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The motivation for transformational leadership scale: An examination of the factor structure and initial tests

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An examination of the factor structure and initial tests

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Abstract

Purpose – The purpose of this paper is to address the question of what motivates leaders to engage in effective leadership behaviours by integrating transformational leadership theory and self-determination theory. The authors propose that the type of enacted leadership behaviour is related to level of self-determined motivation.

Design/methodology/approach – This study presents validity evidence for an 18-item scale of motivation for transformational leadership based on Gagné and Deci's (2005) six levels of internalization. A total of 310 employees (mean age = 39, 64.5 per cent female, 46 per cent formal leaders) completed the scale, other measures of leadership, and job satisfaction.

Findings – Results supported the theorized six-factor structure of the scale and provided evidence for incremental validity in the prediction of job satisfaction and transformational leadership above and beyond another measure of motivation to lead.

Research limitations/implications – The lack of amotivation and the presence of autonomously controlled extrinsic motivation are predictive of effective leadership behaviour, a key finding with implications for leadership selection. The study was limited by the use of self-report data. Future studies should examine additional predictors and outcomes of the construct (e.g. subordinate attitudes or performance and leader personality), and whether it is stable over time.

Originality/value – Leaders' motivation for role effectiveness is an unexplored area of research. This study suggests that type of motivation can be important for effective leadership and provides a validated scale for use in future leadership research and selection.

Keywords Structural equation modelling, Transformational leadership, Motivation, Self-determination theory, Scale development, Role effectiveness

Paper type Research paper

Organizational leadership has attracted the attention of an increasing number of organizational researchers, with an ever-growing list of leadership theories developing over the past few decades. There is an extensive body of literature that considers how leadership in organizations affects the behaviours and attitudes of followers (for a review see Barling *et al.*, 2011). Despite the vast amount of literature on this topic, there is still much to be discovered about the nature of leadership, and on leadership motivation in particular. One critical assumption of the leadership development literature is that leaders want to engage in effective leadership behaviours. However, the flaw in this assumption is that leaders who are motivated to take on formal leadership roles are not necessarily motivated to engage in effective leadership behaviours. There are many other incentives or "perks" to leadership roles which may motivate individuals to emerge as leaders in the workplace. The current study

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examines what motivates leaders to engage in effective leadership behaviours as defined by transformational leadership theory and proposes that the type of enacted leadership behaviour may be related to level of self-determined motivation. The current study was based on the theory proposed by Gilbert and Kelloway (2014) which integrated transformational leadership theory and self-determination theory into a construct called motivation for transformation leadership. In support of this construct we will begin by discussing the tenets of both transformational leadership theory and self-determination theory, and how they are integrated into motivation for transformational leadership. Next, we will propose other theoretically relevant organizational variables, which may be related to transformational leadership. Finally, we will present validation evidence from a new scale assessing motivation to be a transformational leader, including its factor structure and relation to transformational leadership behaviour.

Transformational leadership

One of the most widely researched leadership theories is Bass's (1990) transformational leadership theory (Barling *et al.*, 2011). Transformational leadership has been defined as superior leadership performance that occurs when leaders "broaden and elevate the interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group, and when they stir their employees to look beyond their own self-interest for the good of the group" (Bass, 1985, p. 21). Bass (1985) suggested that the transformational leadership style comprises four dimensions, namely, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Idealized influence occurs when leaders engender the trust and respect of their followers by doing the right thing, thereby serving as a role model (Bass, 1985). This dimension is often characterized by empowering followers, making sacrifices for the good of the group, and involving followers in decision making (Barling *et al.*, 2011). Idealized influence is further separated into two components: attributes by followers and leader behaviours. Attributional items assess the perceptions of followers, such as having pride in being associated with the leader, whereas behavioural items assess leader behaviours such as demonstrating commitment to one's beliefs and acting with integrity (Bass, 1999). These two scales are very highly correlated and are usually combined into a single factor, consistent with Bass' (1985) original theory (Barling *et al.*, 2011; Bass, 1999). In this study we also conceptualize idealized influence as a single factor. Leaders who engage in inspirational motivation "raise the bar" for their employees, encouraging them to achieve levels of performance beyond their own expectations (Bass, 1985). Here, leaders inspire employees to achieve a certain vision for themselves, which often makes work more meaningful. Intellectual stimulation involves engaging the rationality of subordinates, getting them to challenge their assumptions and to think about old problems in new ways (Bass, 1985). Intellectually stimulating leaders may also empower their followers to become involved in decision making and encourage them to voice their opinions (Barling *et al.*, 2011). Lastly, individualized consideration deals with treating employees as individuals and helping them to meet their needs (Bass, 1985).

Bass (1985) also defined less effective styles of leadership, which he termed "transactional leadership". These less optimal styles of leadership include laissez-faire leadership, both active and passive management by exception, and contingent reward leadership. A laissez-faire leader is simply not involved in the tasks of leadership and avoids decision making and other responsibilities associated with their position

(Bass, 1985; Hater and Bass, 1988). Similarly, leaders engaging in management by exception intervene only when there is a problem; but can assume either an active or passive stance. In active management by exception (Bass, 1985), leaders actively monitor employees to ensure that there are no deviations in performance. Leaders engaging in passive management by exception do not intervene until problems are either brought to their attention or become serious enough to demand action (Bass, 1985). Finally, contingent reward is seen as a positive form of transactional leadership in which leaders engage in goal setting and the provision of task-contingent feedback to employees.

A large body of research literature supports the effectiveness of transformational leadership behaviours in the workplace. Transformational leadership is related to subordinate attitudes and behaviours such as satisfaction (Hater and Bass, 1988; Koh *et al.*, 1995), organizational commitment (Barling *et al.*, 1996; Bycio *et al.*, 1995; Koh *et al.*, 1995), trust in management (Barling *et al.*, 1996), organizational citizenship behaviours (Koh *et al.*, 1995), and higher task performance (e.g. Howell and Frost, 1989; Kirkpatrick and Locke, 1996; Sosik *et al.*, 1997). Moreover, enhancing transformational leadership skills may enhance personal outcomes such as psychological well-being (McKee *et al.*, 2009), workplace safety (Mullen and Kelloway, 2009), and work attitudes (Barling *et al.*, 1996). Organizational outcomes such as financial performance (Barling *et al.*, 1996; Howell and Avolio, 1993) and group performance (Barling *et al.*, 1996) may also be improved. Given the positive impact of transformational leadership, there is strong support for promoting this leadership style in organizations.

Motivation

Motivation may be broadly defined as the processes that initiate behaviour, or what "moves people to act" (Deci and Ryan, 2008, p. 14). Much of the leadership literature examines how leaders can motivate subordinates in various ways. For example, self-determination theorists examine how leaders can motivate subordinates by satisfying their intrinsic needs (e.g. see Baard *et al.*, 2004). Although we are beginning to understand how leaders can motivate employees, there is a dearth of literature on how leaders themselves are motivated to enact effective leadership behaviour. Specifically, research is necessary to further understand leaders' motivation for role effectiveness. Within the context of this study, effective leaders are defined as transformational leaders whose intent is to elevate the interests of followers through enacting intellectual stimulation, inspirational motivation, individual consideration, and idealized influence (Bass, 1985). Less effective leadership styles include transactional and laissez-faire leadership, as defined by full-range transformational leadership theory (Bass, 1985). We posit in this study that leaders who enact different styles of leadership may express different types of motivation to be effective leaders. Self-determination theory posits that there are various levels of motivation ranging along a continuum. In order to address how different styles of leadership may be related to different types of motivation, we must first describe self-determination theory.

