

An Examination of the MLQ and Development of the
Transformational Leadership Questionnaire

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Master of Science in Applied Psychology Thesis

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Abstract

An Examination of the MLQ and Development of the Transformational Leadership Questionnaire by Tammy A. Mahar, May 5, 2004

The transformational leadership dimension of the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1995) is the mostly widely used measure of transformational leadership. Due to past concerns of its inability to demonstrate dimensionality, the current study assessed the reliability and validity of the transformational leadership scale of the MLQ and devised the Transformational Leadership Questionnaire (TLQ). Confirmatory factor analysis (CFA) on data obtained from 305 undergraduate students yielded ambiguous results when comparing a unidimensional and the intended five-factor model of transformational leadership underlying the MLQ. The internal consistency of the MLQ was acceptable to high. An exploratory factor analysis (EFA) of the TLQ demonstrated sufficient evidence of a four-component theory of transformational leadership, although a two-factor model also emerged. Using CFA on a second independent sample of 235 undergraduate students, the intended four-factor model fit the data moderately well compared to a unidimensional model but essentially the same compared to the two-factor model that emerged during the EFA. The internal consistency of the TLQ and individual subscales was high. Intended correlations supported the construct validity of the TLQ in most cases. Hierarchical regression analyses supported the ability of the TLQ subscales to incremental prediction in most cases. Although a competing two-factor model fit the data well, results provide favourable preliminary evidence of the construct validity, reliability, and dimensionality of the intended four-factor model of the TLQ.

An Examination of the MLQ and Development of the Transformational Leadership Questionnaire

Over the past century, transformational leadership theory has been studied more than all other leadership theories combined (Judge & Bono, 2000). Transformational leadership is theorized to be a multidimensional construct. Individuals who demonstrate this form of leadership style are highly diverse in their behaviors and attributes and are characterized by a wide range of leadership qualities (Bass, 1985). The Multifactor Leadership Questionnaire (MLQ¹; Bass & Avolio, 1995), which is the most widely used leadership measure (Bryman, 1992), assesses three leader styles (transformational, transactional, and laissez-faire leadership) and three follower outcomes (leader effectiveness, satisfaction with leader, and extra effort exerted because of the leader). Evidence supports the reliability and dimensionality of the overall leadership scales (Bass & Avolio, 1995; Carless, 1998; Hartog & Van Muijen, 1997; Antonakis, 2001; Nischan, 1997; Tejeda, Scandura, & Pillai, 2001). For example, individuals recognize distinctions among the three leader styles when presented experimentally (Kelloway, Barling, Kelley, Comtois, & Gatien, 2003). When presented with e-mail messages reflecting the three forms of leadership, subjects can distinguish among the three leadership forms based on the content of the message (Kelloway et al., 2003).

Although the overall factor structure of the MLQ is sound, the five specific subscales that represent the transformational leadership style tend to converge when examined empirically even though they are supposed to be separate and distinct (Bass & Avolio, 1995). The subscale convergence suggests that the MLQ measures only one

¹ The version of the MLQ tested in the current study is the MLQ-5X. For simplicity, it will be referred to throughout the study as the MLQ.

higher-order transformational leadership factor (Bycio, Hackett, & Allen, 1995; Carless, 1998; Tracey & Hinkin, 1998), which may lead to undesirable implications if important decisions are made based on obtained scores. Due to past concerns involving the wide use of the MLQ, a detailed investigation into the measure's psychometric properties is merited, as is developing an alternate measure of transformational leadership so that the assessment of these leader qualities is not reliant solely upon a single and possibly unsound measure. The objective of the current study was to examine the reliability and dimensionality of the MLQ transformational leadership scale and to further develop the Transformational Leadership Questionnaire (TLQ; Mahar & Mahar, 2002²) in response to the nearly sole reliance upon the MLQ as a measure of transformational leadership.

Overview of Contemporary Transformational Leadership Theory

Contemporary transformational leadership theory primarily dates back to Burns (1978). According to Burns (1978), transformational leadership is a process whereby leaders and followers reciprocally empower each other to rise to higher levels of motivation and morality. Transformational leaders are not motivated by basic emotions such as greed or fear, but instead go beyond them to promote justice and freedom. Transformational leaders are considered to be moral agents who often stimulate their followers to become transformational leaders themselves. Much of Bass's (1985) work on transformational leadership was developed using Burns' (1978) theory as a benchmark, although their theories reflect fundamental differences. Bass (1985) stressed that followers inherently possess needs and wants that expand depending on the degree of transformational leadership to which they are exposed. Unlike Burns (1978), Bass (1985)

² An initial TLQ development study was conducted and the results were used as a framework for the current study. The method and outcome of the initial study are outlined in Appendix A.

believed that there are both negative and positive versions of transformational leadership and that both equally are powerful in their abilities to transform followers. Burns (1978) believed that transformational and transactional leadership occupy opposite extremes of a continuum, whereas Bass (1985) believed that transformational leadership is a higher-order leadership; transformational leaders first possess transactional characteristics such as defining a task and what will be received in return for properly executing the task. Eventually, attainment of desired goals extends beyond achieving basic transactions.

Evolution of the Multifactor Leadership Questionnaire

Bass (1985) conceptualized leadership as a three-component taxonomy: laissez-faire leadership, transactional leadership, and transformational leadership. Laissez-faire leaders are minimally effective leaders who respond to situations only after they have become serious, and tend to do so poorly (Bass, 1985). Transactional leadership involves influencing subordinates through an exchange process; subordinates exchange efforts for rewards received from their respective leaders. Transactional leaders are focused on the present rather than on the future and are considered to be task-oriented (Bass, 1985). The difference between transactional and transformational leadership is similar to what some believe to be the difference between managers and leaders; transactional behaviors are considered to be management behaviors and transformational behaviors are viewed as leadership behaviors. Transformational leaders extend beyond simple transactional leadership exchange processes (Bass, 1985). Bass (1985) states that followers emerge as leaders because past exposure to a transformational leader prepares them to move beyond simple transactional behaviors. Although transactional leaders become transformational due to consistent exposure to transformational leaders, the transactional leader must first

possess a minimal level of transformational characteristics to become transformational; without a minimal level of these characteristics, an individual cannot progress into being transformational, despite exposure to a transformational leader (Bass, 1985).

Bass (1985) believed that transformational leaders actively generate awareness of the purpose and mission of the group. They broaden and elevate their followers' interests by motivating them to strive beyond self-interest and toward interests that benefit the group. The MLQ operationalized Bass's (1985) transformational leadership theory using three subscales: charismatic-inspirational leadership, intellectual stimulation, and individualized consideration (Avolio & Bass, 1988). Bass's (1985) original theory was expanded to suggest that transformational leaders provide a clear sense of purpose that is energizing; they are role models concerning ethical conduct; and they stimulate followers to question the status quo of solving problems and encourage innovative problem solving. Transformational leaders understand the individual needs of followers and work with them to develop their full potential. They clearly define what is expected of followers and what followers will receive based on their performance, and they monitor task execution for problems that may arise, correct problems to maintain performance levels, and react to problems if they become serious (Avolio & Bass, 1988).

For theoretical and practical reasons, several adjustments were made over time to the theory underlying the MLQ. Bass and Avolio (1995) redefined transformational leaders as ideal influencers, which is represented by their degree of pride, respect, and faith. Transformational leaders also stimulate enthusiasm and verbally build confidence in others. They promote followers to solve problems in innovative ways, and encourage and give personal attention to followers. Specifically, transformational leaders possess

behavioral idealized influence and attributed idealized influence; they are inspirationally motivating and intellectually stimulating; and they give individual consideration to followers. The current MLQ operationalized Bass and Avolio's (1995) transformational leadership theory using five subscales: behavioral idealized influence and attributed idealized influence, which often are collapsed into a single charisma scale; inspirational motivation; intellectual stimulation; and individual consideration. The transformational leadership concept contains several important and distinct attributes; individuals may possess some and not others, or many but to various degrees (Avolio, Bass, & Jung, 1999; Bass & Avolio, 1995; Bycio et al., 1995). The five transformational leadership subscales of the MLQ consist of four items each that are presented as statements characterizing leadership behaviors. Using a Likert-type scale, for each of the 20 items, respondents rate an individual's leadership abilities based on the frequency with which they feel the individual demonstrates the characteristics described (Bass & Avolio, 1995).

Psychometric Properties of the Multifactor Leadership Questionnaire

The transformational leadership dimension of the MLQ generally is reliable when measuring leadership style. In a study conducted to assess the factor structure of the MLQ, the Cronbach's alpha coefficient for transformational leadership was .95, and was .93, .81, .75, and .72 for the charisma, intellectual stimulation, individual consideration, and inspiration subscales, respectively (Hartog & Van Muijen, 1997). Other studies report stronger coefficients of .98 for transformational leadership, and from .94 to .81 for the individual subscales (Comer, Jolson, Dubinsky, & Yammarino, 1995). Many studies, however, have reported the inability to demonstrate dimensionality of the individual subscales (Carless, 1998; Carless, Wearing, & Mann, 2000; Hartog & Van Muijen, 1997;

Tepper & Percy, 1994). Average subscale inter-correlations were as high as $r = .93$ with only a small portion of variance being item specific (Carless, 1998). Items likely are measuring overall transformational leadership rather than specific subscales (Carless, 1998; Carless et al., 2000; Hartog & Van Muijen, 1997; Tepper & Percy, 1994).

High convergence among subscales may have been due to problems with item wording, a lack of discriminant validity among certain leadership factors, and the incorporation of behaviors and attributions in the same scale (Avolio et al., 1999; Bass & Avolio, 1995). If behavioral and attributed idealized influence, inspirational motivation, individual consideration, and intellectual stimulation are theorized to be separate concepts, then it is insufficient to have them all be described by the single latent variable because many aspects of this leadership style merit specific recognition (Carless, 1998; Tracey & Hinkin, 1998). Since the development of the original MLQ, items have been trimmed to reduce the number of parameters to be estimated, to eliminate cross loading of items, and to improve the instrument's psychometric properties (Bass & Avolio, 1995); however, changes enabled researchers to measure transformational leadership multidimensionally only in some cases (Avolio et al., 1999). Most likely, the MLQ transformational leadership scale and subscales will demonstrate high internal consistency, but will fit a single-factor model better than the intended five-factor model.

Development of a Transformational Leadership Theory

Three subscales operationalized the initial theory of transformational leadership proposed by Bass (1985): charismatic-inspirational leadership, intellectual stimulation, and individualized consideration. Revisions over the years yielded the current five subscales: behavioral idealized influence, attributed idealized influence, inspirational

motivation, individual consideration, and intellectual stimulation (Bass & Avolio, 1995).

It is unclear how the alteration from the original three subscales to the current five subscales occurred. Some subscales replaced others and new subscales were created without discernable symmetry in theory across certain revisions, specifically for the charisma and moral agency subscales.

The charismatic-inspirational leadership scale represented charisma on the original MLQ (Bass & Avolio, 1995). The current MLQ represents charisma and the moral nature of the leader using the two idealized influence scales (Bass & Avolio, 1995). It would seem more congruent if the current inspirational motivation scale represents the original charismatic-inspiration scale and if the current idealized influence scales represent moral agency. If researchers use the idealized influence scales to represent charisma, are charisma and morality supposed to be congruent and are charisma and inspiration supposed to be incongruent?

If there are problems with the theory underlying the MLQ, then likely they will be reflected in the measure, which would explain its psychometric limitations. Ultimately, the nearly sole reliance on the MLQ as a measure of transformational leadership is unsettling because of its conceptual and operational problems. Other measures should exist to measure such a widely studied and important concept as transformational leadership if its nature is to be understood clearly. In response to these issues, the current study continued the development of the TLQ (Mahar & Mahar, 2002).

Conceptual Definition of Transformational Leadership

The current study organized fundamental characteristics proposed by Conger and Kanungo (1988), Burns (1978), and Bass (1985) into a transformational leadership theory

and operationalized it by developing the TLQ. Although the TLQ contains subscales fairly similar to the MLQ transformational leadership subscales, they have been demarcated more clearly to reflect the uniqueness inherent within each of the four transformational leadership characteristics. Specifically, using the theory proposed by Conger and Kanungo (1998) as benchmarks, Bass and Avolio's (1995) concept of inspirational motivation was refined and replaced by the charisma subscale. Using Burns (1978) as a benchmark, Bass and Avolio's (1995) concepts of behavioral and attributed idealized influence were redefined and replaced by a moral agency subscale. Finally, the intellectual empowerment and individualized consideration subscales outlined by Bass (1985) were retained and refined for clarity because they are considered necessary characteristics of transformational leaders.

Defining charisma. Charisma has been thought of as a component of a higher-order leadership, such as transformational leadership (Bass, 1985), as well as a multidimensional leadership style in and of itself (Conger 1999; Conger & Kanungo, 1988). The current study included charisma as a necessary aspect of transformational leaders because of the extent to which charismatic individuals motivate and encourage followers to engage in major changes, or transformations, beneficial to the group. Charismatic leaders possess strategic vision and have an incredible ability to motivate followers to achieve ambitious goals. They tend to be involved in radical transformations of large bureaucratic organizations and in the creation of successful entrepreneurial ventures (Conger, 1999; Conger & Kanungo, 1988). Charismatic leaders operate best in cases that require a need for major change and motivate followers by strengthening their self-confidence, convictions, and assertiveness (Conger, 1999). The current study

proposes that an individual who possesses the charismatic component of overall transformational leadership is characterized by the current study as someone who generates an energizing sense of purpose and stimulates enthusiasm, confidence, and willingness of others. Charismatic transformational leaders are confident, convincing, and inspiring, and display true enthusiasm when goals are achieved. Their energy and vigour enables them to transform followers to yield exceptional results.

Defining morality. Transformational leaders are role models concerning moral and ethical conduct (Burns, 1978), which is represented by their degree of respect toward others, their concern for the well being of others, and the honesty and integrity of their actions. A leader high in morality would engage in behaviors such as discussing the importance of high ethical standards and strong values. They would act respectfully toward others, consider the consequences of their actions, and express concern for the safety and well being of others. They also would ensure confidentiality of private information and would be fair and just when making difficult decisions. Because transformational leaders are considered to be moral agents, they are motivated to sacrifice their own desires to benefit the group (Bass, 1985; Burns, 1978; Conger, 1999; Sankowsky, 1994). They also are thought to encourage followers to rise to higher levels of morality and to avoid being motivated by basic emotions such as greed (Burns, 1978).

Individuals who develop and actively promote ethical codes of conduct within organizational settings could potentially be characterized as moral agents (Burns, 1978). Understanding ethical behavioral at all levels in organizational settings is a phenomenon that has produced widespread and increasingly growing interest (Adams, Tashchian, & Stone, 2001; Chang, 1998; Elliott, 1994; Lindsay, Lindsay, & Irvine, 1996; MacKenzie,

1998; Nijhof & Rietdijk, 1999; Reiss & Mitra, 1998; Rielly, 2001; Schminke, 2001; Siegrist, 1999; Somers, 2001; Vardi, 2001; Verschoor, 1998; Weber & Gillespie, 1998).

Unlike the theory proposed by Bass (1985), the current theory does not allow for the existence of negative transformational leadership because the coexistence of negative leadership and morality is unlikely. A transformational leader's sense of morality would place a ceiling on the extent to which his or her behavior is perceived negatively.

Defining intellectual empowerment. Intellectually empowering leaders encourage creativity and innovation, question the status quo, suggest brainstorming with others to seek new ways of completing usual tasks, examine the clarity and relevance of tasks, and identify practical solutions to problems. These concepts are quite similar to what has been proposed by Bass (1985) as well as Bass and Avolio (1995), although their theory refers to these concepts as intellectual stimulation. Similar philosophies exist between the current theory and the theory underlying the MLQ, but the name was changed from intellectual stimulation to intellectual empowerment because the term intellectual stimulation implies that followers are passive recipients of information and the leader merely is staving off boredom. The current study was based on the premise that transformational leaders empower followers intellectually, which presumes that followers are active participants in their intellectual development and quest for knowledge. Active participation is fundamental to the transformational process, especially if every follower is given the individual consideration that they need to successfully achieve their goals.

Defining individual consideration. In order to transform followers, individual follower needs first must be met if followers are to be equipped with resources required for the transformational process to be successful. Transformational leaders give followers

individual consideration by making time to provide personal attention to each follower in order to better understand their unique needs. They provide encouragement and personal attention to followers by showing equal commitment to each of them and making them all feel necessary, important, and valuable. These concepts essentially are quite similar to the concept of giving individual consideration proposed by Bass (1985).

Operational Definition of Transformational Leadership

The theory underlying the TLQ clarifies the nature of charisma and moral agency with respect to transformational leadership based on theories outlined by Conger and Kanungo (1998), Burns (1978), and Bass (1985). The intellectual empowerment and individual consideration concepts underlying the TLQ essentially represent the constructs defined by Bass (1985). The TLQ scale and subscales were expected to be highly reliable. The TLQ was expected to fit its intended four-factor model when compared to competing unidimensional and two-factor models. A detailed discussion of the TLQ development process is outlined in the Method section.

Convergent Validity of the TLQ Scale and Subscales

Although the transformational leadership dimension of the MLQ has questionable ability to demonstrate dimensionality of its individual subscales (Bycio et al., 1995; Carless, 1998; Tracey & Hinkin, 1998), the overall scale measures transformational leadership, in general, quite sufficiently (Bass & Avolio, 1995; Carless, 1998; Hartog & Van Muijen, 1997; Kelloway et al., 2003). Because much of the theory underlying the TLQ is based on ideas of transformational leadership formulated by Bass (1985), a strongly positive correlation between the two scales was expected.

Charisma. Conger's (1999) and Conger and Kanungo's (1998) conceptions of charisma were used as a basis for defining the concept of charisma in the current study. Based on similarities between their theory and the conception of charisma in the current study, a positive relationship between the two constructs also was expected.

Moral agency. Altruism is a desire to increase the welfare of another person without concern for oneself and often is associated with empathy for individuals in distress (Smith, 1993). When empathy for a victim is brought on by altruism, it evokes motivation directed toward the ultimate goal of benefiting the victim (Batson, Dyck, Brandt, Batson, Powell, MacMaster, & Griffitt, 1988). When empathy levels are high, helping behavior remains high, even if the arousal can be reduced easily by escaping exposure to the suffering victim (Batson et al., 1988; Toi & Batson, 1982). Helping someone altruistically is similar to the concept of moral agency that was adopted here based on the work of Burns (1978). Transformational leaders are considered to be moral agents who avoid being motivated by basic emotions such as fear and greed for the betterment of the group (Burns, 1978). They are expected to help someone in need even if they do not have anything to gain personally. Based on definitions of altruism and moral agency, there should be a strong positive relationship between them.

Intellectual empowerment. Being open to ideas refers to an individual who is interested in abstract theories, philosophical arguments, puzzles and mind-twisters, and intellectual conversations (Costa & McCrae, 1992; Judge & Bono, 2000; Judge, Bono, Ilies, Gerhardt, 2002). Similar to the characterization of the ideas construct, the current study refers to intellectual empowerment as encouraging followers to question the status quo, promoting innovative problem solving, broadening and elevating the interests of

followers, and working with followers to develop their full potential. Based on their definitions, openness to ideas and intellectual empowerment should be positively related.

Individual consideration. Being considered a warm person refers to an individual who tends to like most people, is friendly and talkative, is nice to strangers and close with friends, and takes a personal interest in others (Costa & McCrae, 1992; Judge & Bono, 2000; Judge et al., 2002). Similar to the characterization of the warmth construct, the current study refers to individual consideration as understanding and facilitating individual needs of followers, and providing encouragement and personal attention to followers. Based on the definitions of the warmth concept and individual consideration, there should be a strong positive relationship between both constructs.

Opposing Constructs and the TLQ Scale and Subscales

Several constructs are thought to be opposite from transformational leadership, including laissez-faire leadership, vulnerability, and narcissism. Because laissez-faire leaders often respond to situations only after they have become serious and tend to do so poorly (Avolio & Bass, 1988), there should be a strong and negative correlation between overall transformational leadership and laissez-faire leadership. Similarly, a vulnerable individual appears helpless and incapable of coping with problems, feels like going to pieces and cannot focus during emergencies, and generally is unstable emotionally (Costa & McCrae, 1992). Being vulnerable is not characteristic of a transformational leader, so there should be a strong and negative correlation between overall transformational leadership and vulnerability. Finally, possessing charisma for the purpose of accomplishing socially unacceptable goals is what has come to be known as the ‘dark side’ of charisma (Conger, 1999; Sankowsky, 1994). Negative charismatic leaders are

narcissistic individuals who promote visions that reflect their own sense of grandiosity and expect followers to defer to them (Sankowsky, 1994). Fortunately, the existence of negative charismatic leaders is relatively rare (Sankowsky, 1994).

The current study asserts that transformational leaders cannot be negative and narcissistic despite the existence of negative charismatic leaders because their level of morality places a ceiling on the degree to which their charisma could be viewed as negative. Similarly, someone who provides intellectual empowerment and individual consideration to others typically has an other-focus rather than a narcissistic or self-focus. Due to a lack of congruence between the concept of narcissism and transformational leadership, there should be a negative relationship between narcissism and overall transformational leadership as well as its four underlying facets: charisma, moral agency, intellectual empowerment, and individual consideration.

