirect effects for the mediator variables that act between the independent variable and dependent variable, a second test was performed: SPSS MEDTHREE. Developed by Hayes, Preacher, and Myers (2010), it calculates the exact total, direct, and indirect effects of transformational leadership on job satisfaction and intention to quit through proposed mediators of meaningful work and employee engagement.

Finally, for inference about the indirect effects of mediator(s) in sequential mediation hypotheses, the bootstrapping procedure in SEM and MEDTHREE was performed with 5,000 resamples. Statistical significance for the indirect effect was determined from 99% bias and accelerated confidence intervals (Hayes, 2009; Hayes et al., 2010).

Results

Preliminary Analysis: Descriptive Statistics and Correlational Analysis

In a preliminary stage the data were checked for missing values and outliers; all items have been

Table 2. *Descriptive Statistics and Correlation Matrix Among Study Variables*

Variable	Mean	SD	1	2	3	4	5
Transformational leadership	3.4	1.1					
Meaningful work	3.8	.94	.66**				
Employee engagement	3.7	1.2	.65**	.78**			
Job satisfaction	3.7	.89	.65**	.73**	.78**	.72**	
Intention to quit the job	2.5	1.1	-.63**	-.64**	-.63**	-.59**	-.64**

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

answered. There were no missing data; therefore, the related negative outcomes were eliminated. Descriptive statistics (means and standard deviations) and correlation coefficients for all the study variables are presented in Table 2.

Assessing Descriptive Statistics and the Psychometric Properties for the Five Measures

The psychometric properties of the measurement scales used in this study are presented in Table 3, which also includes goodness-of-fit indices for the measurement models for each scale.

Testing a Modified Structural Model

A modified structural model (based on the results of psychometric testing), consisting of transformational leadership (seven indicators), meaningful work (six indicators), employee engagement (three indicators), job satisfaction (seven indicators), and intention to quit (three indicators), was tested. This model differs slightly from Figure 1. It only has three items loaded on vigor, and four on dedication, rather than six items for both respectively, and is presented in Figure 2.

The goodness-of-fit indices indicate that the modified structural model in Figure 2 fits the data adequately, a relative $\chi^2 = 700.1$; $p < 0.001$; $\chi^2/\text{df} = 2.4$; GFI = 0.912; AGFI = 0.892; RMSEA = 0.051; SRMR = 0.0331; CFI = 0.968; TLI = 0.964; NFI = 0.946.

Testing of sequential mediation hypotheses: *Nested model approach: chi-square (χ^2) differences test*

The modified structure model, Model 1, is compared with four alternative models to check whether alternative models can better fit the data. First, a model identical to the study model but barring the two unidirectional paths from transformational leadership to job satisfaction and from transformational leadership to intention to quit was considered. Thus, Model 2 is a full mediation model that assumes that transformational leadership influence job satisfaction and intention to quit only through meaningful work and employee engagement.

Another alternative model is proposed based on the assumption that a relationship between meaningful work and employee engagement needs further investigation (Fairlie, 2011a). Some argued in the literature (mainly practitioners) that employees who are engaged may come to value their work and be more aware about the significance and values of

work roles (Gallup, 2009). Others stated that engaged employees may actively change the design of their jobs by choosing tasks, negotiating different job content, and assigning meaning to their tasks or jobs (Bakker & Leiter, 2010, p. 190). Based on these assumptions, Model 3 changes the sequential order of the relationship between meaningful work and employee engagement. In other words, the unidirectional path from employee engagement to meaningful work is switched.

Model 1 was also compared with two other less parsimonious models. In these, some paths representing hypothesized relationships between variables were removed. In Model 4, the paths between meaningful work and both work-related outcomes (i.e., job satisfaction and intention to quit) were removed. This model is referred to as the less meaningful work paths model. In Model 5, the "causal direct model," the paths between transformational leadership and both work-related outcomes were removed. The paths between meaningful work and the same two work-related outcomes were also removed. Table 4 summarizes the β weights and goodness-of-fit indices of study model (Model 1) in comparison to the four alterative models.