Self-determination theory

Self-determination theory (Deci and Ryan, 1985, p. 2000) distinguishes between three basic types of motivation (intrinsic, extrinsic, and amotivation) that each influence behaviour differently. Moreover, there are different levels of each type of motivation, ranging along a continuum of intentional activity from autonomous to controlled

motivation (Deci and Ryan, 2000). Autonomy involves having the experience of choice in one's work, whereas control involves feeling a sense of pressure in what actions one must engage in (Deci and Ryan, 1987). Amotivation does not involve any intentional activity or motivation whatsoever, and thus does not lie on the autonomy to control continuum.

Intrinsic motivation is at the most autonomous end of the continuum because the individual chooses to engage in behaviour under their own volition (Deci and Ryan, 2008; Gagné and Deci, 2005). Intrinsic motivation occurs when the behaviour itself is seen as enjoyable and satisfying. Intrinsically motivated individuals feel that the behaviour is its own reward. For example, a leader who is intrinsically motivated to behave as a good leader may choose to do so because he or she finds it enjoyable, fun, or interesting. While intrinsic motivation is inherently autonomous, levels of extrinsic motivation lie on a continuum from autonomous to controlled. Integrated regulation is a type of extrinsic motivation, but is also described as autonomous because the individual identifies with the importance of the work and sees it as an integral part of him or herself (Gagné and Deci, 2005). A leader motivated by integrated regulation is likely to feel that being a good leader is a part of who they are, that it fits with their life goals, and is a means through which to reach self-actualization. Identified regulation is also extrinsic motivation that is described as moderately autonomous, whereby the individual's behaviour corresponds with their personal goals and values, reflecting a part of them (Gagné and Deci, 2005). Leaders motivated by identified regulation are likely to see the value of behaving as a good leader, and thus to behave as such, even though they do not find leadership inherently interesting.

In contrast to autonomous motivation, controlled motivation involves feeling a sense of pressure to engage in specific activities. Introjected regulation is a moderately controlled form of motivation whereby the individual's ego is involved in deciding whether or not to engage in a task (Gagné and Deci, 2005). If an individual feels that their self-esteem is linked to their job performance, this represents introjected regulation. Leaders motivated by introjected regulation may behave as a good leader because they will feel guilty if they do not, or because they feel it is their duty to be a good leader. External regulation is the most controlled form of extrinsic motivation and it is necessary when a task is not inherently interesting to the individual, so external contingencies like rewards and punishments are necessary for motivation. Here, an individual may put effort into being a good leader in order to gain greater job security, a promotion, or to avoid losing their job.

Self-determination theory also recognizes the possibility of amotivation – the state that exists when an individual experiences a lack of control and alienation (Gagné and Deci, 2005). Amotivated leadership behaviours are mechanical and not typically sustained over a long period of time because the leader feels that good leadership is not a priority.

Given the above-mentioned types of motivation, self-determination theory may be theoretically conceptualized as a three-component model consisting of intrinsic motivation, extrinsic motivation, and amotivation (Deci and Ryan, 1985, p. 2000) or as a single-factor model of global motivation. Alternatively, Gagné and Deci (2005) proposed a six-component model, which expands extrinsic motivation into four types of regulation. Empirically, Gagné *et al.* (2010) found support for a four-factor model comprised of intrinsic, identified, introjected, and external regulations in their motivation at work scale, which did not measure amotivation. Scott *et al.* (2014) found support for a five-factor model of self-determined safety motivation, which included

intrinsic, identified, introjected, and external regulation as well as amotivation. In both of these models, integration did not emerge as an independent factor, which may be due to its similarity with either intrinsic motivation or identified regulation. Deci and Ryan (2008) argued that integration may be very similar to intrinsic motivation, in that both types of motivation involve a high level of choice and autonomy, but differ in that integrated regulation is not fully intrinsic. Similarly, studies have had difficulty empirically distinguishing between identification and integration (Gagné *et al.*, 2010; Ryan and Connell, 1989; Vallerand *et al.*, 1992). Thus, there may be evidence that integration is too conceptually similar to either intrinsic motivation or to identification to emerge as a distinct factor, supporting a five-factor model. However, although integrated regulation is similar to intrinsic motivation, it is theoretically distinct because it is not based on interest in the behaviour itself, as in intrinsic motivation, and rather has to do with fully integrating the value of the behaviour (Deci and Ryan, 2008, p. 2000). Other research has been successful in distinguishing integrated regulation from both intrinsic and identified regulations (Wilson *et al.*, 2006; McLachlan *et al.*, 2011; Mallett *et al.*, 2007). Therefore, although there is some empirical evidence to support conceptualizing SDT as a one, three, five, and six-component model of motivation when amotivation is included in its conceptualization, we will seek support for the six-factor model as a starting point because it is most consistent with the theoretical tenets of self-determination theory (Deci and Ryan, 1985, p. 2000; Gagné and Deci, 2005).

Self-determination theory has been applied to understand motivation for various behaviours in workplace contexts. For example, Scott *et al.* (2014) used the self-determination theory framework to understand employee safety behaviours in the workplace. This theory has also been applied to understand motivation in consultants, teachers, employees and many other roles (Baard, 2002; Baard *et al.*, 2004; Carson and Chase, 2009). Given the applicability of this theory to various contexts, it seems valid that this theory may also be applied effectively to motivation for effective leadership, as defined by full-range transformational leadership theory.

Motivation for transformational leadership

Much of the existing leadership literature focuses on how leaders can motivate subordinates, and a great deal of research supports the basic propositions of transformational leadership theory (see Judge and Piccolo, 2004). However, we do not know much about leaders' own motivation. Once in a formal leadership role, what makes a leader choose to engage in transformational, or transactional, leadership behaviours? Individuals accept formal leadership roles for many reasons, including increased pay, job security, seniority, or personal interest. Importantly, taking on a formal leadership role does not mean that the individual is necessarily motivated to be an effective leader. Likewise, Bass (2008) has argued that the qualities required to emerge as a leader are not necessarily the same as those required to be effective in a leadership position.