Demonstrating Dimensionality through Incremental Prediction

A method for establishing subscale dimensionality is to demonstrate incremental predictive abilities of the measure's individual subscales (Pedhazur & Schmelkin, 1991). A subscale is capable of demonstrating incremental prediction if it can predict unique variance beyond that accounted for by all other subscales within the overall measure.

Charisma as a predictor of extra effort. Exerting extra effort on the job can be characterized as doing more than what one expects to do, trying harder than one would typically, and increasing one's willingness to succeed (Bass & Avolio, 1995). The types of tasks in which one displays extra effort may vary from situation to situation. For example, one might display an extra effort to engage in behaviors over and above those required for the job, which have come to be called organizational citizenship behaviors

(Bateman & Organ, 1983; Beaty, Cleveland, & Murphy, 2001; Borman & Motowidlo, 1997). One might also display extra effort when engaging in job-related behaviors, which would be measured as productivity or performance (Barrick & Mount, 1991; Campbell, McCloy, Oppler, & Sager, 1993). Evidence of the relation between leader style and follower extra effort is becoming of interest (Deluga, 1995; Hofmann, Morgeson, & Gerrass, 2003; Schnake, Cochran, & Dumler, 1993). What is uncertain is whether it is overall leadership style, or whether certain components of transformational leadership have unique predictive power, namely incremental predictive ability. Charisma might best predict extra effort compared to the other TLQ components because in spite of the task to be executed, followers need to be inspired, encouraged, and told that they have what it takes to be successful. It is charismatic leaders who invoke a sense of willingness in their followers (Conger & Kanungo, 1988; Jahad, 1996). Charisma was expected to account for unique variance in extra effort beyond the variance explained by the other TLQ factors or by the corresponding MLQ factor, inspirational motivation, due to the clarity of the conceptualization and operationalization of the TLQ compared to the MLQ.

Moral agency as a predictor of straightforwardness. A straightforward individual can be characterized as someone who is not crafty, sly, deceitful, hypocritical, or tricky (Costa & McCrae, 1992). Rather, they prefer to be forthright and honest (Costa & McCrae, 1992). Straightforwardness can be considered important for fostering successful workplace functioning built on honesty and trust (Hogan & Hogan, 1995; Hogan & Brinkmeyer, 1997; Ones, Viswesvaran, & Schmidt, 1993; Wooley & Hakstian, 1992). Employers may consider it to be important to be able to predict an individual's likelihood of being straightforward on the job for many reasons, including selection, training, or

promotion. Theoretically, an individual's level of moral agency would be a good unique predictor of his or her straightforwardness because moral agents show concern for the well being of others and would not be deceitful, crafty, or sly (Burns, 1978). Moral agency should account for unique variance in straightforwardness beyond the variance explained by the other TLQ factors or by the corresponding MLQ factors, behavioral and attributed idealized influence, due to the clarity of the conceptualization and operationalization of the TLQ compared to the MLQ.

Intellectual empowerment as a predictor of motivating potential. Job perception theory proposes that employees experience more positive personal and work outcomes when they perceive their work as being meaningful, which is enhanced through task significance, skill variety, and task identity (Hackman & Oldham, 1976). Positive outcomes also occur when employees are responsible for work outcomes, which would be the case in highly autonomous jobs (Hackman & Oldham, 1976). Finally, positive outcomes occur when employees are provided with knowledge of work activity results, which is achieved through providing adequate feedback (Hackman & Oldham, 1976). Jobs characterized by high levels of task significance, skill variety, task identity, job autonomy, and feedback, result in employees who are motivated intrinsically to perform job tasks and who perceive their jobs to be enriched (Hackman & Oldham, 1976).

In an organizational setting, increasing motivation to perform job tasks typically is the responsibility of the leader. An intellectually empowering leader should be able to foster an environment that promotes high autonomy, job feedback, and skill variety, relative to the other aspects of transformational leadership outlined here. Specifically, moral agency, charisma, or individual consideration alone do not seem capable of being

responsible for influencing a job's level of challenge, enrichment, and intrinsic motivation if the job itself does not exist within an intellectually empowering context. Intellectual empowerment should account for unique variance in a job's motivating potential beyond the variance explained by the other TLQ factors or by the corresponding MLQ factor, intellectual stimulation, due to the clarity of the conceptualization and operationalization of the TLQ compared to the MLQ.

Individual consideration as a predictor of role factors. In an organizational context, role factors refer to job-related roles such as role overload and role ambiguity, two highly researched role factors (Foss, 2002; Pattanayak, 2002; Posig & Kickul, 2003; Saks & Ashforth, 2000). Role overload refers to the existence of too many demands compared to the time given to address the demands (Beehr, Walsh, & Taber, 1976); comparatively, role ambiguity refers to a lack of information needed to perform tasks adequately, which can occur for a number of reasons, including lack of skill, insufficient training, or ill-defined job expectations (Rizzo, House, & Lirtzman, 1970). Role factors are known as role stressors because they tend to result in stress-related outcomes such as decreased satisfaction (Ganster, Fusilier, & Mayes, 1986), propensity to leave a job (Kemery, Mossholder, & Bedian, 1987), burnout (Fimian & Blanton, 1987; Jackson, Turner, & Brief, 1987), negative mood states (Stone, 1987), and increased stress (Barling & MacIntyre, 1993; Greenberg, Baron, Sales, & Owen, 2000). When employees feel that what is expected of them is not realistic, their role factors become role stressors (Beehr et al., 1976; Rizzo et al., 1970). People possess skills, abilities, and convictions for which they are known. What one person interprets as role overload, another may interpret as barely a challenge; what one person interprets as ambiguous, another may interpret as an

eye-opening experience. An individual who would accommodate these subtleties in individual reactions to role factors is likely someone who provides individual consideration. Individual consideration should account for unique variance in perceived role overload and role ambiguity beyond the variance explained by the other TLQ factors or by the corresponding MLQ factor, individual consideration, due to the clarity of the conceptualization and operationalization of the TLQ compared to the MLQ.

Figure 1 presents an organization of relationships and predictions. The model is not to be considered a comprehensive model of transformational leadership; it is simply a visual representation of the relationships and predictions tested in the current study.

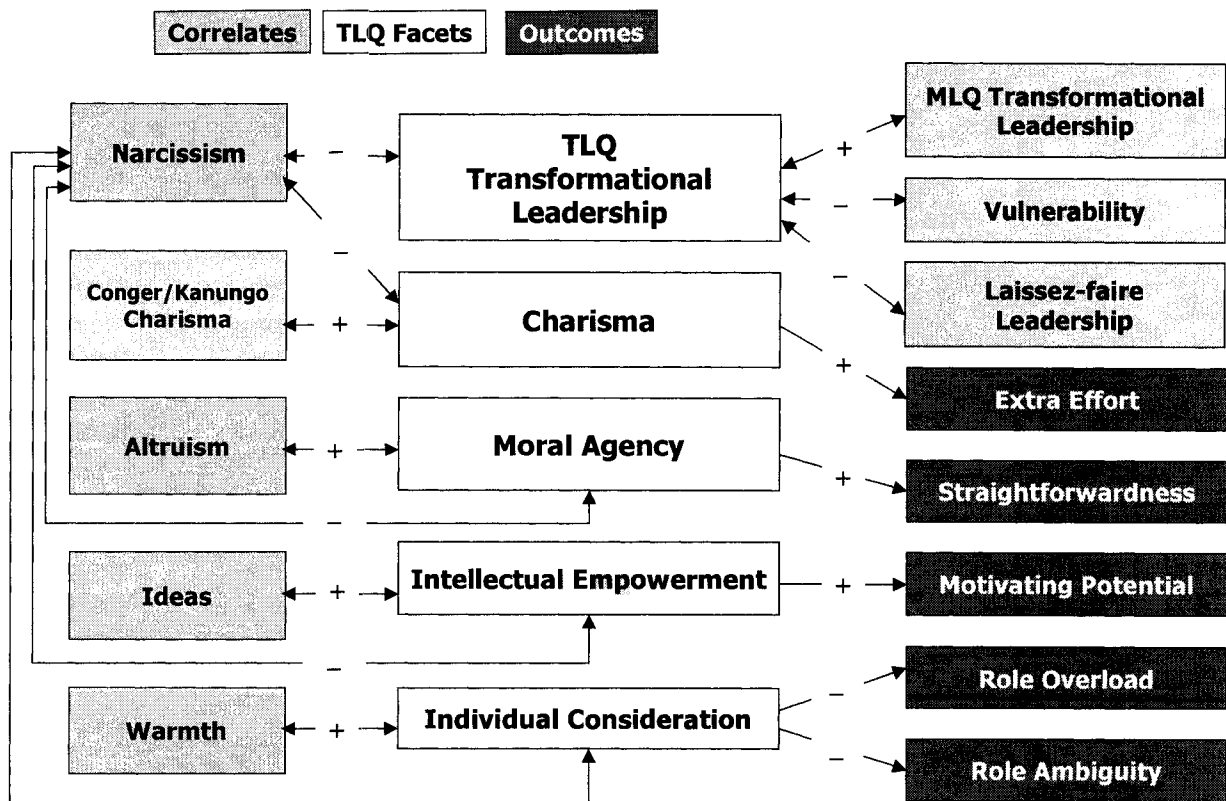


Figure 1. Relationships and predictions tested in the current study

Testing for Significant Differences Between Select Correlations

Although the TLQ and the transformational leadership dimension of the MLQ should correlate strongly and positively due to similarities in their underlying theories, if the theory underlying the TLQ has been defined more clearly, then the TLQ should correlate significantly more positively with similar constructs and significantly more negatively with opposite constructs than the transformational leadership dimension of the MLQ. Specifically, a negative relationship should exist between transformational leadership and vulnerability, laissez-faire leadership, and narcissism based on their definitions. Based on definitional clarity, the relationships should be more negative when tested using the TLQ than the MLQ.

Summary of Hypotheses

MLQ Reliability and Dimensionality

(Hypothesis 1) The MLQ scale and subscales will demonstrate high internal consistency and (Hypothesis 2) the transformational leadership items of the MLQ will fit a unidimensional model better than the intended five-factor model.

TLQ Reliability and Dimensionality

(Hypothesis 3) The TLQ scale and subscales will demonstrate high internal consistency, (Hypothesis 4) the TLQ will fit a four-factor model of transformational leadership better than a unidimensional model or two-factor model, and (Hypothesis 5) the four-factor model will generalize to other samples.

TLQ Convergent Validity and Opposing Constructs

Each of the following pairings will be positively correlated: (Hypothesis 6) the TLQ and the transformational leadership scale of the MLQ, (Hypothesis 7) the TLQ moral agency subscale and altruism, (Hypothesis 8) the TLQ charisma subscale and an

alternate charisma measure, (Hypothesis 9) the TLQ intellectual empowerment subscale and idea generation, and (Hypothesis 10) the TLQ individual consideration subscale and warmth. Each of the following pairings will be negatively correlated: (Hypothesis 11) the TLQ and the laissez-faire leadership scale of the MLQ, (Hypothesis 12) the TLQ and a measure of vulnerability, (Hypothesis 13) the TLQ scale and a measure of narcissism, and (Hypothesis 14) each of the TLQ subscales and a measure of narcissism.

TLQ Subscale Incremental Prediction

(Hypothesis 15) The TLQ moral agency subscale will predict unique variance in a leader's level of straightforwardness beyond that predicted by the other TLQ subscales and the corresponding MLQ subscales, behavioral and attributed idealized influence; (Hypothesis 16) the TLQ charisma subscale will predict unique variance in a follower's extra effort exerted on the job beyond that predicted by the other TLQ subscales and the corresponding MLQ subscale, inspirational motivation; (Hypothesis 17) the TLQ intellectual empowerment subscale will predict unique variance in a follower's perception of a job's motivating potential beyond that predicted by the remaining TLQ subscales and corresponding MLQ subscale, intellectual stimulation; and (Hypothesis 18) the TLQ individual consideration subscale will predict unique variance in a follower's perceived level of role ambiguity and role overload beyond that predicted by the other TLQ subscales and the corresponding MLQ subscale, individual consideration.

Testing for Significant Differences in Select Correlations

(Hypothesis 19) A measure of vulnerability will correlate significantly more negatively with the TLQ than with the transformational leadership scale of the MLQ; (Hypothesis 20) laissez-faire leadership measured by the MLQ will correlate significantly more negatively with the TLQ than with the transformational leadership scale of the

MLQ; and (Hypothesis 21) a measure of narcissism will correlate significantly more negatively with the TLQ than with the transformational leadership scale of the MLQ.

Method

Participants

TLQ development sample. Three hundred and forty Saint Mary's University undergraduate students volunteered to participate in the study through classroom visits (Appendix B) and sign-up sheets (Appendix C). After screening for outliers, data from 90 males and 215 females were retained for analyses. Because participants provided ratings of their immediate supervisor on various facets of personality and leadership effectiveness, participants had to know their respective supervisor well enough to be able to provide accurate ratings. A minimum of six months of work experience with the same immediate supervisor, therefore, was required for participation. Male and female adults of any ethnicity and age were welcomed. Descriptive statistics were obtained from 305 participants. Table 1 presents the continuous demographic variables and Table 2 presents the categorical demographic variables.

Table 1

Descriptive Statistics of Continuous Demographic Variables

| Participant Demographics | N | Mean | Standard Deviation |
|-------------------------------------|----------|-------------|---------------------------|
| Participant Age in Years | 305 | 21.47 | 3.89 |
| Number of Years at Organization | 304 | 2.07 | 2.00 |
| Number of Years in the Industry | 305 | 2.76 | 2.67 |
| Number of Jobs in Industry | 302 | 1.82 | 1.56 |
| Number of Years in Current Position | 303 | 1.89 | 1.86 |
| Number of Years as Subordinate | 297 | 1.71 | 1.57 |

Table 2

Descriptive Statistics of Categorical Demographic Variables

| Demographics | Frequency | Percentage |
|-------------------------------------------------------|-----------|------------|
| Participant Gender | | |
| Male | 90 | 29.5 |
| Female | 215 | 70.5 |
| Job Status | | |
| Past | 144 | 47.2 |
| Current | 161 | 52.8 |
| Employee Status | | |
| Part-time | 209 | 68.5 |
| Full-time | 96 | 31.5 |
| Ever In Any Other Position in the Organization | | |
| Yes | 72 | 23.6 |
| No | 233 | 76.4 |
| Participant's Title | | |
| Manager | 11 | 3.6 |
| Employee | 264 | 86.6 |
| Supervisor | 17 | 5.6 |
| Assistant | 5 | 1.6 |
| Assistant Manager | 3 | 1.0 |
| Junior Officer | 2 | .7 |
| Other | 3 | .9 |
| Industry Type | | |
| Food, Beverage | 81 | 26.5 |
| Grocery, Department Store, Merchant, Sales | 68 | 22.3 |
| Business, Clerical, Communications | 20 | 6.6 |
| Military, Government, Public Services, Charity | 14 | 4.6 |
| Petroleum | 14 | 4.6 |
| Construction, Maintenance, Renovation, Trades | 12 | 3.9 |
| Banking, Leasing, Financing | 11 | 3.6 |
| Entertainment, Gaming | 11 | 3.6 |
| Fitness, Sports, Recreation, Fine Arts | 10 | 3.3 |
| Computers, Computer Applications, Electronics | 8 | 2.6 |
| Education | 8 | 2.6 |
| Security | 8 | 2.6 |
| Child Care, Personal Care | 7 | 2.3 |
| Tourism, Hospitality | 7 | 2.3 |
| Manufacturing | 6 | 2.0 |
| Medical, Pharmaceutical, Physiotherapy | 4 | 1.3 |
| Transport, Moving, Storage, Warehousing | 4 | 1.3 |
| Other | 4 | 1.3 |

Table 2, Continued

Descriptive Statistics of Categorical Demographic Variables

| Demographics | Frequency | Percentage |
|----------------------------|-----------|------------|
| Supervisor's Gender | | |
| Female | 153 | 50.7 |
| Male | 149 | 49.3 |
| Supervisor's Age | | |
| 20s | 50 | 16.4 |
| 30s | 115 | 37.7 |
| 40s | 102 | 33.4 |
| 50s | 34 | 11.2 |
| Supervisor's Title | | |
| Manager | 178 | 58.4 |
| Owner | 20 | 6.6 |
| Supervisor | 76 | 24.9 |
| Director | 12 | 3.9 |
| Assistant Manager | 4 | 1.3 |
| Senior Officer | 2 | .7 |
| Professor | 2 | .7 |
| Coordinator | 2 | .7 |
| Group Leader | 2 | .7 |
| Other | 6 | 1.8 |

TLQ cross-validation sample. To cross-validate the TLQ, 248 Saint Mary's University undergraduate students were recruited for participation in the study through classroom visits and sign-up sheets (Appendix D). A minimum of six months of work experience with the same immediate supervisor was required for participation to optimize the accuracy of the ratings. Male and female adults of any ethnicity and age were welcomed. After screening for outliers, data from 159 females and 85 males were retained for analyses. The mean age of the participants was 21.11 years with a standard deviation of 3.86 years. The mean amount of time that the participants were employed in the position was 1.94 years with a standard deviation of 2.19 years. The mean amount of time that the participants worked for the target supervisor was 1.64 years with a standard deviation of 1.50 years. Table 3 outlines frequency and percentage breakdowns of the categorical demographic information collected from the confirmatory sample.

Table 3

Breakdowns of the Categorical Demographic Variables

| Demographics | Frequency | Percentage |
|-------------------------------------------------------|-----------|------------|
| Participant's Job Status | | |
| Past | 125 | 51.2 |
| Current | 119 | 48.8 |
| Employee Status | | |
| Part-time | 165 | 68.2 |
| Full-time | 77 | 31.8 |
| Ever In Any Other Position in the Organization | | |
| Yes | 72 | 23.6 |
| No | 233 | 76.4 |
| Supervisor's Gender | | |
| Female | 135 | 55.6 |
| Male | 108 | 44.4 |
| Supervisor's Title | | |
| Manager | 78 | 32.0 |
| Owner | 71 | 29.1 |
| Supervisor | 53 | 21.7 |
| Assistant manager | 13 | 5.3 |
| Director | 7 | 2.9 |
| Division head | 4 | 1.6 |
| Coordinator | 3 | 1.2 |
| Assistant Director | 2 | 0.8 |
| CEO | 2 | 0.8 |
| Vice President | 2 | 0.8 |
| Group Leader | 2 | 0.8 |
| Other | 7 | 2.8 |
| Participant's Title | | |
| Employee | 196 | 80.7 |
| Assistant | 13 | 5.3 |
| Supervisor | 12 | 4.9 |
| Coordinator | 5 | 2.1 |
| Manager | 4 | 1.6 |
| Assistant Manager | 2 | 0.8 |
| Coach | 11 | 4.4 |
| Industry Type | | |
| Food, Beverage | 58 | 24.4 |
| Grocery, Department Store, Merchant, Sales | 46 | 19.3 |
| Business, Clerical, Communications | 22 | 9.2 |
| Tourism, Hospitality | 13 | 5.5 |
| Construction, Maintenance, Renovations, Trades | 12 | 5.0 |
| Computers, Computer Applications, Electronics | 11 | 4.6 |
| Child Care, Personal Care | 11 | 4.6 |
| Transport, Moving, Storage, Warehousing | 10 | 4.2 |
| Military, Government, Public Services, Charity | 10 | 4.2 |
| Fitness, Sports, Recreation, Fine Arts | 8 | 3.4 |
| Entertainment, Gaming | 8 | 3.4 |
| Banking, Leasing, Financing | 5 | 2.1 |
| Petroleum | 5 | 2.1 |
| Security | 4 | 1.7 |
| Medical, Pharmaceutical, Physiotherapy | 4 | 1.7 |
| Education | 4 | 1.7 |
| Other | 7 | 2.8 |

TLQ Development Process

Forty TLQ items from a preliminary TLQ development study (Appendix E) were used as a basis for the TLQ items derived in the current study. To refine the preliminary theory underlying the TLQ, specific facets and characteristics of transformational leaders were identified, defined, and elaborated upon by consulting transformational and charismatic leadership theories and measures. For the corresponding measure of the theory to be useful, the TLQ theory and the items written to reflect the theory had to be congruent. The current study retained all forty items from the preliminary study. The 24 items that were retested in the preliminary study were retained unaltered. The 16 items that were not retested in the preliminary study were revised, such as by dividing items that were double-barrelled into two separate items. After considering all the items generated in the preliminary study, additional items were generated when the theory required better representation.