Based on the β estimates and the goodness-of-fit indices for the five competing models, none offered an enhancement in fit over the study model, Model 1. Because the χ^2 value for Model 1 is less than χ^2 values for other four models, additional robustness was given to Model 1. Therefore, the partial mediation models proposed in this study is preferred, supporting Hypotheses 1 and 2.

Estimating the total and specific indirect effects for the mediating variables in Hypotheses 1 and 2 through the MEDTHREE test

The model comparison approach does not show the specific indirect effects that mediators carry between transformational leadership and selected job-related outcomes. To approximate these specific indirect effects for a sequential mediation hypotheses, MEDTHREE test was used here.

The estimates of effects for hypotheses are presented in Table 5 and Table 6. Both tables depict the confidence intervals of the total indirect effect of meaningful work and employee engagement through transformational leadership to job satisfaction and intention to quit. They also present the indirect effects of the first mediator (M1), the second mediator (M2), and the combination effect of both mediators between

Table 3. *Psychometric Properties for Each Measurement Scale*

Variable	Descriptive statistics (total mean score)	Factor loading (construct validity: β weights)	Squared Multiple Correlation for underling items (R²)[a]	Reliability test (Cronbach's coefficient α)	Goodness-of-fit indices
Transformational leadership	Mean = 3.43, SD = 1.24, Skewness = -.48, Kurtosis = -.73	0.81–0.89	0.66–0.80	0.95	χ^2 = 34.2, χ^2/df = 3.8, p < .001, GFI = .98, AGFI = .95, CFI = .99, TLI = .98, NFI = .99, RMSEA = .73 and SRMR = .0151
Meaningful work	Mean = 3.77, SD = 1.07, Skewness = -.86, Kurtosis = -.28	0.83–0.88	0.68–0.78	0.94	χ^2 = 34.2, χ^2/df = 3.8, p < .001, GFI = .98, AGFI = .95, CFI = .99, TLI = .98, NFI = .99, RMSEA = .73 and SRMR = .0151
Employee engagement[b]	Mean = 3.73, SD = 1.46, Skewness = -.44, kurtosis = .02	0.8–0.99	0.56–0.97	0.95	Before modification (χ^2 = 660.02, χ^2/df = 5.7, GFI = .86, AGFI = .81, CFI = .94, TLI = .92, NFI = .92, RMSEA = .094 and SRMR = .034) After modification (χ^2 = 240.123, χ^2/df = 4.531, GFI = .925, AGFI = .90, CFI = .968, TLI = .960, NFI = .960, RMSEA = .064 and SRMR = .019)
Job satisfaction	Mean = 3.74, SD = 1.20, Skewness = -.73, kurtosis = .37	0.69–0.82	0.50–0.68	0.91	(χ^2 = 46.4, χ^2/df = 3.312, p < 0.001, GFI = .975, AGFI = .949, CFI = .984, TLI = .976, NFI = .977, RMSEA = .066 and SRMR = .0272)
Intention to quit the job	Mean = 3.69, SD = 1.28, Skewness = -.38, kurtosis = .89	0.78–0.90	0.78–0.90	0.87	(χ^2 = 2.68, χ^2/df = 2.68, p < 0.001, GFI = .99, AGFI = .98, CFI = .99, TLI = .99, NFI = .99, RMSEA = .056 and SRMR = .012)

[a] The squared multiple correlations coefficients (R²) describe the amount of variance the unobserved variable accounts for in the indicator variables (Hair et al.*,* 2010).