Recent leadership theories have addressed leader emergence and leader role occupancy. For example, Chan and Drasgow (2001) suggest that individuals vary in the extent to which they wish to assume a formal leadership role. These researchers developed a theory called motivation to lead (MTL), which outlines three forms of motivation to accept a formal leadership role. Affective-identity MTL refers to individuals who enjoy leading; social-normative MTL refers to individuals who feel a duty or responsibility to lead; and, non-calculative MTL refers to individuals who lead

because they have an agreeable personality and prefer group harmony and not because of the "perks" of being a leader (Chan and Drasgow, 2001). Chan and Drasgow (2001) define MTL as an "individual-differences construct that affects a leader's or leader-to-be's decision to assume leadership training, roles, and responsibilities and that affect his or her intensity of effort at leading and persistence as a leader" (p. 482). While motivation to participate in leadership activities may indirectly affect effort put forth to lead effectively, a measure of motivation for holding a position of authority does not directly assess motivation to be a high-quality effective leader; particularly when it comes to the qualities defined by transformational leadership theory. Further, it is not necessary to possess a formally defined leadership position in the management structure in order to exhibit the behaviours of effective leadership. Indeed, the perfect organizational succession plan would decree that those individuals who have displayed the best leadership qualities would be the ones who are appointed to formal leadership positions. Therefore, formality of leadership role and quality of leadership behaviour should be considered independently. In order to address this gap in the literature, the proposed construct of motivation for transformational leadership (Gilbert and Kelloway, 2014) addresses leaders' motivations to perform effectively by integrating transformational leadership theory and self-determination theory.

We expect that transformational, transactional, and laissez-faire leadership behaviours may be motivated differently by each level of internalization. Specifically, amotivated individuals engage in no intentional activity (Gagné and Deci, 2005) and may be more likely to adopt a laissez-faire (Kelloway *et al.*, 2006; Mullen *et al.*, 2011) leadership style, which itself is characterized by very little deliberate leadership behaviour (Bass, 1985). Controlled motivation is likely related to the transactional behaviours of active and passive management by exception. These leaders are more likely to intervene only when necessary, which may be related to a sense of pressure to act reflected by controlled motivation. Both types of leaders show an interest in knowing about current or potential problems so that they may address them or prevent them (Bass, 2008), perhaps in order to preserve their ego (as in introjected regulation) or to avoid punishment (as in external regulation). In other words, problems that occur may reflect badly on the leader or lead to negative consequences, and so the leader actively addresses them. Thus, active and passive management by exception may be most highly motivated by introjected and external regulation. Contingent reward leaders follow a pattern of reinforcement for good follower performance with the primary motivation of maintaining high performance (Bass, 1990). These leaders lead based on external contingencies or exchanges, so their primary motivation lies not in the inherent enjoyment but rather in the importance and value of effective leadership behaviours for achieving positive outcomes (as in autonomous regulation). As such, contingent reward is most likely related to identified and integrated regulation, the two most autonomous forms of extrinsic motivation, where leader behaviour is mostly consistent with the leaders' values and goals (Gagné *et al.*, 2010). Finally, intrinsic motivation is likely related to transformational leadership behaviour. By definition, transformational leaders are not concerned with their own self-interest, but with the general well-being and development of followers (Bass, 2008). This genuine interest in the development and success of followers by the leader (Barling *et al.*, 2011) characterizes intrinsic motivation (Gagné and Deci, 2005). In support of this idea, empirical evidence also links autonomous motivation with prosocial behaviours (Gagné, 2003; Smith *et al.*, 1983), which characterize many transformational leadership behaviours.

Although Chan and Drasgow's theory appears similar to this proposed theory of motivation for transformational leadership, there are some important distinguishing features. First, MTL examines factors which motivate leaders to take on formal leadership roles, whereas motivation for transformational leadership examines factors which motivate leaders to lead effectively once they are already in a leadership role. In other words, the primary outcome of MTL is leadership role occupancy, whereas the primary outcome of interest in motivation for transformational leadership is leader effectiveness, and this effectiveness may manifest in a variety of positive outcomes for the leader. As we are more interested in leader effectiveness than in leader position, we surveyed a sample consisting of both formal and informal leaders to investigate the quality of leadership in any role. This sample is appropriate because anyone can exert influence on others at work, and we are examining the within-person variance in the quality of those behaviours, which is unrelated to occupying a leadership position.

Job satisfaction

We hypothesized above that transformational leaders are more likely to be intrinsically motivated, such that they enjoy their work and find it inherently interesting, satisfying, and personally expressive. Thus, by definition, these types of leaders may be more likely to be satisfied with their work. Several studies have found a positive effect of transformational leadership on subordinate job satisfaction (Bass, 1985; Howell and Frost, 1989). However, enacting transformational leadership, particularly when it is autonomously motivated, may also positively influence leaders' own job satisfaction through several mechanisms. Compared to transactional and laissez-faire leadership, transformational leadership yields the highest performance outcomes (Bass, 1985). High leader performance may bring about satisfaction because it tends to lead to both intrinsic and extrinsic rewards, according to self-determination theory and expectancy theories (Deci and Ryan, 1985; Lawler and Porter, 1967). For example, inspirational motivation and intellectual stimulation may promote a more productive work environment and higher performance by followers, which may be intrinsically satisfying to leaders and may also lead to extrinsic rewards such as promotion. Specifically in tasks which are important and interesting to the individual, autonomous motivation has been related to superior job performance as well as job satisfaction (Baard *et al.*, 2004; Gagné and Deci, 2005). In contrast, controlled motivation is related to higher performance only in boring and mundane tasks and is not at all related to job satisfaction (Gagné and Deci, 2005). By enacting idealized influence and individualized consideration, the leader may develop more positive relationships with followers (Barling *et al.*, 2011). Thus, transformational leaders may contribute to their own job satisfaction by promoting an enjoyable and healthy work environment. Based on this evidence, autonomously motivated leaders may have greater leader performance, promote better performance in followers, and create a more healthy work environment, which may in turn contribute to greater job satisfaction.

Hypotheses

The present study was devised in order to collect validity evidence for a new self-report scale assessing motivation to be a transformation leader (MTFL). Based on our review of the literature we thought it necessary to examine: the factor structure of the measure; the nature of the relationship between full-range transformational leadership theory and self-determination theory; and, the relationship between the MTFL and MTL measures and their prediction of both job satisfaction as a measure of context specific well-being and transformational leadership behaviour. This process began by first

examining the factor structure of MTFL, which we expected to conform to that of the underlying self-determination theory as proposed by Gagné and Deci (2005); thus the following hypothesis is:

H1. Motivation for transformational leadership will be represented by a six-factor structure which includes amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation.

A second set of hypotheses was designed to examine the relation between MTFL and full-range transformational leadership style. As proposed above, transformational, laissez faire, contingent reward, and both active and passive management by exception leadership behaviours may be tied to different levels of internalization of effective leadership behaviours. Specifically, we expected individuals who are amotivated will be more likely to engage in laissez faire or passive leadership behaviours (Kelloway *et al.*, 2006; Mullen *et al.*, 2011) and less likely to engage in more active or transformational type behaviours. We expected that external regulation and introjected regulation may lead an individual to engage in management-based leadership styles such as passive and active management by exception. Moving towards more internal forms of motivation, we expected that a better style of leadership such as contingent reward is likely related most highly to identified and integrated regulation because such individuals identify with the role of being a leader and value good leadership, but leadership is still primarily based on exchange. Finally, we expected that intrinsic motivation would be the best predictor of transformational leadership behaviour because it represents a fully internalized motivation which may generate the charisma and commitment necessary to become a truly transformational leader. In summary *H2a-H2d* are as follows:

H2a. Amotivation will positively predict laissez-faire leadership.