During the development process, challenges arose when clarifying the distinction between intellectual empowerment and charisma. Both concepts involve a certain level of confidence and enthusiasm. What was necessary to capture was that an intellectually empowering individual needs to use confidence and enthusiasm to intellectually empower followers, so their behavior is a means to an end and is directed toward others. Conversely, charismatic individuals simply are confident and enthusiastic regardless of the intention of a given correspondence with them, making their behavior an end in itself rather than a means to an end. When creating items to capture this difference, the intellectual empowerment items had to reflect a goal behind the leader's confidence and enthusiasm and the charisma items had to reflect the leader's confidence and enthusiasm is a natural aspect of his or her personality. Other challenges arose when clarifying the

distinction between intellectual empowerment and individual consideration because both concepts involve attention directed toward the benefit of others. Focusing the intellectual stimulation items toward the group and the individual consideration items toward individuals helped to clarify the distinction between them.

Specifications outlined by Crocker and Algina (1986) helped to improve the quality of the TLQ items. Specific guidelines included avoiding double- and triple-barrelled items when possible. For example, rather than use a single item to ask whether or not someone is a quick and organized thinker, separate items should be used to examine thinking speed and structure. A second guideline ensured equal representation of positively and negatively worded items in order to avoid response patterns such as ‘yes-saying’. Unlike the transformational leadership scale of the MLQ, which contains only positively worded items, the TLQ included a nearly equal proportion of negatively and positively worded items. A third guideline suggested to avoid the use of direct negation when devising negatively worded items. Instead of asking if someone ‘has not’ done something, ask if someone has ‘failed to do’ or ‘overlooked’ something. The word ‘not’ has the potential of being overlooked by respondents, leading them to rate the item as if it was positively worded. Other general guidelines included ensuring clear and simple instructions, improving item clarity by selecting wording carefully, and maintaining simplicity by avoiding wordiness. The total of 64 items were generated and categorized into four transformational leadership dimensions: 14 charisma items, 14 moral agency items, 20 intellectual empowerment items, and 16 individual consideration.

TLQ Content Analysis

To obtain a content analysis of the TLQ, three Canadian Forces Leadership Institute (CFLI) members, and 13 faculty members and eight graduate students from

Saint Mary's University, who ranged in backgrounds from clinical psychology to industrial/organizational psychology, completed a TLQ Item Refinement Package (Appendix F). The package included instructions asking participants to review the technical merits of the TLQ items and refine them if necessary, to check for potential bias of given items, and to ensure the face validity and content validity of the items. Changes to the TLQ items following the content analysis included eliminating overlooked double-barrelled items, negatively wording more items to account for response sets and to have equal representation of positively and negatively worded items, modifying Likert anchors from representing the frequency of occurrence of a given item to representing the extent of agreement with the given item (i.e. changing 'not at all' to 'strongly disagree' and 'frequently, if not always' to 'strongly agree'), clarifying items that appeared to reflect more than one dimension, adding items to further represent the dimensions being measured, and eliminating redundant items.

The final tested item pool contained 10 charisma items, 12 moral agency items, eight intellectual empowerment items, and 10 individual consideration items, for a total of 40 testable TLQ items (Appendix G). The 40 retained items represent four subscales based on the four underlying constructs: charisma, containing 10 items (e.g. 'convinces others that they have what it takes to succeed'), moral agency, containing 12 items (e.g. 'provides solutions that are moral and ethical'), individual consideration, containing 10 items (e.g. 'makes each group member feel important'), and intellectual empowerment, containing eight items (e.g. 'helps group members to think of solutions using innovative methods'). Participants provided ratings on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The TLQ was expected to show convergent validity, strong negative correlations with opposing constructs, and incremental prediction.

Measures

Along with the 40-item TLQ, participants completed a questionnaire booklet of several other measures. The booklet began with a demographic information form that asked questions about participants, their respective jobs, and their respective immediate supervisors (Appendix H). The remainder of the booklet contained 11 untitled questionnaires. The sequence of appearance of the questionnaires was randomly determined and remained the same for all booklets, although booklets were arranged such that each questionnaire had an opportunity to appear first (i.e. 1234; 2341; 3412; 4123). Appendix I contains the questionnaire items used in the study.

Leadership Measures

Multifactor Leadership Questionnaire. The transformational leadership scale of the MLQ (Bass & Avolio, 1995) contains five subscales of four items each: behavioral idealized influence (e.g. ‘talks about their most important values and beliefs’), attributed idealized influence (e.g. ‘instils pride in me for being associated with him/her’), inspirational motivation (e.g. ‘talks optimistically about the future’), individual consideration (e.g. ‘treats me as an individual rather than just a member of a group’), and intellectual stimulation (e.g. ‘seeks differing perspectives when solving problems’). The subscales require participants to provide ratings on a Likert scale ranging from 0 (not at all) to 4 (frequently, if not always). Cronbach’s alpha for the current study was $\alpha = .94$ for the overall scale and ranged from $\alpha = .70$ to $\alpha = .83$ for the individual subscales.

Charismatic Leadership. The 20-item Conger and Kanungo charismatic leadership scale (Conger, Kanungo, Menon, & Mathur, 1997) was used to measure charismatic leadership. The scale contains five subscales with seven items for strategic

vision and articulation (e.g. ‘provides inspiring strategic and organizational goals’), four items for sensitivity to the environment (e.g. ‘recognizes the abilities and skills of other members of the organization’), three items for sensitivity to members’ needs (e.g. ‘influences others by developing mutual liking and respect’), three items for personal risk (e.g. ‘takes high personal risk for the sake of the organization’), and three items for unconventional behavior (e.g. ‘uses nontraditional means to achieve organizational goals’). The scale requires participants to provide ratings on a Likert scale ranging from 1 (very uncharacteristic) to 6 (very characteristic). Cronbach’s alpha for the scale and individual subscales range from $\alpha = .72$ to $\alpha = .87$ (Conger et al., 1997), and was $\alpha = .93$ for the current study.

Personality Measures

Narcissistic Personality Inventory. The NPI, a self-report measure devised by Raskin and Terry (1988), was used to measure global narcissism. The NPI requires participants to provide ratings of 24 items on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), based on the degree of narcissism exhibited by the person being rated. Because NPI items begin with personal pronouns, items were modified to make them appropriate for other reports. For example, the item ‘I am apt to show off if given the chance’ was changed to ‘is apt to show off if given the chance.’ Cronbach’s alpha for the internal consistency reliability of the NPI ranges from $\alpha = .80$ to $\alpha = .86$ (Raskin & Terry, 1988), and was $\alpha = .93$ for the current study.

NEO PI-R. The NEO PI-R was devised by Costa and McCrae (1992) to measure the well-established five-factor model of personality. The measure contains five scales – neuroticism, extroversion, openness, agreeableness, and conscientiousness – each of

which contains six subscales of eight items in each. Participants are required to provide ratings on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The current study employed the following subscales: vulnerability (e.g. 'often feels helpless and wants someone else to solve his/her problems'), warmth (e.g. 'is a warm and friendly person'), ideas (e.g. 'has a lot of intellectual curiosity'), straightforwardness (e.g. 'couldn't bring himself/herself to deceive anyone even if he/she wanted to'), and altruism (e.g. 'thinks of himself/herself as a charitable person'). Cronbach's alpha for internal consistency of the scale and individual subscales generally ranges from $\alpha = .60$ to $\alpha = .95$ (Costa & McCrae, 1992), and ranged from $\alpha = .74$ to $\alpha = .89$ for the current study.

Measures of Role Factors

Role Overload. Role factors refer to whether work roles conflict with other roles, whether an employee feels overloaded by the role, or whether the tasks involved in fulfilling the role are ambiguous (Rizzo et al., 1970). Role overload and role ambiguity were two role factors measured in the current study. A three-item scale devised by Beehr et al. (1976) was used to measure role overload. The scale requires participants to provide ratings on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The three items are 'I am given enough time to do what is expected of me on my job; It often seems like I have too much work for one person to do; and The performance standards on my job are too high'. Cronbach's alpha for internal consistency reliability of the scale tends to be somewhat low, ranging from $\alpha = .60$ to $\alpha = .69$ (Allen, Freeman, Russell, Reizenstein, & Rentz, 2001; MacIntyre, 2001), and was $\alpha = .73$ for the current study. Because the low coefficients obtained at times are likely due to the fact that the scale contains only three items, it was deemed sufficient for use in the current study.

Role Ambiguity. The six role ambiguity items on the role factors scale devised by Rizzo et al. (1970) were used in the current study. The scale requires participants to provide ratings on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sample questions include ‘I feel certain about how much authority I have’ and ‘I know exactly what is expected of me’. Cronbach’s alpha for internal consistency reliability of the subscale ranges from $\alpha = .78$ to $\alpha = .79$ (Pieró, González-Romá, Tordera, & Mañas, 2001), and was $\alpha = .75$ for the current study.

Job perception. The Job Diagnostic Survey (JDS) was devised by Hackman and Oldham (1974) and is based on the principle that five specific factors contribute to a job’s motivating potential. The five subscales needed to calculate the job’s motivating potential score (MPS) were used in the current study. The MPS is calculated by averaging the sum of the three subscales skill variety (e.g. ‘the job requires me to use a number of complex or high-level skills’), task identity (e.g. ‘the job provides me the chance to completely finish the pieces of work I begin’), and task significance (e.g. ‘the job is one where a lot of other people can be affected by how well the work gets done’), then multiplying the obtained value by the job autonomy subscale (e.g. ‘the job gives me considerable opportunity for independence and freedom in how I do the work’), and then multiplying that obtained value by the job feedback subscale (e.g. ‘just doing the work required by the job provides many chances for me to figure out how well I am doing’).

The five subscales required to compute the MPS each contain three items for a total of 15 administered items. Item ratings are provided using a Likert scale ranging from 1 to 7. The 15 items are arranged into two separate sections. One section contains a single item from each subscale, for a total of five items. Each of the five items contains a

rating scale ranging from 1 to 7 and is anchored with a different item-specific description. The second section contains the remaining two items from each scale, for a total of ten items, and the 1 to 7 rating scale is anchored 'very inaccurate' to 'very accurate' for that whole section. The examples above were selected from section two. Cronbach's alpha for internal consistency reliability of the overall scale as well as the individual subscales ranges from $\alpha = .65$ to $\alpha = .80$, and was $\alpha = .85$ for the current study.

Procedure

For the TLQ development procedure, two informed consent forms (Appendix J), the questionnaire package starting with the demographic information form (Appendix H and Appendix I), and a pencil were placed at all available seating positions in a suitable testing room prior to each session. Standardized instructions were used for every session (Appendix K). Participants were asked to sign the informed consent forms if they agreed to the conditions of the study. The researcher collected one copy of the form and had the participants retain the second copy for their own records. Participants were then asked to bring to mind a specific job-related experience, and to think of their immediate supervisor for the particular job. They then filled out the questionnaires, which pertained to themselves, the job, and their immediate supervisor. Participants handed in their questionnaires once they were complete, and obtained a feedback form for their records (Appendix L).

For the TLQ cross-validation procedure, participants completed an informed consent form (Appendix M) and then were instructed to complete a one-page, double-sided questionnaire. The front side contained demographic questions about the participant, his/ her past or current job, and his/ her immediate supervisor (Appendix N).

The backside contained the 18 retained TLQ items and instruction for completing the questionnaire (Appendix O). Participants returned their questionnaire to the researcher and obtained a feedback form upon completion (Appendix P).

Data Analyses

Using SPSS Version 9.0 (SPSS, 1999), both the exploratory and confirmatory data sets initially were cleaned by examining minimum and maximum response values, ranges, means, standard deviations, skewness, kurtosis, standardized scores, Mahalanobis distance values, and standardized predicted values plotted against standardized residual values. Cases whose data were entered inaccurately were corrected, and those deemed as outliers were filtered for all remaining analyses. Data were negatively skewed for the MLQ and TLQ items. Items were skewed in the same direction and values were relatively the same magnitude for all items. Due to the robustness of the statistical techniques used, the skewness would not have had profound effects on the findings (Pedhazur & Schmelkin, 1991). Using LISREL Version 8.53 (du Toit, du Toit, & Hawkins, 2001; Jöreskog & Sörbom, 1993), confirmatory factor analysis (CFA) was used to determine the dimensionality of the transformational leadership dimension of the MLQ. Exploratory factor analysis (EFA) using SPSS 9.0 explored the dimensionality of the TLQ. Once evidence of TLQ dimensionality was obtained from the exploratory sample, CFAs were conducted on the confirmatory sample using LISREL 8.53 to compare the fit of a unidimensional, two-factor, and four-factor model. A good fitting model must produce evidence of good fit across a variety of fit indices simultaneously (Tabachnick & Fidell, 2001). The following fit indices were used in the CFA analysis:

Chi-square. Chi-square (χ^2) is a test of absolute fit between the sample covariance matrix and the estimated population covariance matrix (Tabachnick & Fidell, 2001). The lower the chi-square value obtained, the better the fit. The index is highly sensitive to sample size, which may lead to detecting trivial differences when large samples are used. The fit index was used in the current study because the sample was rather modest in size, it is reported widely in the literature, and it allows for simple comparisons of relative fit between and/or among models (Tabachnick & Fidell, 2001).

Root mean square error of approximation. The root mean square error of approximation (RMSEA) is a comparative fit index that assesses the fit of a model by comparing it to a fully saturated, or perfect model. RMSEA values less than .06 are indicative of good fitting models (Tabachnick & Fidell, 2001). RMSEA is not overly sensitive to sample size; it accounts for model parsimony; it detects improperly specified models effectively; and it is cited frequently in the literature (MacIntyre, 2001).

Goodness of fit index. The goodness of fit index (GFI) is based on the properties of observed and reproduced correlation or covariance matrices (Pedhazur & Schmelkin, 1991), and is interpreted as a good fit if a value of at least .90 is achieved (Cole, 1987).

Normed fit index. The Bentler-Bonnett normed fit index (NFI) is a comparative fit index. Values of at least .90 indicate a good fit (Tabachnick & Fidell, 2001).

Comparative fit index. The comparative fit index (CFI) is a comparative fit index, and values of at least .95 indicate a good fit (Tabachnick & Fidell, 2001). It has been reported here because of its popularity in the literature.

Standardized root mean square residual. The standardized root mean square residual (SRMR) is a residual-based fit index that is derived by determining the average

difference between sample variances and covariances and estimated population variances and covariances. SRMR values below .08 indicate good fit (Tabachnick & Fidell, 2001).

Parsimony normed fit index. The parsimony normed fit index (PNFI) indicates a model's level of parsimony. Values of at least .90 for the PNFI indicate good fit (Tabachnick & Fidell, 2001).

Once the dimensionality of both the MLQ and the TLQ was addressed, using SPSS 9.0, Cronbach's alpha coefficients for internal consistency were estimated for all scales and subscales used. A correlation matrix generated convergent validity coefficients and correlations between the overall TLQ and individual subscales and opposing constructs. Hierarchical regression demonstrated the ability of individual TLQ subscales to incrementally predict various outcome variables for the purpose of demonstrating subscale dimensionality. To demonstrate incremental prediction, a subscale had to predict unique variance in an outcome variable beyond what already was accounted for by an initial set of predictors (Pedhazur & Schmelkin, 1991). Although some leadership researchers have employed incremental prediction for demonstrating dimensionality (Helme, 1968a, 1968b; Ross & Houtz, 1979), its use in contemporary leadership research is quite rare (Saad & Adeeb, 2000; Saad & Sackett, 2002). A t-test procedure found in (Howell, 1987) was used to test significant differences between select correlations to demonstrate TLQ construct validity.

Results

Hypotheses 1 and 2: MLQ Reliability and Dimensionality

Table 4 displays means, standard deviations, rating scale ranges, Cronbach's alpha for internal consistency, and bivariate correlations for all scales and subscales.

Table 4
Descriptive Statistics, Reliabilities, and Correlations

| Alpha | Mean | SD | Scale | Scale/Subscale Name | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|-------|--------|------|-------|-------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| .94 | 2.24 | .85 | 0 – 4 | 1. MLQ – Transformational Leadership | . | | | | | | | | | | | | | | | | | | | | | |
| .78 | 2.43 | .88 | 0 – 4 | 2. MLQ – Idealized Influence (Attributes) | .89 | | | | | | | | | | | | | | | | | | | | | |
| .76 | 2.09 | .96 | 0 – 4 | 3. MLQ – Idealized Influence (Behaviors) | .86 | .71 | | | | | | | | | | | | | | | | | | | | |
| .83 | 2.45 | .99 | 0 – 4 | 4. MLQ – Inspirational Motivation | .89 | .78 | .73 | | | | | | | | | | | | | | | | | | | |
| .76 | 2.24 | 1.04 | 0 – 4 | 5. MLQ – Individual Consideration | .89 | .75 | .67 | .72 | | | | | | | | | | | | | | | | | | |
| .77 | 2.01 | .95 | 0 – 4 | 6. MLQ – Intellectual Stimulation | .86 | .69 | .68 | .69 | .74 | | | | | | | | | | | | | | | | | |
| .75 | 1.08 | .89 | 0 – 4 | 7. MLQ – Laissez-faire Leadership | -.48 | -.54 | -.35 | -.42 | -.42 | -.38 | | | | | | | | | | | | | | | | |
| .70 | 2.26 | 1.07 | 0 – 4 | 8. MLQ – Extra Effort | .80 | .72 | .66 | .71 | .72 | .71 | -.37 | | | | | | | | | | | | | | | |
| .95 | 3.60 | .91 | 1 – 5 | 9. TLQ – Overall | .84 | .74 | .68 | .74 | .79 | .74 | -.55 | .71 | | | | | | | | | | | | | | |
| .89 | 3.33 | 1.09 | 1 – 5 | 10. TLQ – Charisma | .82 | .74 | .68 | .75 | .74 | .68 | -.45 | .71 | .88 | | | | | | | | | | | | | |
| .89 | 3.86 | .97 | 1 – 5 | 11. TLQ – Moral Agency | .71 | .65 | .58 | .62 | .66 | .60 | -.55 | .58 | .91 | .69 | | | | | | | | | | | | |
| .84 | 3.52 | .94 | 1 – 5 | 12. TLQ – Intellectual Empowerment | .74 | .60 | .61 | .64 | .68 | .70 | -.41 | .65 | .86 | .75 | .68 | | | | | | | | | | | |
| .84 | 3.55 | 1.10 | 1 – 5 | 13. TLQ – Individual Consideration | .73 | .64 | .53 | .64 | .73 | .65 | -.49 | .61 | .89 | .71 | .77 | .67 | | | | | | | | | | |
| .93 | 3.7 | .94 | 1 – 6 | 14. Conger-Kanungo Charisma Scale | .81 | .74 | .65 | .70 | .74 | .72 | -.50 | .69 | .78 | .77 | .63 | .73 | .67 | | | | | | | | | |
| .93 | 3.14 | .71 | 1 – 5 | 15. Narcissism Personality Inventory | -.22 | -.17 | -.15 | -.17 | -.27 | -.20 | .23 | -.21 | -.42 | -.25 | -.48 | -.28 | -.44 | -.14 | | | | | | | | |
| .73 | 2.45 | .99 | 1 – 5 | 16. Role Overload | -.21 | -.13 | -.14 | -.20 | -.24 | -.19 | .25 | -.10 | -.28 | -.17 | -.25 | -.23 | -.32 | -.23 | .17 | | | | | | | |
| .75 | 4.21 | .62 | 1 – 5 | 17. Role Ambiguity | -.37 | -.36 | -.29 | -.29 | -.38 | -.33 | .34 | -.34 | -.38 | -.33 | -.31 | -.37 | -.36 | -.35 | .13 | .27 | | | | | | |
| .85 | 111.32 | 65.1 | 1 – 7 | 18. JDS – Motivating Potential Score | .38 | .30 | .32 | .29 | .40 | .37 | -.13 | .35 | .39 | .38 | .30 | .40 | .34 | .40 | -.06 | -.13 | -.31 | | | | | |
| .86 | 3.02 | 1.12 | 1 – 7 | 19. NEO – Vulnerability | -.57 | -.59 | -.42 | -.53 | -.50 | -.48 | .58 | -.45 | -.60 | -.48 | -.61 | -.44 | -.56 | -.56 | .23 | .22 | .33 | -.25 | | | | |
| .89 | 5.03 | 1.21 | 1 – 7 | 20. NEO – Warmth | .69 | .63 | .50 | .68 | .66 | .55 | -.42 | .55 | .75 | .68 | .67 | .63 | .70 | .65 | -.36 | -.22 | -.29 | .30 | -.54 | | | |
| .86 | 4.20 | 1.04 | 1 – 7 | 21. NEO – Ideas | .62 | .53 | .54 | .52 | .57 | .57 | -.40 | .47 | .63 | .57 | .54 | .60 | .55 | .63 | -.13 | -.16 | -.25 | .34 | -.49 | .46 | | |
| .89 | 4.76 | 1.33 | 1 – 7 | 22. NEO – Altruism | .72 | .65 | .55 | .66 | .69 | .59 | -.49 | .57 | .82 | .72 | .76 | .67 | .75 | .66 | -.47 | -.21 | -.32 | .29 | -.57 | .87 | .54 | |
| .74 | 4.19 | 1.02 | 1 – 7 | 23. NEO – Straightforwardness | .45 | .39 | .38 | .39 | .41 | .38 | -.36 | .37 | .61 | .42 | .67 | .45 | .56 | .37 | -.54 | -.18 | -.24 | .18 | -.44 | .55 | .39 | .63 |

$r = [.16 \text{ to } .20], p < .01$ $r \geq [.21], p < .001$ All scales/subscales used in the study obtained acceptable alpha levels of at least $\alpha = .70$ (Schmitt, 1996).
 $r = [.13 \text{ to } .15], p < .05$ $r \leq [.10], p = \text{n.s.}$ TLQ subscales are based on the 18 items retained from the CFA.