[b] Second-order CFA is conducted here to test the multi-dimensionality of the UWES-17 and in turn to see whether the sub-dimensions (vigour, dedication and absorption) measure the unobserved variable of employee engagement. Any factors with a loading value less than 0.50 were removed from the scale because, as described by Hair et al., (2010) there would be more error related to the items than there was variance explained by them. Hence, three items from the vigour subscale and two items from the dedication subscale were removed in order to obtain an adequate model fit. Further evidence of the χ^2 difference test showed that the difference between the values of χ^2 on the modified scale and the original scale was statistically significant $\Delta\chi^2$ (573.5, N = 530) = 122.5, p < .001.
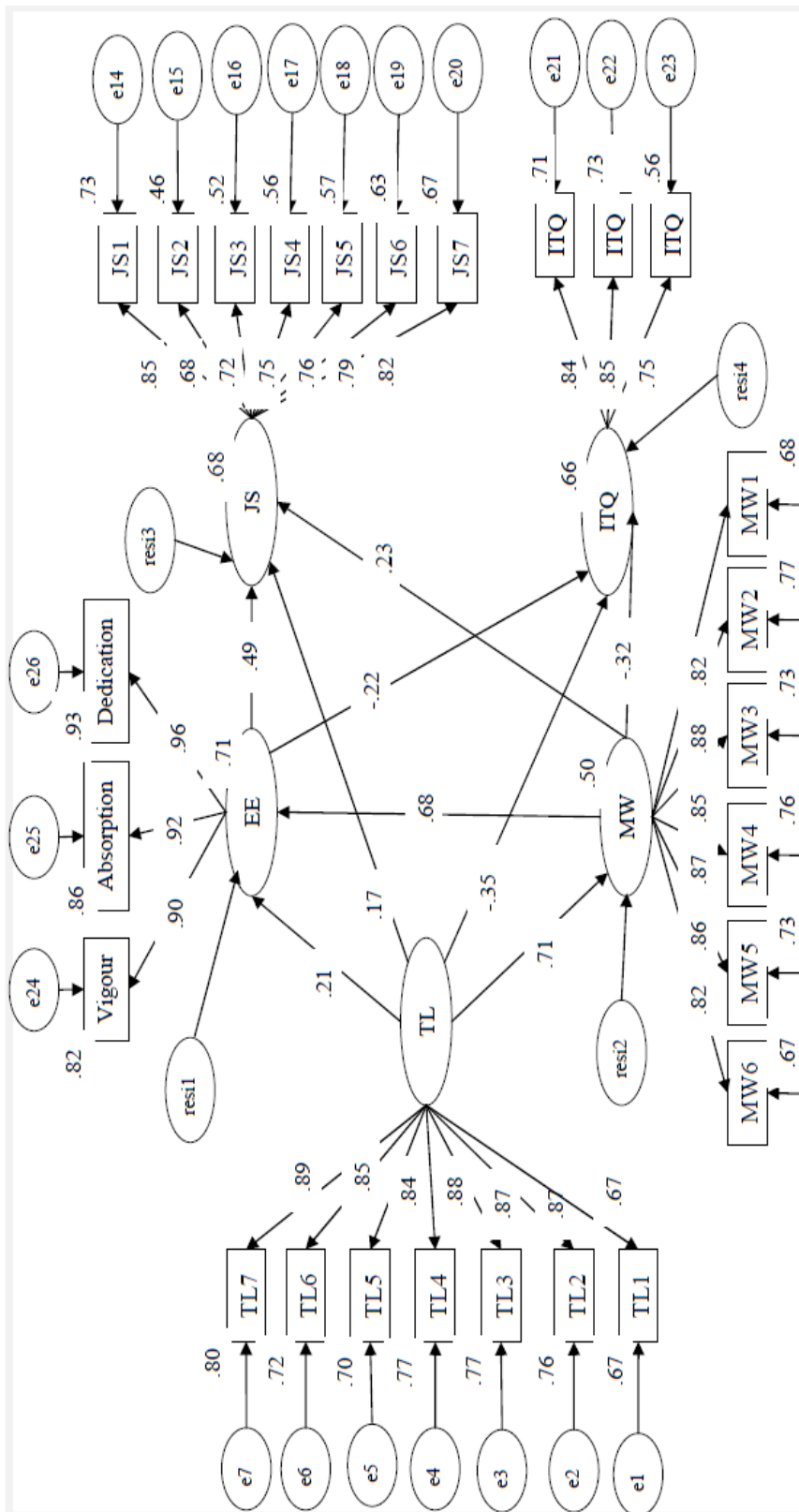
Figure 2. The results of β estimates of the relationship between study variables, R² values and loadings for modified mode.