H2b. External and introjected regulation will predict both passive and active management by exception.

H2c. Identified and integrated regulation will predict contingent reward leadership.

H2d. Intrinsic motivation will predict transformational leadership behaviour.

A final series of hypothesis were also devised in order to examine the relationship between Chan and Drasgow's (2001) MTL construct and motivation for transformational leadership. As discussed above, we expected that motivation to assume a leadership role is different than motivation to be a good leader, and therefore there should be evidence of discriminate validity between the two constructs. Further, we expected that motivation to be a good leader would add incremental validity to the prediction of leadership style (e.g. transformational leadership) and even job attitudes (e.g. job satisfaction). Therefore hypotheses three, four, and five dealt with the dynamic between MTL and MTFL:

H3. Motivation for transformational leadership will show evidence of discriminate validity from MTL.

H4. Motivation for transformational leadership will add incremental validity in predicting transformational leadership over and above MTL.

H5. Motivation for transformational leadership will add incremental validity in predicting job satisfaction over and above MTL.

These hypotheses formed the basis of the current research which was conducted using the following method.

Method

Participants

A total of 310 employees participated in this study. Participants worked part-time (21.4 per cent), full-time (75.2 per cent), or casual (3.4 per cent) jobs and ranged in age from 17 to 69, with an average age of 39. The majority of the sample was female (64.5 per cent) and most had an undergraduate degree (26.9 per cent) and had been with their organization for an average of 7.7 years. A total of 46 per cent of the sample held a formal leadership position and, on average, participants worked with 36 other employees in their department.

Measures

In addition to the following scales, the survey also included demographic questions such as gender, age, leadership status (formal or informal leader), number of subordinates, number of people working in the same department, education level, job tenure, and employment status. All inter-scale correlations and reliability information is presented in Table I.

Motivation for transformational leadership. The motivation for transformational leadership scale was adapted from both the motivation at work (Gagné *et al*., 2010) and the motivation for safety leadership (Scott *et al*., 2014) scales which address each level of internalization. Both scales use three items to assess each type of motivation; therefore our adapted scale totalled 18 items with three items measuring each of the five facets of motivation and an additional three measuring amotivation. The scale begins with the question stem "I put effort into being a good leader […]" and responses are scored on a scale from 1 (strongly disagree) to 7 (strongly agree). Items address each type of motivation, including external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. To measure amotivation, we changed the question stem to "Please rate the extent to which you agree or disagree on how you feel about being a good leader". We provided the following definition of a good leader: "Being a good leader involves challenging, inspiring, and motivating others to do their best, acting as a role model by doing the right thing, and treating others as individuals and helping them to meet their needs". We specified in the instructions that, according to this definition, anyone could be a good leader in their workplace even if they do not hold a formal leadership position. Therefore, participants were primed to think about acting as leaders, regardless of their role. By assessing leadership in this way, we hoped to capture motivation for effective leadership in both formal and informal leadership roles. All scale items are presented in Table II.

Transformational leadership. Transformational leadership was assessed using the 36-item multifactor leadership questionnaire (Bass and Avolio, 1994). Items from the scale that assess leader outcomes such as effectiveness, satisfaction, and extra effort were removed in this study in order to shorten the survey instrument. All items assessing full-range transformational leadership were retained. Respondents use a scale from 0 (not at all) to 4 (frequently, if not always) for questions asking how they think others in their workplace would rate them on their display of each leadership behaviour. Sub-scales include inspirational motivation (e.g. talks optimistically about the future), idealized influence (e.g. talks about their most important values and beliefs), individualized consideration (e.g. helps me develop my strengths), intellectual stimulation (e.g. gets me to look at problems from many different angles), active management by exception (e.g. concentrates his/her full attention on dealing with

Table I.
Intercorrelations with means, standard deviations, and internal consistency values for scales and sub-scales

Variable	Mean (SD)	Intercorrelations 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Amotivated MTFL	1.77 (1.14)	(0.87)														
2. External MTFL	3.46 (1.73)	0.01	(0.74)													
3. Introjected MTFL	4.15 (1.80)	−0.14*	0.20**	(0.86)												
4. Identified MTFL	6.10 (1.03)	−0.56**	0.02	0.28**	(0.86)											
5. Integrated MTFL	4.80 (1.56)	−0.32**	0.08	0.08	0.32**	(0.86)										
6. Intrinsic MTFL	5.50 (1.33)	−0.54**	0.07	0.12*	0.52**	0.39**	(0.86)									
7. AI MTL	4.23 (1.24)	−0.44**	0.06	0.03	0.37**	0.61**	0.28**	(0.89)								
8. NC MTL	4.64 (1.03)	−0.30**	−0.24**	0.09	0.37**	0.10	0.19*	0.57**	(0.88)							
9. SN MTL	4.59 (1.57)	−0.34**	0.07	0.14	0.38**	0.41**	0.25**	0.73**	0.64**	(0.85)						
10. Laissez faire	0.81 (0.90)	0.30**	0.07	−0.02	−0.23**	−0.19**	−0.22**	−0.29**	−0.27**	−0.20*	(0.89)					
11. PMBE	1.28 (0.98)	0.22**	0.13*	0.07	−0.17**	−0.14*	−0.25**	−0.12	−0.03	−0.16	0.63**	(0.80)				
12. AMBE	2.11 (1.16)	0.10	0.16**	0.07	0.07	0.14*	0.09	0.34**	0.19*	0.44**	0.14*	0.25**	(0.87)			
13. Cont. Reward	3.23 (0.75)	−0.34**	0.06	0.08	0.31**	0.22**	0.27**	0.42**	0.40**	0.50**	−0.21**	−0.14*	0.25**	(0.77)		
14. Transformational	3.29 (0.57)	−0.50**	0.05	0.11	0.48**	0.29**	0.40**	0.48**	0.42**	0.52**	−0.19**	−0.17**	0.25**	0.69**	(0.91)	
15. Job Satisfaction	4.25 (1.07)	−0.37**	0.01	−0.07	0.28**	0.15*	0.31**	0.22*	0.14	0.07	−0.07	−0.00	0.07	0.18**	0.30**	–

Notes: MTFL, motivation for transformational leadership; AI MTL, affective-identity motivation to lead; NC MTL, non-calculative motivation to lead; SN MTL, social-normative motivation to lead; PMBE, passive management by exception; AMBE, active management by exception; cont. reward, contingent reward. Coefficient α's are on the diagonal in parentheses. *$p < 0.05$; **$p < 0.01$