The transformational leadership scale and individual subscales of the MLQ demonstrated high internal consistency, supporting hypothesis 1. Cronbach's alpha for internal consistency was $\alpha = .94$ for the overall scale, and ranged from $\alpha = .76$ to $\alpha = .83$ for the individual subscales. A CFA with maximum likelihood estimation was used to test the fit of a unidimensional and the intended five-factor model of transformational leadership underlying the MLQ. Results are displayed in Figure 2 and Figure 3.

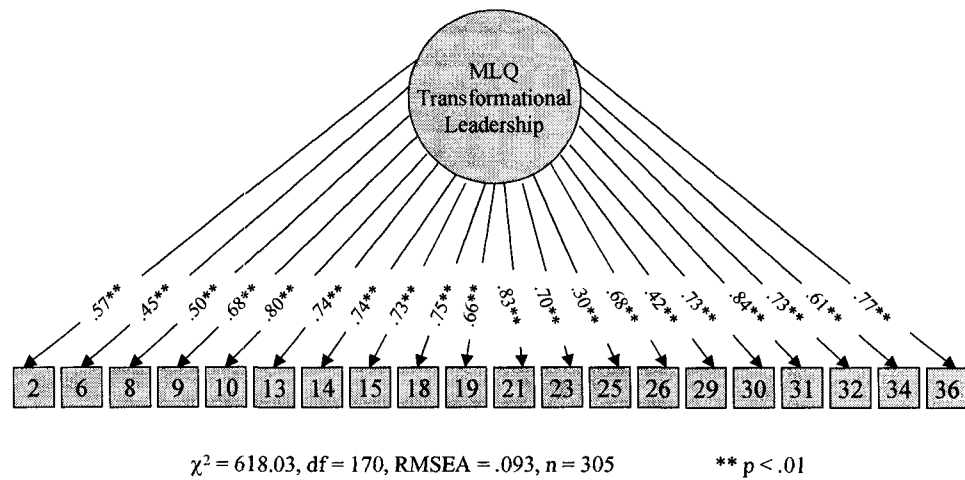


Figure 2. MLQ: CFA of a unidimensional transformational leadership model.

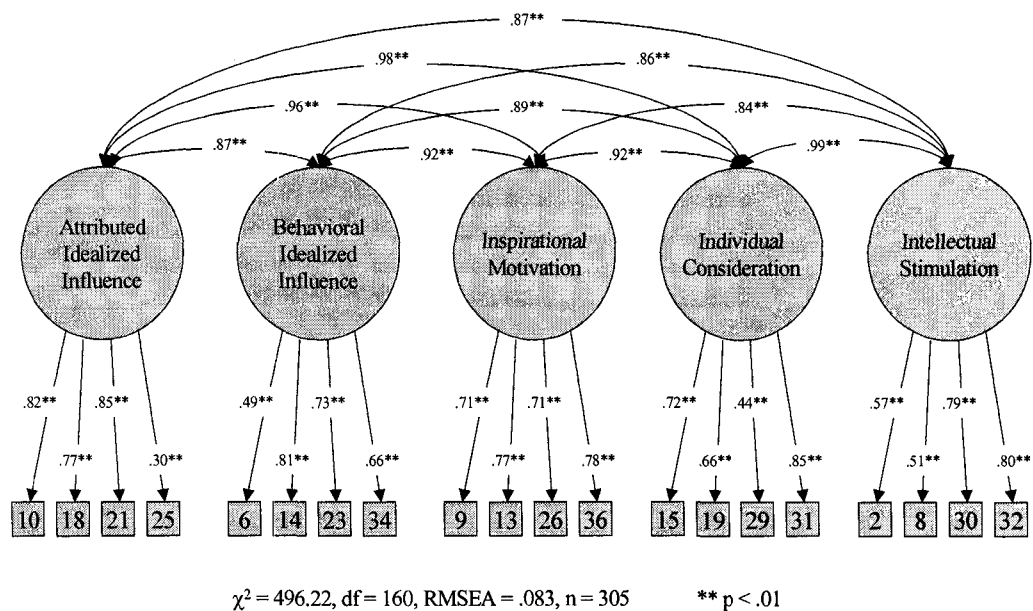


Figure 3. MLQ: CFA of a five-factor transformational leadership model.

Factor loadings ranged from .42 to .84 for the unidimensional model, with the exception of item 25, which loaded at .30. Factor loadings ranged from .44 to .85 for the five-factor model, with the exception once again of item 25, which loaded at .30. All factor loadings were significant at $p < .01$. The inter-subscale correlations for the five-factor model were extremely high, suggesting unidimensionality or possible multicollinearity. Correlations ranged from $r = .99$ for the correlation between individual consideration and intellectual stimulation to $r = .84$ for the correlation between inspirational motivation and intellectual stimulation; all were significant at $p < .01$. The five-factor model is nested within the unidimensional model and could be compared directly. The five-factor model best fit the transformational leadership dimension of the MLQ, $\Delta\chi^2_{(10)} = 121.81, p < .01$. The fit indices for both models are shown in Table 5. Although the five-factor fits significantly better, neither model demonstrates acceptable fits based on RMSEA (Tabachnick & Fidell, 2001) and GFI values (Pedhazur & Schmelkin, 1991).

Table 5

Fit Indices for the Tested MLQ Models

| Fit Indices | Unidimensional Model | Five-factor Model |
|-------------------------------|----------------------|-------------------|
| RMSEA 90% Confidence Interval | .085 - .10 | .075 - .091 |
| RMSEA | .093 | .083 |
| SRMR | .052 | .050 |
| GFI | .83 | .86 |
| CFI | .97 | .96 |
| NFI | .96 | .96 |
| PNFI | .85 | .81 |

Hypothesis 3,4, and 5: TLQ Reliability and Dimensionality

As shown in Table 4, the TLQ scale and subscales demonstrated high internal consistency reliability, supporting hypothesis 3. Cronbach's alpha coefficient was $\alpha = .95$ for the overall TLQ, and ranged from $\alpha = .84$ to $\alpha = .89$ for the individual subscales.

Assessing TLQ dimensionality using EFA. An EFA of the 40 TLQ items

determined the TLQ's dimensionality. Table 6 displays the EFA rotated pattern matrix.

Table 6

Rotated Pattern Matrix of the Initial 40 TLQ Items

| TLQ Items | | Component | | | | |
|-----------------------------|---------------------------------------------------------------------------|------------|-------------|------------|------------|------------|
| | | 1 | 2 | 3 | 4 | 5 |
| Charisma 26 | Fails to display energy, vigor, or vitality when interacting with others. | .86 | .04 | -.01 | -.03 | -.11 |
| Charisma 39 | Shows enthusiasm when working with others. | .78 | -.16 | -.13 | .09 | -.07 |
| Charisma 27 | Has difficulty motivating others. | .70 | .11 | .10 | .11 | .10 |
| Charisma 37 | Fails to express confidence in others. | .65 | .03 | .13 | .11 | .15 |
| Individual Consideration 5 | Gives individual attention to group members when they need it. | .65 | -.10 | .02 | .05 | .01 |
| Charisma 17 | Shows little excitement when others achieve their goals. | .60 | .01 | .02 | .06 | -.01 |
| Individual Consideration 4 | Fails to see each group member as an individual. | .54 | -.06 | .16 | -.11 | .20 |
| Individual Consideration 29 | Fails to understand that group members have individual needs. | .53 | -.09 | .27 | -.09 | .23 |
| Individual Consideration 30 | Makes each group member feel important. | .51 | -.01 | .01 | .27 | .30 |
| Individual Consideration 1 | Fails to make each group member feel necessary. | .48 | -.05 | .05 | .10 | .35 |
| Individual Consideration 11 | Makes each group member feel like his or her contributions are valuable. | .47 | -.16 | .03 | .31 | .17 |
| Individual Consideration 31 | Displays willingness to accommodate the needs of group members. | .46 | -.19 | .19 | .16 | .08 |
| Individual Consideration 22 | Makes group members feel like their contributions are relevant. | .41 | -.19 | .11 | .05 | .35 |
| Charisma 24 | Is reluctant to speak about the future with enthusiasm. | .41 | -.08 | .26 | .01 | .02 |
| Charisma 6 | Inspires others. | .39 | -.08 | .02 | .38 | .19 |
| Moral Agency 38 | Ensures confidentiality of private information. | -.02 | -.67 | .03 | .04 | -.07 |
| Moral Agency 40 | Shows concern for the safety and well being of others. | .22 | -.58 | .07 | .25 | -.07 |
| Moral Agency 7 | Provides solutions that are moral and ethical. | .11 | -.53 | -.02 | .25 | .20 |
| Moral Agency 33 | Fails to keep promises. | .14 | -.44 | .23 | -.02 | .34 |
| Moral Agency 15 | Is fair when making difficult decisions. | .16 | -.42 | .18 | .07 | .24 |
| Intellectual Empowerment 36 | Impedes the group's ability to solve problems creatively. | 0 | -.17 | .76 | -.15 | -.05 |
| Intellectual Empowerment 35 | Relies on traditional methods of completing tasks. | -.03 | .48 | .66 | .33 | .03 |
| Intellectual Empowerment 34 | Discourages innovative problem solving. | .17 | .01 | .57 | .21 | -.01 |
| Intellectual Empowerment 23 | Refuses to implement creative ideas generated by others. | .36 | -.20 | .39 | .07 | .00 |
| Intellectual Empowerment 25 | Encourages group members to brainstorm with each other to solve problems. | .06 | .07 | .19 | .73 | -.02 |
| Moral Agency 16 | Explains to others the importance of strong moral values. | -.07 | -.22 | -.04 | .65 | .20 |
| Intellectual Empowerment 28 | Helps group members to be open-minded when solving problems. | .12 | -.22 | .20 | .58 | -.03 |
| Intellectual Empowerment 32 | Helps group members to think of solutions using innovative methods. | .23 | -.09 | .14 | .54 | .05 |
| Charisma 9 | Encourages others to believe that their dreams can come true. | .38 | -.05 | -.08 | .53 | -.03 |
| Charisma 13 | Convinces others that they have what it takes to succeed. | .48 | .00 | -.09 | .51 | .02 |
| Charisma 10 | Empowers others with confidence in their abilities. | .45 | -.12 | -.08 | .46 | .08 |
| Intellectual Empowerment 3 | Helps group members to think of practical solutions to problems. | .24 | -.25 | -.01 | .37 | .20 |
| Individual Consideration 8 | Vaguely defines each group member's task. | .09 | .19 | -.11 | -.05 | .68 |
| Moral Agency 19 | Says one thing but does another. | .12 | -.23 | .20 | -.10 | .58 |
| Moral Agency 21 | Ignores others' unethical behaviors. | -.19 | -.05 | .01 | .28 | .57 |
| Moral Agency 14 | Is dishonest. | 0 | -.40 | .07 | .09 | .54 |
| Moral Agency 12 | Acts disrespectfully toward others. | .19 | -.28 | .11 | -.02 | .49 |
| Moral Agency 20 | Acts like morals are not important. | .04 | -.30 | .15 | .19 | .45 |
| Individual Consideration 18 | Ignores some group members. | .43 | .02 | .07 | -.02 | .45 |
| Moral Agency 2 | Deserves respect because of his/her honest and ethical behavior. | .19 | -.35 | .09 | .19 | .36 |

Extraction Method: Principal Component Analysis
 Rotation Method: Oblimin with Kaiser Normalization
 Rotation converged in 21 iterations
 Loadings of at least .35 are in bold

The initial 40 items were analyzed using principal components analysis (PCA) with oblimin rotation, which was set to estimate freely the number of components to extract. Five components were extracted, accounting for 61.75% of the total variance. Rotated variance was 14.89%, 7.97%, 6.35%, 10.36%, and 9.50%, for components 1 through 5, respectively. When the analysis was constrained to extract one component, the residual correlation matrix provided moderate evidence for more than one factor. Constraining the analysis to extract one, two, and three components also provided evidence for dimensionality.

The item sequences that emerged in the 40-item EFA underwent a series of modifications³. Various items were eliminated based on theoretical and statistical grounds. Charisma and individual consideration items loaded onto component 1 regardless of the item omissions made throughout the EFA. Additional to the charisma and individual consideration items, five moral agency items loaded onto component 2 and five loaded onto component 5. Four intellectual empowerment items loaded onto component 3. The items appeared to group together as intended. Intellectual empowerment item 3, moral agency items 2 and 16, and individual consideration items 8 and 22 were removed because they loaded onto components by themselves or they cross-loaded onto more than one component. The EFA was conducted again to investigate new developments in the pattern structure. Individual consideration items 5, 11, 30, and 31, charisma item 24, intellectual empowerment item 35, and moral agency items 38 and 40 were removed due to low loading values, cross loading, lack of adherence to other items intended to be from the same scale, or interference with strong groups of items.

³ Refer to Appendix Q to review the series of modifications beginning with the initial 40 items and resulting in the final solution.

An EFA was conducted again after the above items were removed. Moral agency items 7 and 14 loaded onto components 1 and 3 with moral agency item 21, which did not load elsewhere. After removing item 21, items 7 and 14 loaded only onto component 1 with all the other moral agency items. Moral agency 19 and charisma item 26 were double- and triple-barreled items and were removed. Charisma items 17 and 37 cross-loaded with individual consideration, and charisma items 37 and 39 and intellectual empowerment items 34 and 36 were redundant relative to higher loading items, so they all were removed. As shown in Table 7, the final EFA yielded 18 items that fell into two factors when left unconstrained. Rotated variance was 8.78% for component 1 and 7.83% for component 2. Total variance explained was 61.57%.

Table 7

Rotated Pattern Matrix of the 18 TLQ Items and Two Components

| TLQ Item | | Component | |
|-----------------------------|---------------------------------------------------------------------------|------------|-------------|
| | | 1 | 2 |
| Moral Agency 12 | Acts disrespectfully toward others. | .92 | .15 |
| Moral Agency 14 | Is dishonest. | .85 | .08 |
| Moral Agency 33 | Fails to keep promises. | .80 | .03 |
| Moral Agency 15 | Is fair when making difficult decisions. | .77 | .01 |
| Moral Agency 20 | Acts like morals are not important. | .73 | -.07 |
| Individual Consideration 29 | Fails to understand that group members have individual needs. | .69 | -.12 |
| Individual Consideration 4 | Fails to see each group member as an individual. | .65 | -.04 |
| Individual Consideration 18 | Ignores some group members. | .65 | -.11 |
| Moral Agency 7 | Provides solutions that are moral and ethical. | .63 | -.17 |
| Individual Consideration 1 | Fails to make each group member feel necessary. | .60 | -.25 |
| Intellectual Empowerment 23 | Refuses to implement creative ideas generated by others. | .43 | -.31 |
| Intellectual Empowerment 25 | Encourages group members to brainstorm with each other to solve problems. | -.17 | -.90 |
| Charisma 9 | Encourages others to believe that their dreams can come true. | -.02 | -.81 |
| Charisma 13 | Convinces others that they have what it takes to succeed. | .06 | -.79 |
| Intellectual Empowerment 28 | Helps group members to be open-minded when solving problems. | .13 | -.72 |
| Intellectual Empowerment 32 | Helps group members to think of solutions using innovative methods. | .17 | -.69 |
| Charisma 10 | Empowers others with confidence in their abilities. | .22 | -.67 |
| Charisma 6 | Inspires others. | .32 | -.58 |

Extraction Method: Principal Component Analysis

Rotation Method: Oblimin with Kaiser Normalization

Rotation converged in 7 iterations

Loadings of at least .35 are in bold

Table 8 displays the EFA rotated pattern matrix of the 18 retained items constrained to extract four components.

Table 8

Rotated Pattern Matrix of the 18 TLQ Items and Four Components

| TLQ Items | | Component | | | |
|-----------------------------|---------------------------------------------------------------------------|------------|-------------|-------------|-------------|
| | | 1 | 2 | 3 | 4 |
| Moral Agency 14 | Is dishonest. | .89 | .00 | .07 | -.03 |
| Moral Agency 7 | Provides solutions that are moral and ethical. | .75 | .01 | .12 | -.29 |
| Moral Agency 33 | Fails to keep promises. | .70 | -.19 | -.06 | .12 |
| Moral Agency 12 | Acts disrespectfully toward others. | .68 | .02 | -.26 | .06 |
| Moral Agency 20 | Acts like morals are not important. | .64 | -.11 | -.09 | -.05 |
| Moral Agency 15 | Is fair when making difficult decisions. | .58 | -.02 | -.22 | -.05 |
| Intellectual Empowerment 25 | Encourages group members to brainstorm with each other to solve problems. | -.13 | -.82 | .07 | -.19 |
| Intellectual Empowerment 28 | Helps group members to be open-minded when solving problems. | .14 | -.82 | .06 | -.04 |
| Intellectual Empowerment 32 | Helps group members to think of solutions using innovative methods. | .05 | -.75 | -.10 | -.06 |
| Intellectual Empowerment 23 | Refuses to implement creative ideas generated by others. | .18 | -.61 | -.22 | .20 |
| Individual Consideration 4 | Fails to see each group member as an individual. | -.10 | -.01 | -.91 | -.02 |
| Individual Consideration 29 | Fails to understand that group members have individual needs. | .17 | -.06 | -.63 | -.09 |
| Individual Consideration 1 | Fails to make each group member feel necessary. | .14 | -.11 | -.58 | -.18 |
| Individual Consideration 18 | Ignores some group members. | .21 | .00 | -.55 | -.13 |
| Charisma 9 | Encourages others to believe that their dreams can come true. | .03 | -.07 | -.08 | -.81 |
| Charisma 10 | Empowers others with confidence in their abilities. | .18 | -.15 | -.14 | -.61 |
| Charisma 6 | Inspires others. | .22 | -.09 | -.21 | -.55 |
| Charisma 13 | Convinces others that they have what it takes to succeed. | .00 | -.34 | -.14 | -.53 |

Extraction Method: Principal Component Analysis
Rotation Method: Oblimin with Kaiser Normalization

Rotation converged in 14 iterations
Loadings of at least .35 are in bold

The four components extracted accounted for 70.00% of the total explained variance. Rotated variance was 7.47%, 6.74%, 6.34%, and 5.14% for components 1 to 4, respectively. Items grouped together in the intended theoretical manner and item residuals contained residuals greater than .10, indicating multidimensionality (Pedhazur & Schmelkin, 1991). This evidence supports hypothesis 4, and made it acceptable to verify the intended factor structure of the TLQ using CFA.

Confirmation of the TLQ through CFA. Using CFA with maximum likelihood estimation, data from 235 of 244 participants were used to test the three models outlined in Figures 4 through 6 below. The unidimensional model represents the 18 retained TLQ items as a single, latent construct. The two-factor model represents the outcome of the EFA when the 18 items were left unconstrained. The four-factor model represents the intended TLQ factor structure.

Unidimensional Model of the Transformational Leadership Questionnaire

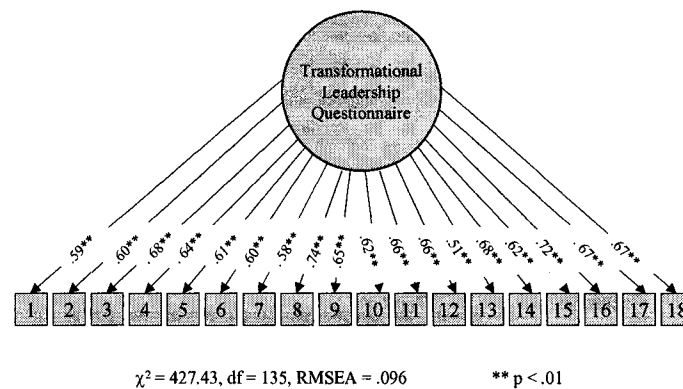


Figure 4. TLQ: CFA of a unidimensional transformational leadership model.

Two-factor Model of the TLQ

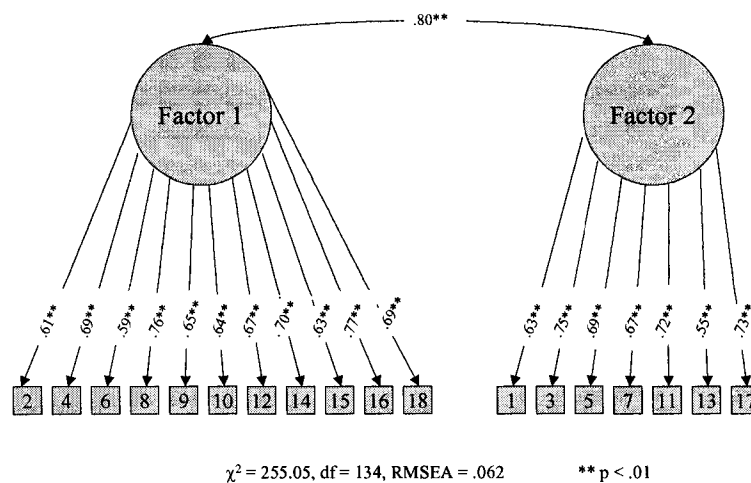


Figure 5. TLQ: CFA of a two-factor transformational leadership model.