Table 4. *Summary of Path Coefficient Weights (β) of and the Goodness-of-Fit Indices for Five Competing Models*

The proposed study model (partial mediation model, Model 1)	Full mediation model (less transformational leadership paths, Model 2)	Changing the sequential order between MW and WE (Model 3)	Less meaningful work paths model (Model 4)	A causal direct Model (Model 5)
TL→MW (β = .71, p < 0.001)	TL→ MW (β = .71, p < 0.001)	TL →EE (β = .76; p < 0.001)	TL→ EE (β = .20, p < 0.001)	TL→MW (β = .71, p < 0.001)
TL→EE (β = .21, p < 0.001)	TL→ EE (β = .22; p < 0.001)	TL →MW (β = .20, p < 0.001)	TL→ MW (β = .71, p < 0.001)	MW→ EE (β = .84, p < 0.001)
MW→ EE (β = .68, p < 0.001)	MW→ EE (β = .67, p < 0.001)	EE→ MW (β = .62; p < 0.001)	MW→ EE (β = .69, p < 0.001)	EE→ JS (β = .82, p < 0.001)
EE→ JS (β = .49, p < 0.001)	EE→ JS(β = .55, p < 0.001)	MW→ JS (β = .25, p < 0.001)	EE→ JS (b = .66, p < 0.001)	EE→ ITQ (β = -.78, p < 0.001)
EE→ ITQ (β = -.22, p < 0.001)	EE→ ITQ (β = -.35, p < 0.001)	MW→ ITQ (β = -.33, p < 0.001)	EE→ ITQ (β = -.46, p < 0.001)	
TL→ JS (β = .17, p < 0.001)	MW→ JS (β = .31, p < 0.001)	TL→ JS (β = .16, p < 0.001)	TL→JS (β = .22, p < 0.001)	
TL→ ITQ (β = -35, p < 0.001)	MW→ ITQ (β = -.48, p < 0.001)	TL→ ITQ (β = .35, p < 0.001)	TL→ITQ (β = -.42, p < 0.001)	
MW→ JS (β = .23, p < 0.001)		EE→ JS (β = .47, p < 0.001)		
MW→ ITQ (β = -.32, p < .001)		EE→ ITQ (β = -.21, p < .001)		
χ2 = 700.1, p < 0.001	763.57, p < 0.001	774.6, p < 0.001	735.3, p < 0.001	868.6, p < 0.001
Δ χ2	63.47	74.5	35.2	168.5
χ2/df = 2.4	2.597	2.70	2.51	2.93
GFI = .912	.90	.896	.90	.885
AGFI = .892	.87	.875	.881	.864
RMSEA = .051	.055	.056	.053	.06
SRMR = .033	.046	.04	.039	.078
CFI = .968	.963	.962	.965	.955
TLI = .964	.96	.958	.962	.951
NFI = .946	.941	.941	.944	.933

Note: The χ² reported is in relation to the proposed mediation model of the study. TL: transformational leadership, MW: meaningful work, EE: employee engagement, JS: job satisfaction, and ITQ: intention to quit.

transformational leadership and job satisfaction and intention to quit. These total and indirect effects were derived using bootstrapped 95% CI and standard errors.

The results in Table 5 show that the total indirect effect of meaningful work and employee engagement is β = 0.38, p < 0.001, 95% CI [0.3278, 0.4378]. The estimates also demonstrate that the bootstrap test on indirect effects indicated that meaningful work approximately transmits 34.64% of the total indirect influence of transformational leadership on job satisfaction, with β = 0.1321, p < 0.001, 95% CI [0.3278, 0.4378]. However, the mediator "employee engagement" transmitted approximately 25.14% of the total indirect effect of transformational leadership on job satisfaction, with β = 0.0959, p < 0.001, 95% CI [0.060, 0.1365]. When meaningful work and employee engagement work together, they transmit 40.19% of the mediation effect, with β = 0.15, p < 0.001, 95% CI [0.1901, 0.0184].