External regulation	F1					
… because others will reward me financially (e.g. supervisor, colleagues, family, clients)	*0.74*	−0.07	−0.08	0.04	0.06	−0.02
… to avoid losing financial benefits	*0.83*	0.03	0.03	−0.01	−0.05	−0.02
… because I risk losing my job if I do not	*0.54*	0.20	0.03	−0.04	−0.01	0.07
Introjected regulation		F2				
… because otherwise I will feel guilty	0.06	*0.77*	0.00	0.01	0.02	−0.05
… because otherwise I will feel bad about myself	−0.01	*0.92*	−0.04	−0.02	0.05	−0.04
… because otherwise I would be ashamed of myself	−0.02	*0.76*	0.08	0.04	−0.08	0.07
Identified regulation			F3			
… because it has a lot of personal meaning to me	0.05	0.04	*0.77*	0.06	0.07	0.04
… because I believe it is worth the effort to be a good leader	0.00	−0.04	*0.78*	0.05	−0.09	−0.09
… because it aligns with my values	−0.03	0.01	*0.85*	−0.07	0.05	−0.02
Integrated regulation				F4		
… because it comes naturally to me	0.04	−0.03	−0.03	*0.79*	0.10	−0.02
… because I was born to be a leader	−0.01	0.03	0.01	*0.93*	−0.10	0.03
… because it is part of my identity	−0.03	0.02	0.08	*0.60*	0.06	−0.15
Intrinsic motivation					F5	
… because what I do as a leader is exciting	−0.05	−0.05	0.05	0.03	*0.77*	0.00
… because the work I do as a leader is interesting	−0.00	0.03	−0.06	0.00	*0.92*	0.02
… because I find it energizes me	0.05	0.02	0.09	0.01	*0.74*	−0.04
Amotivation						F6
I put little effort into being a good leader	−0.01	0.08	−0.02	−0.06	0.00	*0.70*
I do not care about being a good leader	0.02	−0.05	0.02	0.00	−0.01	*0.90*
I really feel like I would be wasting my time by being a good leader	−0.01	−0.01	−0.06	0.00	0.01	*0.84*

Table II.
ESEM standardized factor loadings

mistakes, complaints, and failures), passive management by exception (e.g. sows that he/she is a firm believer in "if it ain't broke, don't fix it"), contingent reward (e.g. makes clear what one can expect to receive when performance goals are achieved), and laissez-faire leadership (e.g. avoids making decisions).

MTL. MTL was assessed using Chan and Drasgow's (2001) 27-item scale. This measure addresses different reasons for wanting to hold a formal leadership role. All responses use a five-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree) and assess affective identity (e.g. I usually want to be a leader in the groups that I work in), social normative (e.g. I was taught to believe in the value of leading others), and non-calculative (e.g. I am only interested to lead a group if there are clear advantages for me) forms of MTL.

Job satisfaction. Job satisfaction was assessed using a single-item measure from Wanous *et al.* (1997) asking "Overall, how satisfied are you with your job?" The item was assessed on a seven-point scale from 1 (very dissatisfied) to 7 (very satisfied). Although single-item measures are often discouraged because they are assumed to have low reliability, they have been supported by previous research in measuring job satisfaction (Nagy, 2002; Wanous *et al.*, 1997). In general, if the meaning of a construct is sufficiently narrow, unidimensional, and clear to the respondent, then a single-item measure may be adequate (Sackett and Larson, 1990; Wanous *et al.*, 1997). Single-item measures of a construct also tend to be more robust and all-encompassing than

multiple-item measures (Nagy, 2002; Scarpello and Campbell, 1983) because they do not draw the participants' attention to specific components of a construct, but rather leave it up to the participant to consider the relevant components of that facet for him or herself. Job satisfaction is a particularly appropriate construct to assess using a single item because the meaning of job satisfaction is relatively universal, such that respondents should be able to answer the item with little difficulty or confusion. Further, by using a single item, we are more likely to get a robust assessment of overall job satisfaction.

Procedure

Out of the total 310 participants, 60 participants were recruited using an online snowball sampling technique. An additional 250 participants were recruited by a market research firm which administered the survey over the telephone to participants who worked either full-time or part-time. All participants were able to submit a ballot for a lottery draw for a $100 Visa gift card.

Results

Factor structure

H1 predicted that the motivation for transformational leadership would be represented by a six-factor structure conforming to Gagné and Deci's (2005) continuum which includes each of: amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. This was tested using exploratory structural equation modelling (ESEM) rather than confirmatory factor analysis (CFA). Although the importance of CFA as a measurement model in a broader structural equation model (SEM) is well recognized there are numerous examples of well-established measures with good reliability being poorly represented by CFA models (Marsh *et al.*, 2009). Specifically, CFA is arbitrarily restrictive in that each indicator can only load on one theoretical factor – requiring zero correlation between items across factors which is a near impossibility when writing items for factors in a larger measure of the same construct, especially when there are greater than five factors (Marsh *et al.*, 2009). ESEM allows one to preserve the benefits of CFA by applying exploratory factor analysis within an SEM framework; which provides SEM parameters and standard errors in addition to goodness of fit statistics and factor loadings (Marsh *et al.*, 2009). H1 was fully supported; the hypothesized six-factor structure was an exceptional fit to the data ($\chi^2_{(60)} = 92.88$, $p = 0.004$; CFI = 0.99, RMSEA = 0.042, *p*close = 0.776, 90 per cent CI = 0.024-0.058) and all items loaded on their prospective factors cleanly (see Table II). To support the inclusion of non-leaders in this analysis, we go onto test the measurement invariance of the measure across the leader and non-leader samples.

Tests of equality of parameter estimates

Our sample included 137 leaders and 161 non-leaders (12 unidentified). We argue that these groups can be combined because even subordinates can behave as leaders in some capacity and therefore be motivated to act as a good leader. To support the inclusion of the non-leaders in further analysis, we tested for the equality of parameter estimates across the two groups using CFA conducted in Mplus v. 7.0. The χ^2 difference value compared the fit of the unconstrained model, where the parameters were allowed to freely vary, to that of the constrained model where the parameters were constrained to equality across the two groups. If the fit of the constrained model is not significantly worse than

that of the unconstrained model, then the results support the equality of parameter estimates across the two groups (Cheung and Rensvold, 2002; Kelloway, 2014). Here, we conducted multi-group CFA, which compared the six-factor model fit across the leader and non-leader samples. The unconstrained model, in which factor loadings were freely estimated in each group, provided an acceptable fit to the data (χ^2 (252) = 393.96, $p < 0.01$; CFI = 0.949; RMSEA = 0.06, ns) according to the criteria articulated by Hu and Bentler (1998). All loadings were significant satisfying the criterion for configural invariance. To test for metric invariance, we first constrained the factor loadings to equality across the two groups. The resulting model provided a slightly worse fit to the data (χ^2 (262) = 419.44, $p < 0.01$; CFI = 0.944; RMSEA = 0.06) and a worse fit to the data than did the unconstrained model suggesting a lack of metric equivalence ($\chi^2_{(\text{difference})}$ (10) = 25.48, $p < 0.01$). However, both Brannick (1995) and Kelloway (1995) have noted that this difference test is inflated by sample size (which enters directly into the calculation of the fit statistic). Cheung and Rensvold (2002) recommend using the ΔCFI index with values of < 0.01 indicating equivalent models. Based on this criterion, our data satisfy the requirement of metric equivalence (ΔCFI = 0.005) suggesting that meaningful cross-group comparisons can be made using the instrument. Based on these results, we have combined the two samples in further analysis.