Four-factor Model of the Transformational Leadership Questionnaire

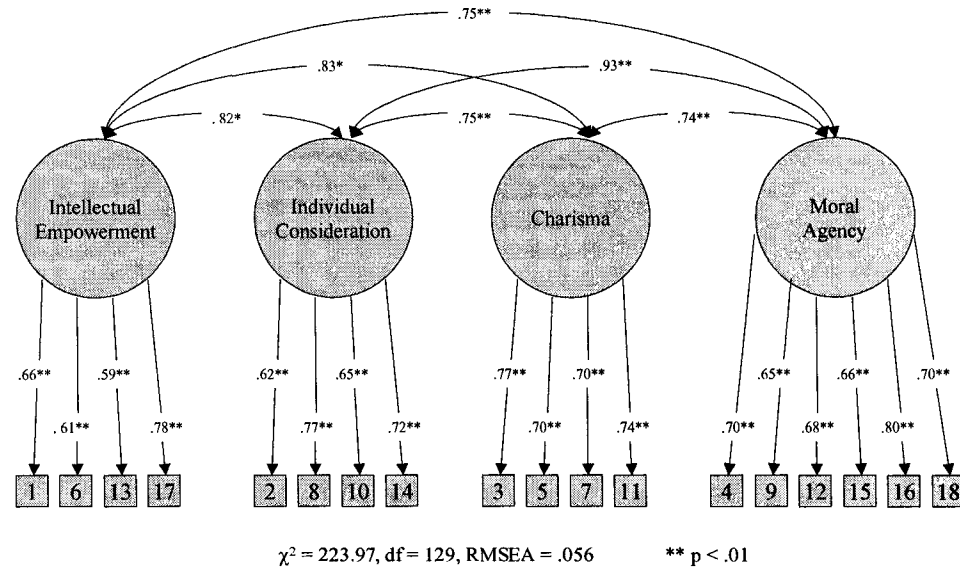


Figure 6. TLQ: CFA of a four-factor transformational leadership model.

For all three models, factor loadings ranged from .51 to .80 and all were significant at $p < .01$. The correlation between the two factors was $r = .80$ and ranged from $r = .74$ to $r = .93$ for the intercorrelations in the four-factor model, $p < .01$ in all cases. Through the use of a chi-square difference test, the four-factor model could be compared directly to the unidimensional model because the four-factor model is nested under the unidimensional model. Because the four-factor model is not nested under the two-factor model, they were compared based on fit indices only. The intended four-factor transformational leadership model provided a moderately better fit to the data compared to the unidimensional model, $\Delta \chi^2 = 203.46$, $p < .01$, but only a marginally better fit compared to the two-factor model. Table 9 displays the fit indices of the three models. These findings provide moderate evidence for hypothesis 5.

Table 9

Fit Indices for the Tested TLQ Models

| Fit Indices | Unidimensional Model | Two-factor Model | Intended Four-factor Model |
|-------------------------------|-----------------------------|-------------------------|-----------------------------------|
| RMSEA 90% Confidence Interval | .086 - .11 | .050 - .074 | .044 - .068 |
| RMSEA | .096 | .062 | .056 |
| SRMR | .060 | .047 | .046 |
| GFI | .83 | .89 | .90 |
| CFI | .96 | .98 | .98 |
| NFI | .94 | .96 | .96 |
| PNFI | .83 | .84 | .81 |
| $\Delta \chi^2$ | N/A | Non-nested | $\Delta \chi^2 = 203.46, p < .01$ |

Hypotheses 6 to 14: TLQ Convergent Validity and Opposing Constructs

As shown in Table 4 on page 44, strong, positive correlations were obtained between the TLQ and the transformational leadership dimension of the MLQ ($r = .84$), TLQ moral agency and altruism ($r = .76$), TLQ charisma and an alternate charisma scale ($r = .77$), TLQ intellectual empowerment and idea generation ($r = .60$), and TLQ individual consideration and warmth ($r = .70$); all relationships were significant, $p < .001$, supporting hypotheses 6 through 10.

Strong, negative correlations were obtained between the TLQ and a measure of vulnerability ($r = -.60$), the TLQ and laissez-faire leadership ($r = -.55$), and the TLQ and narcissism ($r = -.42$). Moderate to strong negative correlations were obtained between narcissism and the TLQ subscales: charisma ($r = -.25$), moral agency ($r = -.48$), intellectual empowerment ($r = -.28$), and individual consideration ($r = -.44$). All relationships were significant, $p < .001$, supporting for hypotheses 11 through 14.

Hypotheses 15 to 18: TLQ Subscale Incremental Prediction

Charisma as a unique predictor of extra effort. At step one of a hierarchical regression, the inspirational motivation subscale of the MLQ, and moral agency, intellectual empowerment, and individual consideration subscales of the TLQ predicted extra effort, $R^2 = .575, p < .001$. At step two, charisma uniquely predicted employee extra effort, $\Delta R^2 = .017, p < .01$, supporting hypothesis 15.

Moral agency as a unique predictor of straightforwardness. At step one of a hierarchical regression, the behavioral and attributed idealized influence subscales of the MLQ, and charisma, individual consideration, and intellectual empowerment subscales of the TLQ predicted straightforwardness, $R^2 = .335, p < .001$. At step two, moral agency uniquely predicted straightforwardness, $\Delta R^2 = .126, p < .01$, supporting hypothesis 16.

Intellectual empowerment as a unique predictor of motivating potential. At step one of a hierarchical regression, the intellectual stimulation subscale of the MLQ, and charisma, moral agency, and individual consideration subscales of the TLQ predicted the motivating potential of a given job, $R^2 = .169, p < .001$. At step two, intellectual empowerment uniquely predicted the motivating potential of a given job or task, $\Delta R^2 = .016, p < .05$, supporting hypothesis 17.

Individual consideration as a unique predictor of role factors. At step one of a hierarchical regression, the individual consideration subscale of the MLQ, and charisma, moral agency, and intellectual empowerment subscales of the TLQ predicted perceived role overload, $R^2 = .084, p < .001$. At step two, individual consideration uniquely predicted perceived role overload, $\Delta R^2 = .036, p < .01$, supporting half of hypothesis 18.

At step one of a hierarchical regression, the individual consideration subscale of the MLQ, and charisma, moral agency, and intellectual empowerment subscales of the

TLQ predicted perceived role ambiguity, $R^2 = .165, p < .001$. At step 2, individual consideration did not uniquely predicted perceived role ambiguity, $\Delta R^2 = .009, p > .05$, failing to support the second half of hypothesis 18.

For hypotheses 15 to 18, potential for sign reversals between beta weights and correlations were examined to rule out the potential for mediation, moderation, or multicollinearity (Tabachnick & Fidell, 2001). For example, the correlation between charisma and extra effort is positive; congruently, the beta weight associated with charisma as a predictor of extra effort should be positive. No sign reversals occurred (refer to Appendix R to review regression results).

Hypotheses 19 to 21: Testing for Significant Differences in Select Correlations

Vulnerability did not correlate more negatively with the TLQ than the transformational leadership scale of the MLQ, $t_{(302)} = -1.18, p > .05$, one-tailed, failing to support hypothesis 19. Laissez-faire leadership correlated more negatively with the TLQ than the MLQ transformational leadership scale, $t_{(302)} = -2.47, p > .01$, one-tailed, supporting hypothesis 20. Narcissism correlated more negatively with the TLQ than the MLQ transformational leadership scale, $t_{(302)} = -11.83, p < .01$, supporting hypothesis 21.

Discussion

The current study had two purposes. The first purpose was to test the internal consistency and dimensionality of the transformational leadership scale of the MLQ. The second purpose was to develop an alternate measure of transformational leadership that has a stronger theoretical and empirical basis for the subscales of a general measure of transformational leadership. The alternate scale, due to the mergence and clarification of substantive theories, was expected to demonstrate sufficient preliminary evidence of internal consistency and dimensionality to warrant further development.

The MLQ, TLQ, and their individual subscales demonstrated acceptable to high levels of internal consistency. A CFA of the MLQ yielded ambiguous results when comparing a unidimensional and the intended five-factor model. Although the five-factor model fit better, it is better described as the least, worst fitting model. A CFA of the TLQ showed that the intended four-factor model provided a moderately better fit to the data compared to the unidimensional model but fit essentially as well as a two-factor model. Correlations support the convergent validity of the overall TLQ and individual subscales. Negative relationships expected between the TLQ scale and subscales and opposing constructs were obtained. Hierarchical regression analyses supported incremental predictions of the TLQ subscales in most cases. Narcissism and laissez-faire leadership correlated more negatively with the TLQ than with the transformational leadership dimension of the MLQ even though the MLQ and TLQ are highly related measures.

MLQ and TLQ Reliability and Dimensionality

The transformational leadership dimension of the MLQ and individual subscales demonstrated acceptable to strong internal consistency, supporting past research (Comer et al., 1995; Hartog & Van Muijen, 1997). The 18-item TLQ and individual subscales also demonstrated high internal consistency, suggesting that all items are measuring the same construct, although high internal reliability does not necessarily suggest that the TLQ is unidimensional (Pedhazur & Schmelkin, 1991; Schmitt, 1996). All scales used obtained alpha coefficients above acceptable levels for research ($r \geq .70$; Schmitt, 1996).

CFA results of the MLQ, in general, support past research. Although the unidimensional model of transformational leadership did not receive support, the five-factor model was not a substantially better fit. The fit indices for RMSEA, GFI, and PNFI were not within an acceptable range and the factor loadings were low for some of the

items, particularly items 6, 25, and 29. Inter-subscale correlations were extremely high between individual consideration and intellectual stimulation, and between individual consideration and attributed idealized influence. The factor structure did not convincingly represent a strong five-factor theoretical foundation even though past versions of the MLQ were revised to improve the psychometric properties of the subscales.

Using EFA, the 18 retained TLQ items clustered together based on the hypothesized theoretical model of transformational leadership when set to extract four factors. When the solution was not set to extract four factors, two factors emerged, comprising charisma and intellectual empowerment items in one and individual consideration and moral agency items in the other. When the 18 items were retested using CFA, they conformed to a four-factor model without having the statistical advantage of removing items to improve factor structure. Although the four-factor model was the best fitting model and obtained fit indices that were within acceptable ranges, the competing two-factor model also obtained similar fit indices.

Because of such similar fits between the two-factor and four-factor models, it is difficult to establish whether the ambiguity is due to the measure, the theory, or both. There are a few possible explanations for these findings that support both the two-factor and four-factor findings. For example, definitional challenges that arose during the item development phase may have been overcome only partially. Constructs underlying the transformational leadership theory should be readdressed to determine the nature of these constructs and the reason(s) why they are perceived so similarly. One explanation is that the constructs could naturally coexist even though they are unique characteristics, which reflects the four-factor view. Constructs also could be nested such that being intellectually empowering may require a charismatic personality and being individually

considerate may require one to have a strong sense of morality, which reflects the two-factor view. To address the ambiguity of the findings, the transformational leadership theory underlying the TLQ may require refinement upon further examination of the literature. Items could benefit from being clarified to reflect more clearly the nature of charisma relative to intellectual empowerment and moral agency relative to individual consideration. Once these issues are addressed, the TLQ could be retested to determine if the ambiguity reemerges. The remainder of the discussion outlines the specific nature of the findings and suggestions for refining the TLQ to strengthen the current findings.

TLQ Scale and Subscale Construct Validity

Construct validity of the TLQ scale and subscales was assessed using convergent validity, by generating correlations between the TLQ scale and subscales and opposing constructs, and by subscale incremental prediction. The TLQ and the transformational leadership dimension of the MLQ correlated strongly and positively, suggesting that the theory underlying the TLQ is similar to that underlying the MLQ. Moral agency and altruism, charisma and another measure of charisma, intellectual empowerment and a measure of idea generation, and individual consideration and a measure of warmth produced strong, positive correlations. The TLQ correlated strongly and negatively with vulnerability, laissez-faire leadership, and narcissism, and all four TLQ subscales and narcissism correlated strongly and negatively. If the TLQ is employed to measure transformational leadership, scores will not only reflect the extent of transformationalism inherent in the rated individual, but also how well the individual handles stress, actively leads and attends to problems, and maintains an other focus to benefit the group (i.e. the higher an individual scores on transformational leadership using the TLQ, the lower the individual likely is on vulnerability, laissez-faire leadership, and narcissism).

Five cases were used to demonstrate incremental prediction. The moral agency scale of the TLQ was a unique predictor of an individual's level of straightforwardness when communicating with others. The charisma scale of the TLQ was a unique predictor of extra effort exerted by followers. The intellectual empowerment scale of the TLQ was a unique predictor of the motivating potential of a given job. Finally, the individual consideration subscale of the TLQ was a unique predictor of role overload, but not of role ambiguity. Therefore, although feeling overwhelmed by the demands of a job is ameliorated by the amount of individual consideration received from a leader, improving a job's clarity is not achieved explicitly by having an individually considerate leader.

An individually considerate leader may reduce an employee's workload by offering assistance or providing reasonable timelines. Although these considerations reduce job overload, they have no unique influence over the clarity of the job. Role overload may be more under the direct control of the leader than role ambiguity, which might result from lack of training or education on the part of the follower despite the leader's efforts to clarify a given task. The role ambiguity construct may not have been a good choice of constructs to demonstrate incremental prediction of the individual consideration subscale. Instead, variables that more obviously are influenced uniquely by a leader's level of individual consideration should be used, such as role overload or hierarchical cohesion (MacIntyre, 2001). Hierarchical cohesion refers to the extent of loyalty and genuine concern that a follower feels toward a leader because of the leader's loyalty and genuine concern for his or her followers (MacIntyre, 2001). Despite the role ambiguity finding and although the TLQ subscales are highly correlated, all four subscales demonstrated the ability to tap into a uniquely different concept, and therefore, should be considered separate and measurable components of transformational leaders.

Differences in Correlational Outcomes Using the MLQ Versus the TLQ

Vulnerability did not correlate more negatively with the TLQ than the MLQ. Laissez-faire leadership and narcissism, however, did correlate more negatively with the TLQ than with the MLQ. These findings suggest that, although highly similar, there are certain fundamental differences between the transformational leadership theories underlying the MLQ compared to the TLQ. Although vulnerability does not help to distinguish the theory underlying the MLQ versus the TLQ, whether or not an individual has a laissez-faire or narcissistic demeanor seems to influence TLQ scores differently from MLQ scores, which also was the case for the narcissism finding in the original TLQ development study (Mahar & Mahar, 2002).

Even though the MLQ and TLQ correlate highly ($r = .84$), suggesting that they measure highly similar constructs, TLQ items may be more clear, aiding respondents in their ability to decipher the intended meaning of each item. Clarifying the TLQ items may have made it difficult to associate laissez-faire and self-directed or narcissistic behaviors with leadership behaviors, resulting in less coexistence of both avoidant leadership and narcissism with leader behaviors using the TLQ compared to the MLQ. Because charisma and moral agency are not clearly defined by the MLQ, raters may perceive leaders as relatively laissez-faire or selfish when reading the MLQ items. The TLQ more clearly defines charisma and intellectual empowerment as active and other-focused behaviors and more saliently emphasizes transformational leaders as moral agents. Clarifications may have helped to improve the accuracy of obtained correlations by helping to place a ceiling on perceived passive leadership and selfishness or narcissism on the part of a leader.

The narcissism and laissez-faire findings were not demonstrated using the vulnerability construct. The MLQ and TLQ are equally capable of screening out individuals who are not capable of being in a leadership position due to vulnerability or an inability to cope with stress. Behaviors that characterize vulnerability generally are opposite of those that characterize individuals in leadership positions; it is difficult to imagine a vulnerable individual in a leadership position. To test a scale's sensitivity and accuracy more convincingly by comparing differences between correlations, constructs that are obviously opposite from leadership should not be used to test correlational differences. Instead, constructs that simply differ from transformational leadership, but that could make the difference between a positive versus questionable leader, should be employed, such as narcissism or laissez-faire demeanor.

The purpose of generating these negative correlations was to demonstrate that the more transformational an individual is thought to be, the less likely they will be vulnerable, passive, and selfish. Nonetheless, strong correlations between the TLQ and vulnerability, laissez-faire leadership, and narcissism could indicate that there is a convergence between the constructs because of the magnitude of the correlations independent of the negative direction. A true demonstration of discriminant validity would have been to determine that the TLQ does *not* correlate, either negatively or positively, with constructs known to differ from transformational leadership. The process employed by the current study to demonstrate construct validity of the TLQ was selected purposefully because of the theory underlying the TLQ. Specifically, because the theory stresses the importance of overcoming challenges through radical, yet acceptable or noble transformations (charisma, moral agency), and being other-focused for the betterment of the group (intellectual empowerment, individual consideration), it was more important to

determine whether an individual's behavior opposes, rather than simply differs from, unwanted behavioral characteristics such as vulnerability, avoidance, or selfishness. The rationale underlying this method of construct validity was that, when testing for transformational leadership, it is more important to know that someone *does not* possess unwanted characteristics than that they *might not* possess unwanted characteristics.

Limitations of the Current Study

The MLQ typically is used in applied settings in which subordinates, peers, and seniors are asked to provide ratings of specific individuals of interest. Other times, the MLQ is used in a pretest-post-test design such that individuals are given leadership training, and post-test scores reflect the degree of transfer of training when compared to pretest ratings. In any case, the use of the MLQ usually presumes that raters are told beforehand who they are to rate. Participants in the current study, however, were asked to think of a past or current job for which they had the same immediate supervisor for at least six months and then to rate themselves, their jobs, and their supervisor by completing a questionnaire package. In the current study, there was no control over which supervisor each participant chose to rate, or why the given supervisor was chosen. Subjects were recruited using convenience sampling and the sample size was relatively small. The distributions of responses on the MLQ and TLQ were negatively skewed, perhaps because respondents brought to mind individuals who contributed to positive leadership experiences. They also may have overrated their supervisors because they were young, undergraduate university students with limited job experience. To provide less inflated ratings, subjects may need exposure to more leaders and for longer time periods to be able to discern typical individuals simply doing their jobs from individuals who truly are transformational. Subjects may have overrated the actual degree of

transformational nature of the individual in mind simply because they like the person being rated, which differs uniquely from whether or not the person being rated actually is a transformational leader.

Bass and Avolio (1989) conducted a study on leniency and transformational leadership ratings. They argued that graphic rating scales, because of leniency, lead to higher intercorrelations among leadership subscales. After they controlled for the effects of prototypicality (halo effect), they established that leniency is more likely to affect graphic ratings of transformational leadership than forced ranking formats. Graphic ratings include the use of Likert-type scales, whereas forced choice involves having a subject choose which of two items is more characteristic of the individual being rated. Under forced ranking formats, one processes information in a more controlled and systematic fashion, which makes it easier to make a firm decision, whereas graphic rating scales are less focused, which makes the decision more difficult, and tends to result in more lenient response patterns (Bass & Avolio, 1989). Whereas Bass and Avolio (1989) controlled for prototypicality, and obtained support for their hypothesis regarding graphic ratings and leniency, the current study provided only minimal control for prototypicality.

Rather than ask participants to think of an individual in a leadership position and then have them provide ratings of the individual, participants were asked to bring to mind a job-related supervisor. The rationale was that to ask subjects to think of a person in a position of leadership might invoke an inclination on their part to think of someone positive. This procedure may have reduced some tendencies toward adhering to response styles, although the degree of reduction is uncertain. Nonetheless, Bass and Avolio's (1989) study does help to explain, at least in part, why the distributions of responses in the current study were so strongly negatively skewed. Their findings may also be a

reason for the repeatedly demonstrated high correlation coefficients among the transformational leadership subscales because researchers usually use Likert scales when employing the MLQ. In turn, lack of ability to demonstrate discriminant validity among the subscales may be a consequence of using graphic rating scales. The inability of the MLQ to demonstrate dimensionality among the transformational leadership subscales may be less because of the items themselves, and more because ratings almost always are provided on graphic rating scales.

The concept of forced-choice could be applied to the TLQ. Specifically, the resulting TLQ yielded six moral agency, and four charisma, intellectual empowerment, and individual consideration items. Excluding pairings of items with other items in the same subscale, the number of unique pairings between each item and every other item is 120 pairs. The 120 pairs of items could be presented, and subjects could be asked to decide which of the two statements better characterizes a given individual being rated. This forced-choice rating style may result in a truer picture of the actual extent to which rated individuals possess the types of characteristics necessary to be considered a transformational leader. Rather than attempting to decipher the level of agreement with a given statement, which may be difficult to pinpoint using a five-point scale, it may be easier and more definitive to decide between whether one statement is truer of a given person than an alternate statement. Future TLQ validation studies should use larger and more diverse probability samples and consider using a forced-choice rating formats in order to clarify and strengthen implications of the TLQ results.