Table 5. *Confidence Intervals of Total Indirect Effects and Specific Effects of Meaningful Work and Employee Engagement between Transformational Leadership on Job Satisfaction (Hypothesis 1)*

	Effect	LL95%CI	UL95%CI	BootSE
Total indirect	.38	.33	.44	.028
M1 (meaningful work)	.13	.087	.18	.025
M2 (employee engagement)	.096	.06	.14	.020
M1 & M2	.15	.12	.19	.018

Note: Indirect effects (with bootstrap 95%CI and standard errors).

Table 6. *Confidence Intervals of Total Indirect and Specific Effects of Transformational Leadership on Intention to Quit the Job Through Meaningful Work and Employee Engagement (Hypothesis 2)*

	Effect	LL95%CI	UL95%CI	BootSE
Total indirect effect	–.33	–.41	–.27	.04
M1 (meaningful work)	–.17	–.25	–.10	.04
M2 (employee engagement)	–.06	–.10	–.03	.02
M1& M2	–.10	–.15	–.05	.03

Note: Indirect effects (with bootstrap 95%CI and standard errors).

The results of bootstrapping in Table 6 indicate that the total indirect effect of meaningful work and employee engagement is $\beta = -0.33$, $p < 0.001$, 95% CI [-0.4093, -0.2649]. Table 6 also shows that meaningful work approximately transmits 51.4% of the total negative indirect effect of transformational leadership on employee intention to quit, with $\beta = -0.17$, $p < 0.01$, 95% CI [-0.2509, -0.0950]. However, the other mediator, "employee engagement", was found to carry approximately (18%) of the total indirect effect of transformational leadership on intention to quit with $\beta = -0.06$, $p < 0.001$, 95% CI [-0.103, -0.0288]. Finally, the outputs revealed that when the two mediators are included in to the model together, they transmit 30% of the mediation effect with $\beta = 0.099$, $p < 0.001$, 95% CI [-0.1528, -0.0512].

Overall, the findings of both analyses show evidence that experience of meaningful work and feeling of engagement at work partially and sequentially mediate this relationship by carrying significant mediating effects of this transformational leadership effect.

Discussion

This study extends the previous understanding of transformational leadership influence by proposing and then exploring a sequential mediation mechanism of meaningful work that relates to employee engagement in exploring the indirect relationship between transformational leadership, job satisfaction, and intention to quit. As predicted, the results of SEM and mediation analyses support these claims. The results of analysis imply that transformational leadership influences both job satisfaction and intention to quit directly, as well as indirectly, through the sequential mediating influence of employees' experiences of meaningful work, which relates to employees' engagement at work. The results support a sequential and partial mediation relationship for meaningful work and employee engagement in both hypotheses.

Managers displaying transformational leadership behaviors can enhance followers' engagement by producing a supportive organizational climate. Manager ca, stimulate followers' efforts to be more creative and innovative by questioning old assumptions and solving problems using fresh perspectives, and by establishing idealistic visions and persuasive communication. These feelings influence job satisfaction and lead to lower intention to leave. How followers perceive their work (i.e., meaningful work) and feeling positively about themselves (i.e., employee engagement) may in turn influence followers' job-related outcomes, thereby contributing to Bass' (1985) transformational

leadership theory and also extending other theoretical models that proposed additional mediation hypotheses already tested in previous studies (Piccolo & Colquitt, 2006; Schippers, Hartog, Koopman, & Knippenberg, 2011; Walumbwa & Hartnell, 2011).

Theoretical Implications

This is the first study to empirically test the unique sequential mediating mechanism, considering the role of the two mediators: of perceptions toward the job and perceptions of the self (employee engagement and meaningful work) between transformational leadership and outcomes in an actual work setting. This study extends the literature by showing that transformational leadership is positively related to job satisfaction and negatively to intention to quit the job. This positive relationship is sequentially and partially mediated by meaningful work, which is related to employee engagement. Overall, these findings support Walumbwa and Hartnells' (2011) proposition regarding the importance of unfolding complex mediating mechanisms for transformational leadership effectiveness.