Relationships between motivation and leadership style

In order to examine *H2a-H2d*, which posited that different sources of motivation might be more closely related to specific leadership styles than others, we used regression analysis whereby the five motivation levels and amotivation were regressed onto each type of leadership. We found support for *H2a*, which predicted that amotivation would be the best predictor of laissez-faire leadership. This model accounted for 33.5 per cent of the variance explained in laissez-faire leadership, $F_{(6, 293)} = 6.16$, $p < 0.001$. Amotivation was the only significant predictor of laissez-faire leadership among all six predictors, $\beta = 0.201$, $t_{(293)} = 2.85$, $p < 0.001$.

We found partial support for *H2b*, which predicted that external and introjected regulation would be the best predictors of both passive and active management by exception. In predicting passive management by exception, the six levels of motivation for transformational leadership accounted for 32.9 per cent of the variance in the criterion, $F_{(6, 293)} = 5.94$, $p < 0.001$. In this model, introjected regulation did not add unique variance ($\beta = 0.10$, $t_{(293)} = 1.69$, $p > 0.05$), however, external regulation positive predicted this form of leadership ($\beta = 0.138$, $t_{(293)} = 2.43$, $p < 0.05$) and intrinsic motivation was inversely related to this leadership style ($\beta = -0.183$, $t_{(293)} = -2.58$, $p < 0.05$). In predicting active management by exception, all predictors together accounted for 21.2 per cent of the variance explained in the criterion, $F_{(6, 293)} = 2.30$, $p < 0.05$. Although introjected regulation was not a significant predictor ($\beta = 0.024$, $t_{(293)} = 0.395$, $p > 0.05$), external regulation was the only significant predictor among the six predictors ($\beta = 0.147$, $t_{(293)} = 2.51$, $p < 0.05$).

We also found partial support for *H2c*, which predicted that identified and integrated regulation would be the best predictors of contingent reward leadership. Motivation for transformational leadership as a whole accounted for 39.1 per cent of the variance in contingent reward leadership, $F_{(6, 291)} = 8.73$, $p < 0.001$. Identified regulation was a significant predictor of contingent reward leadership ($\beta = 0.144$, $t_{(291)} = 2.03$, $p > 0.05$), but integrated regulation was not a significant predictor ($\beta = 0.090$, $t_{(291)} = 1.52$, $p > 0.05$). Amotivation also emerged as a predictor of contingent reward leadership ($\beta = -0.219$, $t_{(291)} = -3.13$, $p < 0.05$) such that those who were amotivated reported less engagement in contingent reward behaviours.

Finally, we did not find support for *H2d*, which predicted that intrinsic motivation would be the best predictor of transformational leadership behaviour. Overall, the combined motivation for transformational leadership sub-scales accounted for 57.3 per cent of the variance in transformational leadership style ($F_{(6, 294)} = 23.91$, $p < 0.001$), which is exceptional. However, intrinsic motivation was not a significant predictor of transformational leadership style ($\beta = -0.070$, $t_{(294)} = 1.14$, $p > 0.05$), which was best predicted instead by a combination of amotivation ($\beta = -0.301$, $t_{(294)} = -4.89$, $p < 0.001$) and identified regulation ($\beta = 0.253$, $t_{(294)} = 4.03$, $p < 0.001$).

Motivation for transformational leadership vs MTL

H3-H5 were all engineered to address the utility of the motivation for transformational leadership construct and whether or not it was distinct from the Chan and Drasgow (2001) MTL construct. Hypothesis three predicted that motivation for transformational leadership would show evidence of discriminate validity from MTL. The data largely supported this hypothesis, as the vast majority of correlations between the two constructs were moderate to low ($r = +/-0.30$), with seven exceptions ($r = +/-0.31$-0.61). All correlations are presented in Table I.

H4 was supported in its prediction that motivation for transformational leadership would add incremental validity in predicting transformational leadership over and above MTL. This was tested via hierarchical regression analysis predicting transformational leadership, and the results are presented in Table III. In step 1 affective identity, social normative, and non-calculative MTL were entered together as the MTL construct, which accounted for 41.8 per cent of the variance in transformational leadership, $F_{(3, 73)} = 17.49$, $p < 0.001$. In this step, non-calculative MTL was a significant predictor of transformational leadership and social normative and affective identity MTL were not significant predictors. Step 2 saw the addition of amotivation, external, introjected, identified, and integrated regulation, as well as intrinsic motivation; all of which form the motivation for transformational leadership scale. MFTL accounted for an additional 14.1 per cent of the variance in transformational leadership beyond that of MTL, $\Delta F_{(6, 67)} = 3.59$, $p < 0.05$. In this step, amotivation, external regulation, and identified regulation were significant unique predictors of transformational leadership.

	Job satisfaction				Transformational leadership			
	B	SEB	*β*	*t*	*B*	SEB	*β*	*t*
Step 1: MTL scales	$\Delta R^2 = 0.103$, $F(3, 73) = 2.81$*				$\Delta R^2 = 0.418$, $F(3, 73) = 17.50$**			
Affective identity MTL	0.279	0.128	0.348	2.18*	0.125	0.065	0.247	1.92
Non-calculative MTL	0.224	0.153	0.243	1.47	0.213	0.078	0.366	2.75**
Social-normative MTL	−0.209	0.121	−0.334	−1.73	0.046	0.061	0.117	0.751
Step 2: MFTL scales	$\Delta R^2 = 0.177$, $F(6, 67) = 2.75$*				$\Delta R^2 = 0.141$, $F(6, 67) = 3.59$**			
Amotivation	−0.059	0.147	−0.061	−0.404	−0.156	0.073	−0.253	−2.14*
External regulation	0.005	0.070	0.008	0.066	0.069	0.034	0.190	2.02*
Introjected regulation	−0.183	0.061	−0.344	−3.00**	−0.026	0.030	−0.076	−0.848
Identified regulation	0.311	0.154	0.296	2.02*	0.160	0.076	0.241	2.11*
Integrated regulation	−0.075	0.094	−0.117	−0.801	0.009	0.046	0.023	0.202
Intrinsic motivation	0.012	0.093	0.017	0.126	−0.031	0.046	−0.070	−0.675

Notes: *$p < 0.05$; **$p < 0.01$

Table III. Results of hierarchical regression analysis predicting job satisfaction and transformational leadership

H5 was also supported in its prediction that motivation for transformational leadership would add incremental validity in predicting job satisfaction over and above MTL. A second hierarchical regression analysis predicted job satisfaction by entering MTL in step 1, and motivation for transformational leadership in step 2. In step 1, MTL accounted for 10.3 per cent of the variance in job satisfaction ($F_{(3, 73)} = 2.81, p < = 0.05$). In step 2, motivation for transformational leadership accounted for an additional 17.7 per cent of the variance in job satisfaction, $\Delta F_{(6, 67)} = 2.75$, $p < 0.05$. In this step, introjected and identified regulation were the significant unique predictors of job satisfaction.