Future Development and Testing of the TLQ

Eighteen TLQ items were retained for future use and testing. The TLQ will be tested using various formats, including the currently tested format and a forced choice

format, and will employ larger and more representative samples of working adults from within various organizations to better determine the quality of the measure. Many items were written and subsequently were omitted from the analysis during the EFA. Because of the possibility of future testing, any of the items that show promise in some manner may be rewritten and retested. Specifically, definitions and underlying theory can be consulted to uncover ideas for wording changes of repetitive items so that they reflect different aspects of a given construct. Cross-loading items can be assessed to determine the nature of the ambiguity, and then can be reworded in a manner that measures the intended construct only. A reexamination of the items could uncover underlying possibilities as to why they would load together, which can then be corrected. Many clues were uncovered that can contribute to clarifying the construct and items, such as the nonsignificant vulnerability, laissez-faire, and role ambiguity findings. Addressing or accounting for the proposed explanations for these findings may help to improve future TLQ testing methodology and the measure itself.

Final Remarks

The TLQ shows promise as a measure of transformational leadership that can clearly outline differences across individuals being assessed for leadership potential. Although the TLQ is in its developmental stages only, it has demonstrated capabilities that the MLQ has not been shown to demonstrate. When Bass and Avolio (1995) developed the most recently revised version of the MLQ, they reduced their initial item pool using modification indices produced by LISREL but did not confirm their exploratory factor structure on an independent sample. Since the development of the most current MLQ, many studies have not been able to replicate the factor structure obtained by Bass and Avolio (1995). Bass and Avolio (1995) demonstrated convergent and

discriminant validity of the MLQ scales by correlating them to other MLQ scales rather than by employing external scales with known psychometric properties. They also never demonstrate construct validity through incremental prediction (Bass & Avolio, 1995). From a practical perspective, the TLQ is substantially shorter than the MLQ. The MLQ contains 20 transformational leadership items and 45 items in total. Researchers only interested in the transformational leadership items tend to administer the whole MLQ nonetheless in order to maintain validity, which is less practical.

Because transformational leadership theory is studied more frequently than all other leadership theories combined (Judge & Bono, 2000), and the MLQ is the most widely used measure of leadership style (Bryman, 1992), consideration must be given to the psychometric properties of the instrument. Widely spread industrial use of the MLQ implies that numerous decisions related to personnel are based, in part, on obtained MLQ scores, which may lead to undesirable implications if the MLQ is unable to measure what it is intended to measure. The development of an assessment device that clearly differentiates among important facets of leadership enables practitioners to make more informed decisions and recommendations within organizational contexts. High-impact decisions require confidence in the assessment measures selected. The TLQ has shown promising preliminary evidence of its ability to measure transformational leadership accurately and multidimensionally, and its further development will be sought using large and heterogeneous working samples in the fields of education, medicine, and the military.

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Appendix A

Preliminary TLQ Development Study (Mahar & Mahar, 2002)

Overview of the Study

A preliminary TLQ development study (Mahar & Mahar, 2002) provided the framework for the current project. The theory underlying the TLQ in the development study (Bass, 1985; Burns, 1978) identified four leadership dimensions: moral agency, charisma, intellectual stimulation, and individual consideration. The moral agency component replaced the idealized influence concept in the MLQ and the charisma component replaced the MLQ's inspirational motivation concept. The intellectual stimulation and individualized consideration components represented the constructs defined by Bass (1985), although they were redefined for clarity.⁴ The study generated 40 items based on four dimensions of transformational leadership: charisma, moral agency, individual consideration, and intellectual stimulation. The items were refined using item specifications outlined by Crocker and Algina (1986). The items were then presented to nine Ph.D. level psychology professors at Saint Mary's University for further review of their technical merits, potential bias, and relation to the construct. These revisions yielded the 40 items used in this project. The overall TLQ scale based on the 40 items and the individual subscales were expected to correlate positively with the transformational leadership scale and individual subscales of the MLQ and negatively with the Narcissistic Personality Inventory (NPI; Raskin and Terry, 1988). These relationships were used to establish the construct validity of the items.

Participants

One hundred male and 132 female Saint Mary's University undergraduate students participated in the study. The mean age of the participants was 21.2 years with a standard deviation of 4.11 years. The mean amount of time that the participants knew the target person was 3.02 years with a standard deviation of 4.69 years. Table 1 outlines the demographics of the target persons that the participants rated.

Demographic Breakdowns of the Target Person Being Rated

| Target Person Demographics | | Frequency | Percentage |
|----------------------------|----------------------|-----------|------------|
| Gender | Male | 121 | 52.2 |
| | Female | 111 | 47.8 |
| Position | Boss or Supervisor | 135 | 58.2 |
| | University Professor | 53 | 22.8 |
| | Sports Coach | 36 | 15.5 |
| | Parent | 8 | 3.5 |
| Estimated Age | 20s | 21 | 9.1 |
| | 30s | 88 | 37.8 |
| | 40s | 70 | 30.2 |
| | 50s | 36 | 15.5 |
| | 60s | 9 | 3.9 |
| | 70s | 8 | 3.5 |

⁴ The current study retained the theory proposed in the preliminary study, but expanded it to include two changes: (1) the influence of Conger and Kanungo (1988) on the charismatic scale and (2) the philosophy underlying the difference between intellectual stimulation and intellectual empowerment. These inclusions are described in the *Conceptual Definition of Transformational Leadership* section of the Introduction.

Procedure

Participants were recruited through sign-up sheets and classroom visits. Participants were asked to think of an individual in a position of authority over them. They then completed a demographic information form and provided ratings of the target person on the MLQ, NPI, and TLQ based on the degree to which they believed the target person possessed the characteristics described in each item. Participants returned their questionnaires to the experimenter and retained a feedback form upon completion.

Study Findings

Using principal components analysis (PCA) with direct oblimin rotation, the initial 40 TLQ items demonstrated evidence for conceptually similar items clustering together. All eight charisma items loaded onto one component; six moral agency items loaded onto a second component; five individual consideration items loaded onto a third component; and four intellectual stimulation items loaded onto a fourth component. Although the scree plot clearly indicated the presence of a single component, constraining the analysis to extract one, two, and three components provided moderate evidence for more than one component represented by the 40 items.

To clarify the factor structure of the measure, sixteen items were eliminated based on statistical and theoretical rationales and 24 TLQ items were re-analyzed using PCA with direct oblimin rotation. The analysis of the retained TLQ items provided support for a correlated four-factor model of transformational leadership. Seven individual consideration items loaded onto one component; seven charisma items loaded onto a second component; six moral agent items loaded onto a third component; and four intellectual stimulation items loaded onto a fourth component. Items appeared to cluster based on the hypothesized theoretical model of transformational leadership. Although the scree plot clearly supported a single component model of transformational leadership, the residual correlation matrix provided moderate evidence for greater than one factor when the analysis was constrained to extract one component.

Cronbach's alpha for the overall scale of the 24 items that were retained and the individual subscales was sufficient, ranging from .71 to .95. Convergent and discriminant validity provided adequate evidence of the construct validity of the overall measure and individual subscales. The strong clustering of conceptually similar items into their respective factors, an adequate demonstration of convergent and discriminant validity of the overall TLQ and individual subscales, and a strong demonstration of internal consistency reliability of the overall scale and individual subscales warranted further development and testing of the TLQ using a larger and more heterogeneous sample of participants.

Appendix B

Participant Recruitment Presentation

Participant Recruitment Presentation

Hello, my name is Tammy Mahar. I am a graduate student in the Psychology Department here at Saint Mary's. I am currently conducting a pilot study as part of my Master's thesis. Each testing session requires at least forty-five minutes of participation time. With permission from your instructor, you may receive two bonus points toward your final grade in this course if you choose to participate. Please note that the minimum requirement for participation in this study is work experience within an organization under **THE SAME IMMEDIATE SUPERVISOR FOR AT LEAST SIX MONTHS.**

I will circulate sign-up sheets at this time, and will return at the end of the class time to collect them. I also have sign-up sheets posted on the wall outside McNally Main 307. If you are interested in participating, please fill in your student number on the sign-up sheet corresponding to the testing session most convenient for you and note the date, time, and location of the testing session you choose. Thank you and have a great day!

Appendix C

Sign-up Sheets

RESEARCH STUDY

SIGN-UP SHEETS

Project Saffron

Saint Mary's University Department of Psychology

Tammy Mahar and Dr. Vic Catano

All undergraduate students are welcome to participate in this study. Please note that the **minimum requirement for participation is work experience within an organization under THE SAME IMMEDIATE SUPERVISOR FOR AT LEAST SIX MONTHS.** The duration of each testing session is **at least 45 minutes.** With permission from course instructors, you will receive **two bonus points** toward a final grade in a designated course for participating. If you are interested in participating, please choose a session most convenient for you and note the date, time, and location of the session you choose.

Project Saffron

The minimum requirement for participation is work experience within an organization under **THE SAME IMMEDIATE SUPERVISOR FOR AT LEAST SIX MONTHS**. Testing sessions are **at least 45 minutes**. You may receive **two bonus points** for participating.

Location
Date Time

| | Student # | | Student # | | Student # | | Student # |
|----|-----------|-----|-----------|-----|-----------|-----|-----------|
| 1. | | 6. | | 11. | | 16. | |
| 2. | | 7. | | 12. | | 17. | |
| 3. | | 8. | | 13. | | 18. | |
| 4. | | 9. | | 14. | | 19. | |
| 5. | | 10. | | 15. | | 20. | |

Location
Date Time

| | Student # | | Student # | | Student # | | Student # |
|----|-----------|-----|-----------|-----|-----------|-----|-----------|
| 1. | | 6. | | 11. | | 16. | |
| 2. | | 7. | | 12. | | 17. | |
| 3. | | 8. | | 13. | | 18. | |
| 4. | | 9. | | 14. | | 19. | |
| 5. | | 10. | | 15. | | 20. | |

Please feel free to drop in at
the beginning of any session!

Appendix D

Confirmatory Study Sign-up Sheets

Project Saffron

Study Information

Researcher: Tammy Mahar

Supervisor: Dr. Vic Catano

Minimum Participation Required:

At least 6 months of work experience under the same immediate supervisor.

Session Format and Compensation:

Sessions are being conducted on a WALK-IN basis. Participants may receive ONE BONUS POINT.

Testing Schedule:

| Date | Time | Location |
|------|------|----------|
| | | |
| | | |
| | | |

**Please walk in at any time during
any of the testing sessions!**

Appendix E

Original Items from the Preliminary TLQ Development Study

Transformational Leadership Questionnaire*

1. sets goals for the group that tend to be unclear.
2. expresses confidence in my abilities.
3. avoids discussing his/her deep inner values with others.
4. stimulates me to keep an open mind when solving problems.
5. empowers the group with confidence in its abilities.
6. makes some team members feel unimportant.
7. shows little enthusiasm toward my abilities.
8. encourages brainstorming with others to solve problems.
9. has difficulty seeing the 'bigger picture.'
10. treats everyone with equality.
11. makes me feel proud just to know him/her.
12. does not motivate me to be energetic.
13. helps the group to build on its strengths.
14. encourages me to believe that my dreams can come true.
15. convinces me that I have what it takes to succeed.
16. pays attention only to certain group members.
17. has trouble treating people with respect.
18. is a 'natural' at being confident.
19. does not consider the importance of high ethical standards.
20. thinks of solutions using many different methods.
21. has difficulty motivating people.
22. shows little excitement when I achieve my goals.
23. makes each team member feel necessary.
24. has difficulty understanding that everyone is different.
25. is equally committed to each group member.
26. challenges me to be creative and innovative.
27. is not creative when solving problems.
28. understands that we each have our own individual needs.
29. would not be considered a good role model.
30. tends to be disrespectful toward others.
31. encourages me to think of practical solutions to problems.
32. acts like morals are not important.
33. makes ample time for each group member.
34. does little to help improve group effectiveness.
35. makes me feel like I am doing the right thing.
36. does not clearly state what he/she expects from me.
37. makes me feel like my contributions are valuable.
38. has difficulty seeing me as an individual.
39. provides solutions that are moral and ethical.
40. puts little thought into the consequences of his/her actions.

* The 24 unaltered items are bolded

Appendix F

TLQ Item Refinement Package



October 22, 2002

Faculty and Graduate Students
Department of Psychology

To whom it may concern,

For those who do not know me, my name is Tammy Mahar. I am a graduate student in the Department of Psychology here at Saint Mary's. For my Master's thesis, I am developing a measure of transformational leadership. I am seeking content analysts to review my measure for potential bias, technical merit, and overall representation of the conceptual subscale definitions.

If you are interested in participating in this study as a content analyst, simply review the following definitions, items, and measure, and provide feedback or revisions directly on the hard copy where you see fit. Then please place the revisions in my mailbox in the Department of Psychology photocopy room by **Friday, November 1, 2002**. Please note that your participation in this study is completely voluntary.

t

Sincerely,

Tammy Mahar
Graduate Student
Department of Psychology
Saint Mary's University

Rating Scale

| | | | | |
|------------------------------|------------------------------|----------------|---------------------------|---------------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Strongly Agree |

Moral Agency

Transformational leaders are role models concerning moral and ethical conduct, which is represented by their degree of respect toward others, their concern for the well being of others, and the honesty and integrity of their actions.

The person I am rating . . .

1. discusses the importance of high ethical standards.
2. acts like morals are not important.
3. explains the importance of strong values.
4. acts disrespectfully toward others.
5. provides solutions that are moral and ethical.
6. shows concern for the safety and well-being of others.
7. overlooks the consequences of certain actions.
8. ensures confidentiality of private information.
9. overlooks the importance of behaving morally.
10. is fair and just when making difficult decisions.
11. is dishonest toward others.
12. makes promises and fails to keep them.
13. is the type of person who deserves respect.
14. says one thing and does another.

Charisma

Transformational leaders are charismatic, in that they generate an energizing sense of purpose, they stimulate enthusiasm, and they verbally build the confidence and willingness of others.

The person I am rating . . .

1. convinces people that they have what it takes to succeed.
2. rarely displays energy, vigor, or vitality.
3. inspires unexpected bursts of energy within others.
4. shows little excitement when people achieve their goals.
5. empowers the group with confidence in its abilities.
6. has difficulty motivating others to be energetic.
7. encourages others to believe that dreams can come true.
8. fails to motivate people to complete required tasks.
9. challenges the group to be creative and innovative.
10. is reluctant to speak about the future with excitement.
11. shows enthusiasm when motivating the group.
12. fails to generate projects that are captivating and stimulating.
13. possesses a positive attitude that inspires others.
14. fails to express confidence that the group will succeed.

Intellectual Empowerment

Transformational leaders are intellectually empowering, whereby they encourage followers to question the status quo, they promote innovative problem solving, they broaden and elevate followers' interests, and they work with followers to develop their full potential.

The person I am rating . . .

1. encourages innovative problem solving.
2. vaguely expresses what I am capable of achieving.
3. encourages brainstorming with others to solve problems.
4. refuses to provide new ways of completing usual tasks.
5. challenges me to think of creative solutions to problems.
6. relies on traditional methods of completing tasks.
7. examines the clarity of assigned goals.
8. is reluctant to agree with a different opinion.
9. examines the relevance of assigned goals.
10. ignores new ways to complete typical tasks.
11. gets me to keep an open mind when solving problems.
12. is narrow-minded when suggesting solutions to problems.
13. identifies practical solutions to problems.
14. sets goals for the group that are unclear.
15. thinks of solutions using various methods.
16. has difficulty seeing the 'bigger picture'.
17. suggests solutions to problems that are creative.
18. lacks creativity when assigning tasks.
19. gets me to think of practical solutions to problems.
20. lacks creativity when solving problems.

Individual Consideration

Transformational leaders give individual consideration to followers, whereby they clarify what is expected of followers, they understand and facilitate individual needs of followers, they provide encouragement and personal attention to followers, and they clearly define what followers will receive based on their performance.

The person I am rating . . .

1. gives individual attention to people when they need it.
2. fails to understand that we each have our own individual needs.
3. is equally committed to each group member.
4. fails to make each team member feel necessary.
5. makes each group member feel important.
6. has difficulty understanding that everyone is different.
7. treats each group member with equality.
8. makes me feel like my contributions are irrelevant.
9. displays willingness to accommodate the needs of others.
10. ignores some group members.
11. accepts those whose customs are different.
12. makes some team members feel less important.
13. makes ample time for each group member.
14. vaguely defines each group member's task.
15. makes me feel like my contributions are valuable.
16. fails to see each group member as an individual.

Transformational Leadership Questionnaire

Please recall the person you identified in the Demographic Information Form as your immediate supervisor. Rate the 64 items below based on the degree to which you feel the items describe the target person. Beside the item, fill in the best numerical value using the following scale (instructions may vary, depending on the intended use of the scale):

| 1 | 2 | 3 | 4 | 5 |
|----------------------|----------------------|---------|-------------------|-------------------|
| Strongly Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Strongly Agree |

The person I am rating . . .

- _____ 1. convinces people that they have what it takes to succeed.
- _____ 2. lacks creativity when assigning tasks.
- _____ 3. displays willingness to accommodate the needs of others.
- _____ 4. discusses the importance of high ethical standards.
- _____ 5. shows concern for the safety and well-being of others.
- _____ 6. has difficulty motivating others to be energetic.
- _____ 7. fails to see each group member as an individual.
- _____ 8. encourages innovative problem solving.
- _____ 9. examines the relevance of assigned goals.
- _____ 10. fails to understand that we each have our own individual needs.
- _____ 11. ignores some group members.
- _____ 12. explains the importance of strong values.
- _____ 13. makes some team members feel less important.
- _____ 14. shows enthusiasm when motivating the group.
- _____ 15. vaguely defines each group member's task.
- _____ 16. sets goals for the group that are unclear.
- _____ 17. is equally committed to each group member.
- _____ 18. makes each group member feel important.
- _____ 19. is narrow-minded when suggesting solutions to problems.
- _____ 20. treats each group member with equality.
- _____ 21. provides solutions that are moral and ethical.
- _____ 22. suggests solutions to problems that are creative.
- _____ 23. gives individual attention to people when they need it.
- _____ 24. shows little excitement when people achieve their goals.
- _____ 25. acts like morals are not important.
- _____ 26. makes me feel like my contributions are valuable.
- _____ 27. lacks creativity when solving problems.
- _____ 28. says one thing and does another.
- _____ 29. is the type of person who deserves respect.
- _____ 30. fails to generate projects that are captivating and stimulating.

| 1 | 2 | 3 | 4 | 5 |
|----------------------|----------------------|---------|-------------------|-------------------|
| Strongly Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Strongly Agree |

The person I am rating . . .

- _____ 31. challenges me to think of creative solutions to problems.
- _____ 32. fails to make each team member feel necessary.
- _____ 33. examines the clarity of assigned goals.
- _____ 34. overlooks the importance of behaving morally.
- _____ 35. relies on traditional methods of completing tasks.
- _____ 36. ensures confidentiality of private information.
- _____ 37. encourages brainstorming with others to solve problems.
- _____ 38. empowers the group with confidence in its abilities.
- _____ 39. vaguely expresses what I am capable of achieving.
- _____ 40. fails to motivate people to complete required tasks.
- _____ 41. identifies practical solutions to problems.
- _____ 42. is reluctant to speak about the future with excitement.
- _____ 43. has difficulty understanding that everyone is different.
- _____ 44. possesses a positive attitude that inspires others.
- _____ 45. is reluctant to agree with a different opinion.
- _____ 46. is dishonest toward others.
- _____ 47. inspires unexpected bursts of energy within others.
- _____ 48. gets me to keep an open mind when solving problems.
- _____ 49. gets me to think of practical solutions to problems.
- _____ 50. accepts those whose customs are different.
- _____ 51. challenges the group to be creative and innovative.
- _____ 52. fails to express confidence that the group will succeed.
- _____ 53. ignores new ways to complete typical tasks.
- _____ 54. is fair and just when making difficult decisions.
- _____ 55. makes me feel like my contributions are irrelevant.
- _____ 56. refuses to provide new ways of completing usual tasks.
- _____ 57. encourages others to believe that dreams can come true.
- _____ 58. makes promises and fails to keep them.
- _____ 59. rarely displays energy, vigor, or vitality.
- _____ 60. acts disrespectfully toward others.
- _____ 61. thinks of solutions using various methods.
- _____ 62. has difficulty seeing the 'bigger picture'.
- _____ 63. makes ample time for each group member.
- _____ 64. overlooks the consequences of certain actions.

Appendix G

Final 40 TLQ Items

Charisma

- (13) 1. convinces others that they have what it takes to succeed.
- (26) 2. fails to display energy, vigor, or vitality when interacting with others.
- (6) 3. inspires others.
- (17) 4. shows little excitement when others achieve their goals.
- (10) 5. empowers others with confidence in their abilities.
- (27) 6. has difficulty motivating others.
- (9) 7. encourages others to believe that their dreams can come true.
- (37) 8. fails to express confidence in others.
- (39) 9. shows enthusiasm when working with others.
- (24) 10. is reluctant to speak about the future with enthusiasm.