As well as the model contributing to the theoretical proposition of transformational leadership, this study also provides valuable insights for the employee engagement literature, particularly for understanding the mediating effect of employee engagement between a set of antecedents and consequences (Saks, 2006; Macey & Schneider, 2008; Shuck, Reio, & Rocco, 2011). Despite its identification as an important factor for achieving work-related outcomes (Bakker & Schaufeli, 2008), research on the role of employee engagement is relatively limited, and how transformational leadership enhances attitudes about work-related outcomes through employee engagement at work has yet to be fully explored. This study adds value to the employee engagement literature by emphasizing previous researchers' calls to advance the understanding of this emergent concept in the nomological network by including further potential antecedents and consequences surrounding employee engagement in the evidence-based model presented (Mauno, Kinnunen, Makikangas & Feldt, 2010; Wefald et al., 2011, p. 124). These findings also add to employee engagement literature by responding and extending recent calls of Tims, Bakker, and Xanthopoulou (2011) by identifying the mediating role of employee engagement between a set of variables.

Practical Implications

The findings lead to some practical implications. First, conducting training programs to develop and promote a transformational leadership style. The finding that transformational leadership is positively related to meaningful work, which in turn is related to employee engagement, and consequently to job satisfaction and intention to quit, has practical implications for those implementing organizational-level interventions to accelerate change in a work environment. The direct and indirect effects of transformational leadership raise the issue of how organizations can accelerate positive changes by promoting transformational leadership style. One way is by conducting suitable training programs (courses) to develop transformational leadership skills for supervisors or managers. Hall, Johnson, Wysocki, and Kepner (2000) argued that effective transformational leadership can be learned through conscious effort. Others report that transformational leadership behaviors can be trained and developed in all people. This approach has a positive effect on followers' perceptions of managers' transformational leadership and their rated performance (Barling, Weber, & Kelloway, 1996; Bass, 1999; Kelloway, Barling, & Helleur, 2000). Enhanced personal development and more positive performances have been recorded among followers whose supervisors received transformational leadership training (Dvir, Eden, Avolio, & Shamir, 2002).

The findings also highlight the importance of meaningful work—especially followers' engagement at work—job satisfaction, and intention to quit. It may also be valuable for organizations to provide formal training to managers on how to design meaningful and purposeful jobs. One way to improve job design to create more meaningful work is by training managers to link each job with the organizational purpose and mission (Purvanova et al., 2006). When redesigning a job, organizations might focus on reducing demanding tasks and expanding employees' opportunities when performing such tasks. Organizations might also redesign a job by making it more challenging, allowing employees to show greater personal strength through their work by giving them more chance to be creative, and offering them more autonomy and discretion over their job (Taranowski, 2011). Organizations can also alter employees' perceptions of their job by focusing on helping employees build their self-efficacy and self-

esteem. Organizations may also implement work-based programs and other interventions that directly facilitate employee engagement at work as part of their strategy to redesign the work environment. Top management should design jobs so that employees feel excited, involved, and motivated.

In an effective human resource management strategy, organizations actively encourage and develop managers' abilities to redesign jobs and the climate to build enhanced feelings of meaningful work. Managers can take several formal actions to propose interventions that increase meaningful work, by conducting self-management programs either to improve current behaviors, or teach new behaviors, by providing employees with opportunities to develop self-awareness, inciting passion in the job, helping employees to identify their skills, uncovering employees' work values, evaluating the environment in which their values will be met, empowering employees to participate in the decision, and encouraging regular and constant feedback (Caudron, 1997; Fairlie, 2011b). These formal actions need to take into account the similarities and differences of employees' meaning in work, and the physical and psychological environment that exists when developing, creating, or redesigning jobs. By having designing work that aligns organizational goals with employees' own self-interests and providing rich resources such as socio-emotional, physical, and economic resources, employees perceive consistency between the work experience and the self, which will enhance self-esteem, and result in more meaningful work.