Post-hoc *analysis*

In order to get a better understanding of how the motivation for transformational leadership construct relates to transformational leadership behaviours, we decided to conduct a *post-hoc* analysis at the sub-scale level. A hierarchical regression was conducted with MTFL predicting inspirational motivation, idealized influence, individualized consideration, and intellectual stimulation. The results are presented in Table IV. Amotivation was a significant predictor of all four constructs, the strongest of which was inspirational motivation. Identified regulation was a significant predictor of intellectual stimulation, idealized influence, and individualized consideration, while intrinsic motivation was a significant predictor of inspirational motivation. These findings point towards a differential effect of the six components of MTFL on the range of transformational leadership behaviours.

Discussion

We found support for a six-factor model of self-determined motivation for effective leadership, which is fully representative of Gagné and Deci's (2005) model. Our findings are particularly significant in that they empirically distinguished between identified and integrated regulation, which supports the theoretical difference between these two levels of internalization. This difference has been difficult to establish in previous studies of SDT (e.g. Gagné *et al.*, 2010; Ryan and Connell, 1989; Vallerand *et al.*, 1992).

We found full support for only one of our hypotheses regarding the relationships between type of motivation and type of leadership style. As we hypothesized, amotivation turned out to be the best predictor of laissez-faire leadership, and in fact,

	Transformational leadership sub-scales							
	Intellectual stimulation		Individualized consideration		Idealized influence		Inspirational motivation	
	β	t	β	t	β	t	β	t
	$R^2 = 0.207$		$R^2 = 0.157$		$R^2 = 0.297$		$R^2 = 0.257$	
	$F(6, 293) = 12.94$**		$F(6, 294) = 9.14$**		$F(6, 294) = 20.67$**		$F(6, 292) = 16.81$**	
Amotivation	−0.193	−2.88**	−0.214	−3.09**	−0.233	−3.69**	−0.330	−5.06**
External regulation	0.051	0.96	−0.043	−0.774	0.045	0.890	0.089	1.71
Introjected regulation	−0.040	−0.73	−0.052	−0.917	0.058	1.12	−0.022	−0.416
Identified regulation	0.272	3.99**	0.171	2.43*	0.291	4.52**	0.096	1.45
Integrated regulation	0.041	0.708	0.101	1.71	0.101	1.88	0.053	0.959
Intrinsic motivation	0.047	0.706	0.023	0.339	0.027	0.429	0.127	1.94*

Table IV.
Post-hoc regression results for transformational leadership sub-scales

Notes: *$p < 0.05$; **$p < 0.01$

it was the only significant predictor of laissez-faire leadership among the six levels of motivation. We found partial support for the hypothesis that external and introjected regulation would be the best predictor of both passive and active management by exception. Here, introjected regulation was not predictive of either style of leadership, but external regulation predicted both styles. Interestingly, intrinsic regulation also significantly predicted passive management by exception. *H2c* predicted that identified and integrated regulation would be the best predictors of contingent reward leadership, and this hypothesis was also partially supported as identified regulation and amotivation were significant predictors but integrated regulation did not emerge as a significant predictor of this leadership style. Finally, *H2d* predicted that intrinsic motivation would be the best predictor of transformational leadership behaviour. Overall, motivation for transformational leadership accounted for over half of the variance in transformational leadership behaviour, but intrinsic motivation was not a significant predictor of transformational leadership. Instead, transformational leadership was predicted by amotivation and identified regulation.

The results described above are significant because they suggest that in predicting transformational leadership behaviour, autonomously regulated extrinsic motivation as well as amotivation may be more important than intrinsic motivation. This finding is key because the organizational literature often emphasizes the importance of promoting intrinsic motivation in order to motivate effective work behaviours (see Gagné and Deci, 2005). However, we found that the most effective leadership behaviours are actually not predicted by intrinsic motivation at all. Transformational leadership was predicted negatively by amotivation and positively by identified regulation. Retrospectively, the proposed link between intrinsic motivation and transformational leadership may be somewhat contradictory. As purely intrinsic motivation involves doing something purely for enjoyment, it may not be enough to elicit the individual to sacrifice their own interests for the group, which is a characteristic of highly transformational leaders. Instead, such a sacrifice may require that leader performance integrates with one's life goals and values, and is identified as the ethically responsible choice. In this regard transformational leadership may require an autonomous form of regulation that amounts not only to personal enjoyment, but also to a moral responsibility to be an effective leader.

In the same vein, identified regulation was also a significant predictor of contingent reward leadership, which is a positive form of leadership that may be similar in some ways to transformational leadership (Avolio *et al.*, 1999; Antonakis, 2001). Thus, the lack of amotivation and the presence of autonomously controlled extrinsic motivation are important for transformational and contingent reward leadership, which is the most effective form of transactional leadership. These findings have implications for training and leader selection, described below.

Amotivation was an important predictor for almost all forms of leadership, as it significantly predicted laissez-faire leadership, contingent reward leadership, and transformational leadership. Amotivation refers to a complete lack of intent to engage in any behaviour (Gagné and Deci, 2005), which may explain its powerful effects on all types of leadership. Leaders who are amotivated are highly unlikely to exhibit leadership behaviours, regardless of type or level of effectiveness. Regardless of this theoretical tenet of SDT, amotivation actually positively predicted laissez-faire leadership. This finding suggests that amotivation does actually predict behaviour, rather than simply the absence of behaviour, although it positively predicts only this single less effective leadership style. This finding suggests the practical importance of

screening out leader candidates who may be amotivated in leadership selection procedures. Interestingly, within our small sample that included 132 formal leaders, five of those leaders identified themselves as amotivated. This finding is notable because if these results generalize to the population of leaders in the workplace it suggests that a small portion of them may be completely unmotivated for good leadership and, as such, are likely to be ineffective leaders. By screening out these candidates, organizations may avoid selecting leaders who may be ineffective and increase the probability of selecting an effective leader.

Intrinsic motivation was a significant predictor for only one leadership style, which was passive management by exception. Following from the earlier discussion regarding the nature of intrinsic motivation, those who are motivated to lead purely because they enjoy it are likely to be more active rather than passive in their approach towards leadership activities (i.e. actively seeking out subordinates and looking for opportunities to lead), which may explain this particular negative relationship. Laissez-faire leaders may not have the requisite skills, training, or experience to engage in a contingent reward type of leadership nor experience the moral obligations of autonomous regulation required to support the resource-heavy pursuits of transformational leadership behaviours. The relationship between training, experience and motivation for transformational leadership warrants future research attention. Based on the current discussion, however, it is also theoretically possible that receiving training in transformational leadership and on the individual and organizational outcomes of good vs poor leadership may elicit a value or ethics-based response which may explain the relationship between autonomously regulated motivation and transformational leadership. This hypothesis should be examined in the context of training, motivation, and leadership behaviours.

We found support for the discriminant validity of MTL from motivation for transformational leadership, as correlations between the two constructs were largely moderate to low. These findings provide support for the idea that motivation for transformational leadership is a construct that is distinct from MTL and contributes uniquely to the leadership literature.