Moral Agency

- (19) 1. says one thing but does another.
- (16) 2. explains to others the importance of strong moral values.
- (12) 3. acts disrespectfully toward others.
- (7) 4. provides solutions that are moral and ethical.
- (21) 5. ignores others' unethical behaviors.
- (40) 6. shows concern for the safety and well-being of others.
- (14) 7. is dishonest.
- (38) 8. ensures confidentiality of private information.
- (33) 9. fails to keep promises.
- (2) 10. deserves respect because of his/her honest and ethical behavior.
- (20) 11. acts like morals are not important.
- (15) 12. is fair when making difficult decisions.

Intellectual Empowerment

- (34) 1. discourages innovative problem solving.
- (25) 2. encourages group members to brainstorm with each other to solve problems.
- (36) 3. impedes the group's ability to solve problems creatively.
- (28) 4. helps group members to be open-minded when solving problems.
- (23) 5. refuses to implement creative ideas generated by others.
- (32) 6. helps group members to think of solutions using innovative methods.
- (35) 7. relies on traditional methods of completing tasks.
- (3) 8. helps group members to think of practical solutions to problems.

Individual Consideration

- (5) 1. gives individual attention to group members when they need it.
- (29) 2. fails to understand that group members have individual needs.
- (11) 3. makes each group member feel like their contributions are valuable.
- (1) 4. fails to make each group member feel necessary.
- (30) 5. makes each group member feel important.
- (8) 6. vaguely defines each group member's task.
- (22) 7. makes group members feel like their contributions are relevant.
- (18) 8. ignores some group members.
- (31) 9. displays willingness to accommodate the needs of group members.
- (4) 10. fails to see each group member as an individual.

Appendix H

Demographic Information Form

Demographic Information Form

Please think of a past or current job for which you had the same immediate supervisor for at least six months. Please read and answer the following questions carefully.

1. What is your gender? Male _____ Female _____
2. What is your age? _____
3. What is/was the status of the target job? Past job _____ Current job _____
4. If you are rating a past job, when did you stop working for the organization? _____
5. What is/was your employee status? Part-time _____ Full-time _____
6. How long have you worked/did you work for the target organization? _____
7. What is the nature of the industry (food, clothing, banking, etc.)? _____
8. How long have you worked in the industry noted in item 7? _____
9. How many jobs in total have you had in the industry noted in item 7? _____
10. What is your target supervisor's gender? Male _____ Female _____
11. What is/was the supervisor's title (manager, supervisor, director, etc.)? _____
12. What is/was your position (manager, supervisor, employee, etc.)? _____
13. How long have you been/were you in the position noted in item 12? _____
14. Were you ever in another position within the organization? Yes _____ No _____
15. How long have you been/were you the supervisor's subordinate? _____
16. What is/was the supervisor's age during the time stated in item 15?
20s _____ 30s _____ 40s _____ 50s _____ 60s _____ 70s _____ 80+ _____

Appendix I

Questionnaire Items

Multifactor Leadership Questionnaire (Bass & Avolio, 1995)

Items have been excluded because they are copyrighted information.

Conger-Kanungo Charismatic Leadership Scale (Conger et al., 1997)**The person I am rating . . .**

1. has vision; often brings up ideas about possibilities for the future.
2. provides inspiring strategies and organizational goals.
3. consistently generates new ideas for the future of the organization.
4. is entrepreneurial; seizes new opportunities in order to achieve goals.
5. readily recognizes new environmental opportunities (favorable physical and social conditions) that may facilitate achievement or organizational objectives.
6. is inspirational; able to motivate by articulating effectively the importance of what organizational members are doing.
7. is an exciting public speaker.
8. in pursuing organizational objectives, engages in activities involving considerable personal risk.
9. takes high personal risks for the sake of the organization.
10. often incurs high personal cost for the good of the organization.
11. readily recognizes constraints in the physical environment (technological limitations, lack of resources, etc.) that may stand in the way of achieving organizational objectives.
12. readily recognizes constraints in the organization's social and cultural environment (norms, lack of grass roots support, etc.) that may stand in the way of achieving organizational objectives.
13. recognizes the limitations of other members of the organization.
14. recognizes the abilities and skills of other members of the organization.
15. shows sensitivity for the needs and feelings of the other members in the organization.
16. influence others by developing mutual liking and respect.
17. often expresses personal concerns for the needs and feelings of other members in the organization.
18. engages in unconventional behavior in order to achieve organizational goals.
19. uses non-traditional means to achieve organizational goals.
20. often exhibits very unique behavior that surprises other members of the organization.

Transformational Leadership Questionnaire (Appendix G)**Narcissistic Personality Inventory (Raskin & Terry, 1988)****The person I am rating . . .**

1. expresses that he/she will be a success.
2. likes having authority over other people.
3. believes he/she is a born leader.
4. believes that people recognize his/her authority.
5. likes to be the center of attention.
6. believes if he/she ruled the world it would be a better place.
7. likes to look at himself/herself in the mirror.
8. sees himself/herself as a good leader.
9. likes to take responsibility for making decisions.
10. states that he/she is more capable than other people.
11. is apt to show off if given the chance.
12. acts as if he/she would prefer to be a leader.
13. thinks he/she is going to be a great person.
14. believes he/she is an extraordinary person.
15. thinks everyone likes to hear his/her stories.
16. likes to be complimented.
17. thinks he/she is a special person.
18. gets upset when people don't notice how he/she looks.
19. would do almost anything on a dare.
20. insists on getting the respect that is due to him/her.
21. likes to start new fads and fashions.
22. thinks he/she can read people like a book.
23. believes it is easy to manipulate people.
24. asserts that he/she can talk his/her way out of anything.

NEO Personality Inventory (Costa & McCrae, 1992)**5 Selected Subscales: Altruism, Ideas, Straightforwardness, Vulnerability, Warmth**

Items have been excluded because they are copyrighted information.

Role Overload Scale (Beehr et al., 1976)

1. I am given enough time to do what is expected of me on my job.
2. It often seems like I have too much work for one person to do.
3. The performance standards on my job are too high.

Role Ambiguity Scale (Rizzo et al., 1970)

1. I feel certain about how much authority I have.
2. Clear, planned goals and objectives exist for my job.
3. I know that I have divided my time properly.
4. I know what my responsibilities are.
5. I know exactly what is expected of me.
6. Explanation is clear of what has to be done.

Job Diagnostic Survey (Hackman & Oldham, 1974)

The 5 subscales needed to derive the Motivating Potential Score were administered. Items have been excluded because they are copyrighted information.

Order of Presentation to Participants:

Demographic Information Form
 Role Ambiguity Scale
 Multifactor Leadership Questionnaire
 Conger-Kanungo Charismatic Leadership Scale
 Narcissistic Personality Inventory
 Role Overload Scale
 Job Diagnostic Survey
 Transformational Leadership Questionnaire
 NEO Personality Inventory – Revised

Appendix J

Informed Consent Form

**Informed Consent Form
For Project Saffron****Tammy Mahar
Department of Psychology
Saint Mary's University**

The investigator of this study is a graduate student in the Department of Psychology at Saint Mary's University. This study is being conducted as a pilot study for a Master's thesis under the supervision of Dr. Vic Catano. Undergraduate students at Saint Mary's University are welcome to participate. **The minimum requirement for participation in this study is work experience in an organization under the same immediate supervisor for at least six months.** Participation will require at least forty-five minutes of your time. Upon approval from your professor, you may receive two bonus points toward your final grade in a designated course.

You will be asked to think of an immediate supervisor for a past or current job, and keep the same person in mind when you fill out the questionnaires. You will first fill out a demographic information form, and you will then complete several questionnaires. Questionnaire ratings will be based on how much you feel the items describe either yourself or the target person, depending on the questionnaire. Please respond to the items as honestly as possible and hand the questionnaires in when you finish. The experimenter will sign your bonus point card and give you a feedback form before you leave. **Your participation is fully voluntary, and you may discontinue at any time and for any reason, without penalty.**

This form will be collected before you begin the questionnaires so that no associations can be made between your signature and the ratings you provide, thereby ensuring your **anonymity and confidentiality**. Once data have been analyzed and results have been obtained, they will be presented in a group format so that **your own ratings cannot be identified**.

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Please sign both copies of this form if you agree to its terms. Otherwise, you are welcome to withdraw participation. Please do not sign any other materials during the session. When all participants have finished reading this form, the experimenter will collect one copy. **Please keep the second copy of this form for your records.**

By signing this informed consent form, you are indicating that you fully understand the information above and agree to participate in this study.

Signature _____

Date _____

Appendix K

Standardized Instructions

Standardized Instructions

Hello, my name is Tammy Mahar, and I am a graduate student in the Psychology Department here at Saint Mary's. This study is being conducted as a pilot study for my Master's thesis. **The minimum requirement for participation is work experience in an organization under the same immediate supervisor for at least six months.** If you do not have this experience, whether it is past or current experience, I will ask that you please leave the session.

There are two informed consent forms in front of you. Please read this form carefully, and sign both copies if you agree to its terms. When everyone is finished, please keep one copy for your records, and I will collect one copy for my records. I will collect the forms before you begin filling out the questionnaires so that no associations can be made between your signatures and the ratings you provide. You may now begin reading the form.

Pause until the forms are read, signed, and collected.

I would now like you to think of a job-related experience in which you worked under an immediate supervisor for **at least six months**. This can be a job that you held in the past, or it can be a job you currently possess. Please bring to mind your immediate supervisor for the given job, and keep the same supervisor in mind when you fill out the questionnaires. The first questionnaire is a demographic information form that asks questions about yourself, the job, and your immediate supervisor. The remaining questionnaires will require you to provide ratings on Likert scales based on the how much you feel the items describe yourself, the job, or your supervisor. Each questionnaire is different, so please read the instructions carefully to determine who or what you are supposed to rate. Please watch the rating scales, as they change from questionnaire to questionnaire. Some are from 0-4, some from 1-5, 1-6, and 1-7. Therefore, do not assume that a rating of 3 is considered the same across scales. As well, items are worded in present tense out of convenience, but you may rate a job from the past if you wish. Simply reflect back to how you would have felt at the time you occupied the position. Also, there are some questions that you may find difficult to answer, such as questions that ask about exotic foods. If you do not know, simply use the neutral rating. Finally, you may find that some questions are repetitive. This is not a trick. In some cases, I have used more than one questionnaire to measure the same construct and the questions happen to be similar across those questionnaires.

Although students are averaging between 30-45 minutes to complete the questionnaires, they may take up to one hour. If at any time during the session you feel uncomfortable, or wish to cease participation for any reason, I will sign your bonus point card and you may leave the room immediately. You may receive only one bonus point if you prematurely cease participation within the first forty-five minutes. If, however, you complete the questionnaires in less than 45 minutes, you will receive 2 points. When you are finished, please hand them in. I will sign your bonus point cards and provide you with a feedback form before you leave. I have extra bonus point cards if you need one. Does anyone have any questions?

Address any questions or concerns regarding the procedure of the study.

Thank you for your participation. You may now begin completing the questionnaires.

Appendix L

Feedback Form

Feedback Form**Feedback Form for Project Saffron**
Department of Psychology

Dear study participant,

Your time and interest in this study is greatly appreciated. This study on transformational leadership is being conducted to determine if transformational leadership should be considered a single latent concept, or if it is a concept that can be separated into discernable and measurable subcomponents. Understanding the nature of transformational leadership enables improvements to selection, training, and promotion practices within various industries and organizations.

A brief summary of the study results will be posted outside room MM 307 by April 15, 2003, and will outline specific findings and their implications. Results of this study will also be presented by April 15, 2003, and advertisements for the presentation date, time, and location will be posted by April 1, 2003. Advertisements will appear within in the Department of Psychology and on the third floor of McNally Main at Saint Mary's University, Halifax, Nova Scotia.

Sincerely,

Tammy Mahar
Graduate Student
Department of Psychology
Saint Mary's University

Appendix M

Confirmatory Study Informed Consent Form

**Informed Consent Form**

This study has received approval from the Saint Mary's University Research Ethics Board. It is being conducted as part of a Master's thesis under the supervision of Dr. Catano, Chair of the Psychology Department. Undergraduate Saint Mary's University students are invited to participate, which requires approximately **5 minutes**. As an incentive, participants may receive **one bonus point**. The study requires participants to have at least **6 months of work experience with the same immediate supervisor**.

As a study participant, you are being asked to fill out a demographic information form about yourself, a past or current job, and someone who was or has been your immediate supervisor for at least 6 months. You then are being asked to complete an 18-item questionnaire that involves rating your immediate supervisor on a scale from 1 to 5. Once you are finished, please hand in the questionnaire to the researcher waiting outside the room. The researcher will sign your bonus point card and give you a feedback form before you leave.

To ensure that your participation remains **anonymous**, the researcher will store this form containing your signature separately from your questionnaire. To ensure your ratings remain **confidential**, the analyzed data will be presented in a group format so that your own ratings cannot be identified. Your participation in this study is **completely voluntary**. You may discontinue at any time, for any reason, without penalty. If you have any questions, please contact Dr. MacKinnon, Research Ethics Board Chair, at ethics@smu.ca; Tammy Mahar at tmahar@hrsb.ns.ca; or Dr. Catano, Psychology Department Chair, at vic.Catano@smu.ca.

By signing this informed consent form, you are indicating that you understand the information above fully and agree to participate in this study.

Signature _____

Date _____

Appendix N

Confirmatory Study Demographic Information Form

Demographic Information Form

Please think of a job for which you had the same immediate supervisor for at least six months. Please carefully read and answer the following questions about yourself, the job, and your immediate supervisor.

1. I am male ____ female ____.
2. I am ____ years old.
3. I have ____ number of university credits so far.
4. The job that I have in mind is a past job ____ current job ____.
5. The job is/was a part-time job ____ full-time job ____.
6. I have been/was employed in the position for years ____ months ____.
7. The category in which the job fits best is:

| | |
|------------------------------------------------------------|----------------------------------|
| ____ 1. Development, Construction, Renovation, Maintenance | ____ 13. Food, Beverage |
| ____ 2. Business Applications, Communications, Secretarial | ____ 14. Manufacturing |
| ____ 3. Grocery, Department Store, Merchandising, Sales | ____ 15. Dry Cleaning |
| ____ 4. Computers, Computer Applications, Electronics | ____ 16. Aesthetics |
| ____ 5. Transportation, Moving, Storage, Warehousing | ____ 17. Petroleum |
| ____ 6. Military, Government, Public Services, Charity | ____ 18. Education |
| ____ 7. Medical, Pharmaceutical, Physiotherapy | ____ 19. Security |
| ____ 8. Fitness, Sports, Recreation, Fine Arts | ____ 20. Trade |
| ____ 9. Banking, Financing, Leasing | ____ 21. Floral |
| ____ 10. Child Care, Personal Care | ____ 22. Dairy |
| ____ 11. Entertainment, Gaming | ____ 23. Other (please specify): |
| ____ 12. Tourism, Hospitality | _____ |

8. My immediate supervisor is male ____ female ____.
9. My supervisor is/was approximately ____ years old.
10. The length of time that I worked for my supervisor is/was ____ years and ____ months.
11. My supervisor's title is/was:

- | | | |
|----------------------------|-------------------------|----------------------------------|
| ____ 1. Owner | ____ 8. CEO | ____ 15. Professor |
| ____ 2. Manager | ____ 9. Vice President | ____ 16. Chairperson |
| ____ 3. Supervisor | ____ 10. Division Head | ____ 17. Volunteer |
| ____ 4. Director | ____ 11. Administrator | ____ 18. Other (please specify): |
| ____ 5. Assistant Director | ____ 12. Senior Officer | _____ |
| ____ 6. Assistant Manager | ____ 13. Group Leader | |
| ____ 7. Coordinator | ____ 14. Head Coach | |

12. My title is/was:

- | | | |
|--------------------|---------------------------|----------------------------------|
| ____ 1. Manager | ____ 5. Assistant Manager | ____ 9. Coordinator |
| ____ 2. Employee | ____ 6. Assistant Coach | ____ 10. Other (please specify): |
| ____ 3. Supervisor | ____ 7. Junior Officer | _____ |
| ____ 4. Assistant | ____ 8. Volunteer | |

Appendix O

18-Item Transformational Leadership Questionnaire

Transformational Leadership Questionnaire

Please rate your immediate supervisor on the 18 items below as honestly and accurately as possible. You may leave blank any item that you do not wish to rate. Use the following scale to provide ratings:

| | | | | |
|------------------------------|------------------------------|----------------|---------------------------|---------------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly Disagree | Somewhat Disagree | Neutral | Somewhat Agree | Strongly Agree |

My immediate supervisor...

- _____ 1. helps group members to think of solutions using innovative methods.
- _____ 2. fails to see each group member as an individual.
- _____ 3. inspires others.
- _____ 4. acts disrespect fully toward others.
- _____ 5. convinces others that they have what it takes to succeed.
- _____ 6. refuses to implement creative ideas generated by others.
- _____ 7. encourages others to believe that their dreams can come true.
- _____ 8. fails to understand that group members have individual needs.
- _____ 9. is fair when making difficult decisions.
- _____ 10. ignores some group members.
- _____ 11. empowers others with confidence in their abilities.
- _____ 12. fails to keep promises.
- _____ 13. encourages group members to brainstorm with each other to solve problems.
- _____ 14. fails to make each group member feel necessary.
- _____ 15. provides solutions that are moral and ethical.
- _____ 16. is dishonest.
- _____ 17. helps group members to be open-minded when solving problems.
- _____ 18. acts like morals are not important.

Appendix P

Confirmatory Study Feedback Form



Feedback Form

Dear study participant,

Your time and interest in this study is greatly appreciated. This research is being conducted as part of a Master's thesis on transformational leadership. Part of the thesis involved creating a transformational leadership questionnaire, which is now being administered on an independent sample to determine its validity and reliability.

The main purpose of the thesis was to investigate whether transformational leadership should be considered a single latent concept, or if it is a concept that can be separated into discernable and measurable subcomponents. Understanding the nature of transformational leadership enables improvements to selection, training, and promotion practices within various industries.

A brief summary of the thesis findings and implications will be posted outside room MM 307 by May 1, 2004 and will be presented publicly by May 1, 2004. Advertisements for the presentation date, time, and location will be posted by April 15, 2004 and will appear within in the Department of Psychology and on the third floor of McNally Main.

If you have any questions about this study, you may contact Dr. John MacKinnon, Research Ethics Board Chair, at ethics@smu.ca; Tammy Mahar at tmahar@hrsbc.ns.ca; or Dr. Vic Catano, Psychology Department Chair, at vic.catano@smu.ca. Thank you for your participation!