Potential Limitations and Recommendations for Future Research

Some potential limitations should be noted when interpreting the findings of this study. First, the acquired responses for study variables were generated from self-report scales, raising concerns about the common method bias for providing answers. Podsakoff and Organ (1986) claimed that collecting information from a single source may be a limitation because it can affect the explanations drawn about the relationship between variables. Although the procedures in this study should minimize the opportunities for this source bias limitation (e.g., CFA test for discriminant validity and goodness of fit indices), employees may have answered in a manner favouring socially desirable behaviors because they expected negative consequences from negative responses. Therefore, future studies might use various methodological approaches to generate answers from multiple sources, such as from employees and their direct managers simultaneously with a certain interval. Future studies could also qualitatively investigate the perceptions of employees about the variables of this study by obtaining objective information from interviews with multiple sources, such as employees and direct managers, or by employing single or multiple case study design. Thus, the internal validity of the results would be enhanced and, in turn, the potential for socially desirable bias would be reduced.

Another limitation is related to some of the scales applied to the assessment of variables (i.e., global transformational leadership (GTL) and the Utrecht work engagement scale (UWES-17), which could produce distorted explanations of the results. While the use of the multifactor leadership questionnaire (MLQ) would have been more comprehensive for assessing four dimensions of transformational leadership, there are high costs associated with the use of that scale. Therefore, the GTL scale was used. As discussed, although GTL proved to be a practical measure of transformational leadership and reported strong convergent validity and a reasonable length for assessing these four dimensions (Arnold et al., 2007; Nielsen, Randall, et al., 2008), it does not allow for specific analyses of the four dimensions of transformational leadership on other variables. Greater robustness of the results could be claimed if this study used the MLQ. Part of the concern regarding this limitation arose because it was not possible to assess which specific transformational leadership dimension had the largest or weakest impact on dimensions of employee engagement. Although testing the specific effect of each dimension of transformational leadership was beyond the aims of this study, future studies might offer more in-depth results by examining the direct and specific effect of the four dimensions of transformational leadership using the MLQ on the three attributes of employee engagement.

The demographic characteristics of respondents were not included as control variables in the model. Previous studies show that some of these control variables exert influence on variables considered in this study, including gender in relation to job satisfaction (Clark, 1997) and intention to quit (Riordan, 2000), gender with transformational leadership (Druskat,

1994), and age with employee engagement (Avery, McKay, & Wilson, 2007). Including these variables would increase the model's complexity to include too many unidirectional paths, which in turn might affect the results of goodness of fit indices. Hence, future studies might provide some comparison between respondents and non-respondents with respect to characteristics.

Kahn (1990) and Harter, Schmidt, and Hayes (2002) argued that one of the main factors that influences employee engagement is style, and findings support the strong direct influence of transformational leadership on employee engagement. Therefore, future studies should understand the different influences of other leadership styles on employee engagement. Other possible leadership styles such as ethical, situational, transactional, and empowering leadership might be considered. A comparative cross-cultural study is needed. First, this comparison would help in understanding the place of transformational leadership in the nomological network, and second, it would also provide top management with a better understanding of how to develop training programs for managers to increase levels of engagement in employees.

Future research could also focus more on the relationships in the model by clarifying whether other possible variables influence the relationship between transformational leadership, meaningful work, and employee engagement. Previous research on transformational leadership suggests that trust in managers (Sivanathan et al., 2004), employee self-efficacy (Pillai & Williams, 2004; Walumbwa, Lawler, et al., 2005), cultural values and individual differences (Bass & Riggio, 2006; Zhu, Avolio, & Walumbwa, 2009) may account for some variance in transformational leadership influence. Extending on the model, future research can incorporate these variables as mediators and use them for further exploration of the underlying mechanism in the transformational leadership-employee engagement link. Future studies might also include other variables such as personal environment fit, cultural, and personal difference as moderators between the transformational leadership-meaningful work–employee engagement links.

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