Next, we examined whether motivation for transformational leadership would add incremental validity in predicting transformational leadership over and above MTL. Motivation for transformational leadership did account for significant additional variance in transformational leadership above and beyond MTL, with amotivation, external, and identified regulation as the three significant predictors in step 2 of the analysis. Amotivation was the strongest predictor in this step, and thus, the lack of any motivation at all may be the strongest predictor of whether or not a leader is effective. The second strongest predictor was identified regulation, which may suggest that the leaders' belief that good leadership is important for their self-selected goals is more likely to motivate transformational leadership behaviour than even more internalized forms of motivation. In addition, it is notable that intrinsic motivation was not a significant predictor of overall transformational leadership, as was predicted. So, deriving spontaneous satisfaction and enjoyment by enacting good leadership may not be a primary motivator for transformational leaders. These findings support Gagné and Deci's (2005) proposition that intrinsic motivation would best predict behaviours that are interesting in their own right, whereas autonomous forms of extrinsic motivation (identified and integrated) would best predict performance in tasks requiring effort and discipline. However, intrinsic motivation may be important for specific types of transformational leadership behaviour. *Post-hoc* analyses suggest that

intrinsic motivation is an important predictor of inspirational motivation whereas identified regulation is important in predicting idealized influence, individualized consideration, and intellectual stimulation behaviours. Perhaps inspirational motivation is a more enjoyable aspect of transformational leadership, whereas the other behaviours require more effort or discipline, characterized by external regulation. Interestingly, external regulation positively predicted transformational leadership behaviours. This finding further supports the idea that in some cases, the presence of an external contingency (e.g. reward for good leadership or punishment for bad leadership) may be required to motivate leaders to be effective. In short, leaders may be motivated to be transformational by a combination of two main factors: because effective leadership helps them to meet their self-selected goals and because it helps them to avoid punishment and obtain desirable outcomes. These findings may have significant implications for the selection of leaders, which are discussed below.

Finally, we found support for the hypothesis that motivation for transformational leadership would predict job satisfaction above and beyond the variance explained by MTL. MTL alone accounted for significant variance explained in job satisfaction, however motivation for transformational leadership accounted for a substantial amount of additional variance explained in the criterion. Introjected and identified regulation were the only two significant predictors of job satisfaction in step 2 of the analysis, such that introjected regulation negatively predicted job satisfaction and identified regulation positive predicted this attitude. These results suggest that engaging in effective leadership because it is worth the effort, aligns with one's values, and has personal meaning plays a key role in promoting positive attitudes towards work. Interestingly, these results suggest that high job satisfaction may be attained in the absence of fully internalized regulation. However these results suggest that there is a clear difference between autonomous and controlled motivation such that autonomous motivation promotes job satisfaction and controlled motivation diminishes it, as was predicted.

Implications

The analyses and results of this paper have several practical implications for both research and practice. In terms of research-focused implications, we found evidence for a six-factor model of MTFL, which supports Gagné and Deci's (2005) theoretical framework of self-determination theory. In finding support for this factor structure, we also find support for integration as a unique component of self-determined motivation for transformational leadership that is distinct from both intrinsic motivation and identified regulation. Further, we found that amotivation, external regulation, and identified regulation are the most important predictors of transformational leadership. We did not find support for intrinsic motivation as a significant predictor of transformational leadership, but this finding may have theoretical implications whereby intrinsic motivation may predict certain types of effective leadership behaviours but not others. Specifically, intrinsic motivation may best predict behaviours that are interesting in their own right, whereas autonomous forms of extrinsic motivation (identified and integrated) may best predict performance in tasks requiring effort and discipline (Gagné and Deci, 2005). Although transformational leadership as a whole may be characterized by inherent interest, certain behaviours within this leadership style may be more interesting or enjoyable than others. For example, articulating a meaningful vision to others, as in inspirational motivation, may be a more energizing and personally expressive leadership activity, whereas

idealized influence, individualized consideration, and intellectual stimulation behaviours may require more conscious effort or discipline.

A final theoretical implication of this study is that leadership theories have largely focused on leader emergence and leader role occupancy (Chan and Drasgow, 2001), but have not examined motivation to be an effective leader. The current study addresses this gap in the literature by developing and validating a scale to measure leaders' motivations to both emerge as leaders and to perform well in a leadership role. By integrating two prominent organizational theories, transformational leadership theory and self-determination theory, this study extends beyond Chan and Drasgow's model of MTL to include motivation to be an effective leader as well as leader emergence. As the findings above suggest, motivation for transformational leadership is distinct from MTL based on discriminant validity as well as concurrent validity in predicting transformational leadership and job satisfaction.

Our results also have practical implications for selection and training. We found evidence that the relationships between motivation for transformational leadership and actual leadership behaviour are similar in both the leader and non-formal-leader groups, suggesting that the tool may have utility for selecting future leaders from a population of non-leaders. In terms of leadership selection, our results suggest that it may be very important to screen out amotivated candidates, because amotivation seems strongly negatively related to all forms of leadership. Although it seems unlikely that amotivated individuals will become leaders, 3.5 per cent of our sample of formal leaders reported being amotivated. Further implications concern our finding that a form of autonomous motivation as well as external regulation are significant predictors of transformational leadership but intrinsic motivation is not a significant predictor. This finding is significant for practice because it may be more realistic for organizations to promote autonomous and controlled regulation than to promote intrinsic motivation. However, there is evidence that organizations can support self-determined motivation by manipulating the social context. For example, an autonomy-supportive social context where the organization provides a meaningful rationale for tasks, offers choice to leaders in decision making, and acknowledges the feelings of the leader may promote integrated internalization (Deci *et al.*, 1994). Organizations may be able to implement autonomy support in leadership training and development in order to promote internalization by leaders, and may also use similar strategies in succession planning when candidates are being developed for future leadership positions.

Conclusion

The current study examined leaders' motivation to enact effective leader behaviour, an area of research that has not yet been explored. The results of this study suggest that motivation for transformational leadership is important for leader outcomes and this knowledge may inform leader selection procedures in order to select autonomously motivated leaders, who may be more effective in leadership roles. Importantly, this study has developed and validated a measure of motivation for transformational leadership, which may be used in future research on the construct. Further, the measure may be implemented as a selection tool or a tool to inform training and development needs.

Limitations and future research directions

Limitations of the current study include the use of primarily self-report data, which generates the possibility for mono-method bias. Future studies should use objective

data, such as actual subordinate turnover, as outcomes of transformational leadership and MTL. This study is also limited to using convenience samples for the intervention, where random selection would be optimal. This method limited the number of formal leaders who were included in the study.

Future research should examine whether motivation for transformational leadership influences subordinate attitudes such as commitment and satisfaction or subordinate performance. Further, future studies should address the question of whether motivation for transformational leadership is stable over time, or whether it can be promoted through leadership training interventions. Future studies may also examine other predictors of MTL, which may include personality or situational variables. Other outcomes of the construct may include engagement, job performance, or innovativeness. The current research should be replicated in other samples and work settings.

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