Sincerely,

Tammy Mahar
Graduate Student
Psychology Department
Saint Mary's University

Appendix Q

TLQ EFA Iterations from 40 to 18 Items

| Pattern Matrix – All 40 Items | Component | | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 |
| Charisma 26. Fails to display energy, vigor, or vitality when interacting with others. | .86 | .04 | -.01 | -.03 | -.10 |
| Charisma 39. Shows enthusiasm when working with others. | .78 | -.16 | -.13 | .08 | -.07 |
| Charisma 27. Has difficulty motivating others. | .70 | .11 | .10 | .11 | .10 |
| Charisma 37. Fails to express confidence in others. | .65 | .03 | .13 | .11 | .15 |
| Individual Consideration 5. Gives individual attention to group members when they need it. | .65 | -.10 | .03 | .05 | .01 |
| Charisma 17. Shows little excitement when others achieve their goals. | .60 | .01 | .02 | .06 | -.01 |
| Individual Consideration 4. Fails to see each group member as an individual. | .54 | -.06 | .16 | -.11 | .20 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .53 | -.09 | .28 | -.09 | .23 |
| Individual Consideration 30. Makes each group member feel important. | .51 | -.01 | .01 | .27 | .30 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .48 | -.05 | .05 | .10 | .35 |
| Individual Consideration 11. Makes each group member feel like his or her contributions are valuable. | .47 | -.16 | .03 | .31 | .17 |
| Individual Consideration 31. Displays willingness to accommodate the needs of group members. | .46 | -.19 | .19 | .16 | .08 |
| Charisma 10. Empowers others with confidence in their abilities. | .45 | -.12 | -.09 | .45 | .08 |
| Individual Consideration 22. Makes group members feel like their contributions are relevant. | .41 | -.19 | .11 | .05 | .35 |
| Charisma 24. Is reluctant to speak about the future with enthusiasm. | .41 | -.08 | .26 | .01 | .02 |
| Charisma 6. Inspires others. | .39 | -.08 | .02 | .38 | .18 |
| Moral Agency 38. Ensures confidentiality of private information. | -.02 | -.67 | .03 | .04 | -.07 |
| Moral Agency 40. Shows concern for the safety and well being of others. | .22 | -.58 | .07 | .25 | -.08 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .11 | -.53 | -.02 | .25 | .19 |
| Moral Agency 33. Fails to keep promises. | .14 | -.44 | .23 | -.02 | .34 |
| Moral Agency 15. Is fair when making difficult decisions. | .16 | -.42 | .19 | .07 | .24 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | | -.16 | .76 | -.14 | -.06 |
| Intellectual Empowerment 35. Relies on traditional methods of completing tasks. | -.03 | .48 | .65 | .33 | .03 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | .17 | .01 | .57 | .22 | -.01 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .36 | -.19 | .39 | .08 | |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | .06 | .07 | .19 | .73 | -.02 |
| Moral Agency 16. Explains to others the importance of strong moral values. | -.07 | -.22 | -.04 | .65 | .20 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .13 | -.22 | .20 | .58 | -.03 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .23 | -.09 | .14 | .54 | .05 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .38 | -.05 | -.08 | .53 | -.03 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .48 | | -.10 | .50 | .02 |
| Intellectual Empowerment 3. Helps group members to think of practical solutions to problems. | .24 | -.25 | -.01 | .36 | .19 |
| Individual Consideration 8. Vaguely defines each group member's task. | .09 | .18 | -.11 | -.05 | .68 |
| Moral Agency 19. Says one thing but does another. | .12 | -.23 | .20 | -.10 | .58 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.19 | -.05 | .01 | .28 | .57 |
| Moral Agency 14. Is dishonest. | | -.40 | .07 | .09 | .53 |
| Moral Agency 12. Acts disrespectfully toward others. | .19 | -.28 | .11 | -.02 | .49 |
| Moral Agency 20. Acts like morals are not important. | .04 | -.30 | .15 | .19 | .45 |
| Individual Consideration 18. Ignores some group members. | .43 | .01 | .07 | -.02 | .45 |
| Moral Agency 2. Deserves respect because of his/her honest and ethical behavior. | .19 | -.35 | .09 | .19 | .35 |

Extraction Method: Principal Component Analysis.
 Rotation Method: Oblimin with Kaiser Normalization.
 Rotation converged in 18 iterations.

| Pattern Matrix – Removal of IE 3 and MA 2 and Constraining to 4 Factors | Component | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Charisma 26. Fails to display energy, vigor, or vitality when interacting with others. | .89 | -.16 | -.01 | -.05 |
| Charisma 39. Shows enthusiasm when working with others. | .82 | .03 | -.16 | .06 |
| Charisma 27. Has difficulty motivating others. | .74 | -.03 | .13 | .04 |
| Charisma 37. Fails to express confidence in others. | .69 | .10 | .15 | .04 |
| Individual Consideration 5. Gives individual attention to group members when they need it. | .68 | .06 | .01 | .01 |
| Charisma 17. Shows little excitement when others achieve their goals. | .62 | -.02 | .02 | .04 |
| Individual Consideration 30. Makes each group member feel important. | .58 | .26 | .05 | .18 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .58 | .03 | -.03 | .43 |
| Individual Consideration 4. Fails to see each group member as an individual. | .56 | .18 | .14 | -.16 |
| Charisma 10. Empowers others with confidence in their abilities. | .55 | .16 | -.05 | .38 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .53 | .31 | .07 | .02 |
| Individual Consideration 11. Makes each group member feel like his or her contributions are valuable. | .53 | .29 | .04 | .23 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .52 | .28 | .24 | -.13 |
| Individual Consideration 31. Displays willingness to accommodate the needs of group members. | .48 | .25 | .16 | .11 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .48 | .02 | -.03 | .47 |
| Charisma 6. Inspires others. | .48 | .22 | .05 | .30 |
| Individual Consideration 18. Ignores some group members. | .45 | .36 | .08 | -.08 |
| Charisma 24. Is reluctant to speak about the future with enthusiasm. | .39 | .11 | .23 | -.01 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .36 | .20 | .35 | .03 |
| Moral Agency 14. Is dishonest. | .03 | .79 | .03 | .03 |
| Moral Agency 19. Says one thing but does another. | .11 | .69 | .16 | -.16 |
| Moral Agency 20. Acts like morals are not important. | .05 | .68 | .13 | .13 |
| Moral Agency 33. Fails to keep promises. | .13 | .67 | .15 | -.06 |
| Moral Agency 12. Acts disrespectfully toward others. | .20 | .64 | .07 | -.08 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .15 | .63 | -.08 | .22 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.17 | .58 | .06 | .19 |
| Moral Agency 15. Is fair when making difficult decisions. | .18 | .56 | .12 | .02 |
| Moral Agency 38. Ensures confidentiality of private information. | -.03 | .53 | -.10 | .07 |
| Individual Consideration 22. Makes group members feel like their contributions are relevant. | .43 | .46 | .09 | -.01 |
| Moral Agency 40. Shows concern for the safety and well being of others. | .25 | .45 | -.02 | .23 |
| Individual Consideration 8. Vaguely defines each group member's task. | .10 | .41 | -.05 | -.12 |
| Intellectual Empowerment 35. Relies on traditional methods of completing tasks. | | -.28 | .78 | .20 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | -.06 | .18 | .69 | -.17 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | .17 | .08 | .58 | .14 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | .15 | | .29 | .62 |
| Moral Agency 16. Explains to others the importance of strong moral values. | .01 | .42 | | .57 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .19 | .24 | .22 | .49 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .31 | .17 | .19 | .43 |

Extraction Method: Principal Component Analysis.
 Rotation Method: Oblimin with Kaiser Normalization.
 Rotation converged in 16 iterations.

| Pattern Matrix – Same as Above but Removing MA 16, IC 8, and IC 22 | Component | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Charisma 26. Fails to display energy, vigor, or vitality when interacting with others. | .88 | .15 | -.01 | -.02 |
| Charisma 39. Shows enthusiasm when working with others. | .74 | -.06 | -.17 | .14 |
| Charisma 27. Has difficulty motivating others. | .72 | .03 | .13 | .09 |
| Individual Consideration 5. Gives individual attention to group members when they need it. | .69 | -.05 | .01 | .03 |
| Charisma 37. Fails to express confidence in others. | .65 | -.11 | .14 | .12 |
| Charisma 17. Shows little excitement when others achieve their goals. | .62 | .02 | .02 | .04 |
| Individual Consideration 4. Fails to see each group member as an individual. | .58 | -.19 | .14 | -.16 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .56 | -.28 | .23 | -.12 |
| Individual Consideration 30. Makes each group member feel important. | .51 | -.27 | .04 | .25 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .48 | -.33 | .06 | .09 |
| Individual Consideration 31. Displays willingness to accommodate the needs of group members. | .47 | -.27 | .14 | .13 |
| Charisma 10. Empowers others with confidence in their abilities. | .46 | -.18 | -.08 | .43 |
| Individual Consideration 11. Makes each group member feel like his or her contributions are valuable. | .44 | -.31 | .02 | .31 |
| Charisma 6. Inspires others. | .42 | -.24 | .03 | .34 |
| Individual Consideration 18. Ignores some group members. | .41 | -.38 | .08 | -.02 |
| Charisma 24. Is reluctant to speak about the future with enthusiasm. | .41 | -.11 | .22 | .01 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .33 | -.23 | .33 | .08 |
| Moral Agency 14. Is dishonest. | .01 | -.81 | .01 | .03 |
| Moral Agency 19. Says one thing but does another. | .10 | -.70 | .16 | -.12 |
| Moral Agency 33. Fails to keep promises. | .13 | -.70 | .13 | -.05 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .12 | -.66 | -.12 | .19 |
| Moral Agency 20. Acts like morals are not important. | .07 | -.66 | .11 | .09 |
| Moral Agency 12. Acts disrespectfully toward others. | .21 | -.66 | .06 | -.09 |
| Moral Agency 15. Is fair when making difficult decisions. | .21 | -.58 | .10 | -.03 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.20 | -.56 | .05 | .20 |
| Moral Agency 38. Ensures confidentiality of private information. | -.01 | -.56 | -.13 | |
| Moral Agency 40. Shows concern for the safety and well being of others. | .21 | -.48 | -.06 | .23 |
| Intellectual Empowerment 35. Relies on traditional methods of completing tasks. | -.01 | .28 | .76 | .26 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | -.01 | -.19 | .66 | -.15 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | .21 | -.08 | .55 | .13 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | .02 | -.04 | .24 | .71 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .07 | -.29 | .17 | .57 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .46 | -.06 | -.06 | .52 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .20 | -.21 | .15 | .52 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .40 | -.04 | -.05 | .50 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Rotation converged in 14 iterations.

| Pattern Matrix – Same as Above but Unconstrained | Component | | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 |
| Charisma 26. Fails to display energy, vigor, or vitality when interacting with others. | .77 | .05 | .06 | .05 | .02 |
| Charisma 39. Shows enthusiasm when working with others. | .64 | | -.06 | .22 | .22 |
| Charisma 27. Has difficulty motivating others. | .60 | -.13 | .12 | .17 | -.09 |
| Individual Consideration 5. Gives individual attention to group members when they need it. | .59 | -.05 | .10 | .10 | .13 |
| Charisma 17. Shows little excitement when others achieve their goals. | .53 | -.02 | .07 | .10 | .04 |
| Charisma 37. Fails to express confidence in others. | .52 | -.23 | .13 | .20 | -.05 |
| Individual Consideration 4. Fails to see each group member as an individual. | .47 | -.42 | .10 | -.12 | -.12 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .44 | -.43 | .23 | -.07 | -.05 |
| Individual Consideration 31. Displays willingness to accommodate the needs of group members. | .37 | -.24 | .19 | .20 | .11 |
| Moral Agency 19. Says one thing but does another. | .01 | -.78 | .11 | -.09 | .03 |
| Moral Agency 14. Is dishonest. | -.07 | -.77 | -.01 | .07 | .17 |
| Moral Agency 12. Acts disrespectfully toward others. | .11 | -.77 | .01 | -.06 | .03 |
| Individual Consideration 18. Ignores some group members. | .29 | -.66 | -.05 | .01 | -.18 |
| Moral Agency 20. Acts like morals are not important. | -.01 | -.62 | .10 | .14 | .13 |
| Moral Agency 33. Fails to keep promises. | .06 | -.56 | .21 | -.01 | .26 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.24 | -.56 | -.04 | .23 | .02 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .35 | -.53 | -.03 | .14 | -.11 |
| Moral Agency 15. Is fair when making difficult decisions. | .13 | -.51 | .16 | .02 | .19 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .05 | -.41 | | .25 | .40 |
| Individual Consideration 30. Makes each group member feel important. | .38 | -.41 | -.04 | .33 | -.06 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | -.02 | -.01 | .81 | -.11 | .10 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | .13 | -.09 | .55 | .20 | -.09 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .25 | -.12 | .42 | .15 | .14 |
| Charisma 24. Is reluctant to speak about the future with enthusiasm. | .34 | .01 | .36 | .07 | .17 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | -.06 | | .13 | .82 | -.09 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | -.01 | -.08 | .19 | .68 | .17 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .34 | -.06 | -.11 | .62 | .02 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .10 | -.14 | .11 | .62 | .04 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .31 | .01 | -.07 | .60 | .06 |
| Charisma 10. Empowers others with confidence in their abilities. | .35 | -.14 | -.08 | .53 | .11 |
| Charisma 6. Inspires others. | .30 | -.28 | -.02 | .43 | .01 |
| Individual Consideration 11. Makes each group member feel like his or her contributions are valuable. | .32 | -.29 | .02 | .40 | .10 |
| Moral Agency 38. Ensures confidentiality of private information. | -.01 | -.12 | .12 | .03 | .59 |
| Intellectual Empowerment 35. Relies on traditional methods of completing tasks. | -.07 | -.01 | .54 | .32 | -.56 |
| Moral Agency 40. Shows concern for the safety and well being of others. | .15 | -.09 | .16 | .31 | .51 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Rotation converged in 15 iterations.

| Pattern Matrix – Same as Above but Removing IC 30, IC 31, C 24, IE 35, MA 38, MA 40 | Component | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Charisma 26. Fails to display energy, vigor, or vitality when interacting with others. | .85 | -.10 | .03 | .01 |
| Charisma 39. Shows enthusiasm when working with others. | .70 | .08 | -.14 | -.09 |
| Charisma 27. Has difficulty motivating others. | .70 | .04 | -.10 | .09 |
| Individual Consideration 5. Gives individual attention to group members when they need it. | .64 | .05 | -.03 | .10 |
| Charisma 37. Fails to express confidence in others. | .60 | .17 | -.14 | .11 |
| Charisma 17. Shows little excitement when others achieve their goals. | .56 | -.03 | -.09 | .10 |
| Individual Consideration 4. Fails to see each group member as an individual. | .54 | .24 | .17 | .16 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .49 | .32 | .11 | .26 |
| Charisma 10. Empowers others with confidence in their abilities. | .48 | .19 | -.40 | -.07 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .46 | .42 | -.05 | |
| Charisma 6. Inspires others. | .42 | .29 | -.31 | -.03 |
| Individual Consideration 11. Makes each group member feel like his or her contributions are valuable. | .42 | .33 | -.31 | .04 |
| Moral Agency 14. Is dishonest. | -.03 | .85 | -.02 | -.01 |
| Moral Agency 19. Says one thing but does another. | .07 | .79 | .13 | .05 |
| Moral Agency 12. Acts disrespectfully toward others. | .17 | .73 | .11 | .03 |
| Moral Agency 33. Fails to keep promises. | .08 | .68 | .03 | .17 |
| Moral Agency 20. Acts like morals are not important. | .02 | .67 | -.10 | .13 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .08 | .65 | -.18 | -.05 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.22 | .62 | -.21 | -.06 |
| Moral Agency 15. Is fair when making difficult decisions. | .19 | .56 | .04 | .16 |
| Individual Consideration 18. Ignores some group members. | .37 | .49 | .05 | |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | .02 | -.01 | -.77 | .20 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .08 | .21 | -.61 | .18 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .20 | .18 | -.54 | .14 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .48 | .07 | -.49 | -.09 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .44 | .03 | -.48 | -.05 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | -.11 | .01 | .02 | .87 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | .14 | -.03 | -.23 | .65 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .23 | .19 | -.18 | .39 |

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Rotation converged in 14 iterations.

| Pattern Matrix – Same as Above but Removing IC 5 and IC 11 | Component | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Charisma 26. Fails to display energy, vigor, or vitality when interacting with others. | .81 | -.08 | -.05 | .01 |
| Charisma 27. Has difficulty motivating others. | .64 | .06 | -.18 | .09 |
| Charisma 39. Shows enthusiasm when working with others. | .63 | .10 | -.22 | -.08 |
| Charisma 37. Fails to express confidence in others. | .57 | .17 | -.18 | .11 |
| Charisma 17. Shows little excitement when others achieve their goals. | .56 | -.03 | -.13 | .10 |
| Individual Consideration 4. Fails to see each group member as an individual. | .55 | .26 | .14 | .17 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .45 | .35 | .06 | .27 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .44 | .43 | -.09 | .01 |
| Moral Agency 14. Is dishonest. | -.03 | .85 | -.03 | -.01 |
| Moral Agency 19. Says one thing but does another. | .10 | .78 | .13 | .05 |
| Moral Agency 12. Acts disrespectfully toward others. | .19 | .73 | .11 | .03 |
| Moral Agency 33. Fails to keep promises. | .06 | .69 | .02 | .17 |
| Moral Agency 20. Acts like morals are not important. | .02 | .66 | -.11 | .13 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .02 | .66 | -.23 | -.04 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.23 | .61 | -.20 | -.07 |
| Moral Agency 15. Is fair when making difficult decisions. | .16 | .58 | .01 | .16 |
| Individual Consideration 18. Ignores some group members. | .37 | .50 | .02 | |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | -.02 | -.04 | -.80 | .19 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .02 | .20 | -.64 | .17 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .14 | .17 | -.59 | .13 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .30 | .05 | -.58 | -.05 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .38 | .08 | -.57 | -.09 |
| Charisma 10. Empowers others with confidence in their abilities. | .38 | .20 | -.48 | -.06 |
| Charisma 6. Inspires others. | .30 | .32 | -.41 | -.03 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | -.11 | .01 | .03 | .87 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | .13 | -.03 | -.24 | .64 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .21 | .20 | -.20 | .39 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Rotation converged in 16 iterations.

| Pattern Matrix – Same as Above, Constrained to Four Factors, and Removing MA 19 and C 26 | Component | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | .84 | -.06 | .16 | .28 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .81 | .05 | -.09 | -.09 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .79 | -.02 | -.06 | -.08 |
| Charisma 10. Empowers others with confidence in their abilities. | .70 | .16 | -.06 | -.16 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .70 | .18 | .17 | .21 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .69 | .16 | .13 | .10 |
| Charisma 6. Inspires others. | .58 | .26 | -.03 | -.15 |
| Charisma 39. Shows enthusiasm when working with others. | .54 | .10 | -.05 | -.32 |
| Charisma 27. Has difficulty motivating others. | .50 | .03 | .13 | -.36 |
| Charisma 37. Fails to express confidence in others. | .47 | .12 | .15 | -.35 |
| Moral Agency 14. Is dishonest. | -.02 | .85 | | -.03 |
| Moral Agency 21. Ignores others' unethical behaviors. | .04 | .73 | -.07 | .28 |
| Moral Agency 12. Acts disrespectfully toward others. | -.06 | .70 | .04 | -.28 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .21 | .68 | -.05 | .01 |
| Moral Agency 33. Fails to keep promises. | .01 | .66 | .21 | -.06 |
| Moral Agency 20. Acts like morals are not important. | .10 | .64 | .13 | -.06 |
| Moral Agency 15. Is fair when making difficult decisions. | .02 | .57 | .18 | -.19 |
| Individual Consideration 18. Ignores some group members. | .16 | .42 | .03 | -.35 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | -.15 | | .89 | .03 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | .24 | .01 | .64 | -.02 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .30 | .16 | .42 | -.08 |
| Individual Consideration 4. Fails to see each group member as an individual. | .06 | .20 | .18 | -.58 |
| Charisma 17. Shows little excitement when others achieve their goals. | .39 | -.07 | .11 | -.41 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .13 | .30 | .30 | -.40 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .30 | .37 | .02 | -.37 |

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Rotation converged in 31 iterations.

| Pattern Matrix – Same as Above but Removing C 17 and C 37 | Component | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Individual Consideration 4. Fails to see each group member as an individual. | .56 | -.20 | .20 | .07 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .43 | -.24 | .32 | .16 |
| Individual Consideration 18. Ignores some group members. | .36 | -.26 | .05 | .33 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .02 | -.85 | -.08 | .03 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .07 | -.84 | -.06 | -.09 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | -.35 | -.79 | .16 | |
| Charisma 10. Empowers others with confidence in their abilities. | .15 | -.77 | -.05 | .08 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | -.13 | -.69 | .14 | .16 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | -.21 | -.68 | .17 | .17 |
| Charisma 6. Inspires others. | .18 | -.66 | -.02 | .16 |
| Charisma 39. Shows enthusiasm when working with others. | .22 | -.61 | -.03 | .06 |
| Charisma 27. Has difficulty motivating others. | .27 | -.59 | .15 | -.03 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .36 | -.40 | .04 | .27 |
| Intellectual Empowerment 36. Impedes the group's ability to solve problems creatively. | .01 | .17 | .90 | -.03 |
| Intellectual Empowerment 34. Discourages innovative problem solving. | -.05 | -.22 | .66 | .03 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .06 | -.32 | .44 | .13 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.32 | .04 | -.06 | .86 |
| Moral Agency 14. Is dishonest. | .13 | -.01 | .02 | .79 |
| Moral Agency 20. Acts like morals are not important. | .12 | -.12 | .14 | .59 |
| Moral Agency 33. Fails to keep promises. | .15 | -.04 | .22 | .59 |
| Moral Agency 12. Acts disrespectfully toward others. | .38 | -.03 | .06 | .59 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .11 | -.25 | -.04 | .58 |
| Moral Agency 15. Is fair when making difficult decisions. | .32 | -.10 | .19 | .42 |

Extraction Method: Principal Component Analysis.
 Rotation Method: Oblimin with Kaiser Normalization.
 Rotation converged in 26 iterations.

| Pattern Matrix – Same as Above but Removing C 39, IE 34, C 27, and IE 36 | Component | | | |
|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Individual Consideration 4. Fails to see each group member as an individual. | .79 | .02 | -.22 | .14 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .72 | -.10 | -.09 | .14 |
| Moral Agency 12. Acts disrespectfully toward others. | .71 | -.04 | .22 | -.05 |
| Moral Agency 15. Is fair when making difficult decisions. | .63 | -.12 | .12 | .01 |
| Individual Consideration 18. Ignores some group members. | .59 | .04 | .12 | .24 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .57 | -.07 | .07 | .29 |
| Moral Agency 33. Fails to keep promises. | .52 | -.29 | .27 | -.15 |
| Moral Agency 20. Acts like morals are not important. | .48 | -.17 | .31 | .04 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .37 | -.09 | .37 | .21 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .01 | -.82 | .05 | .08 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | -.22 | -.75 | .04 | .28 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .06 | -.71 | .06 | .14 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .37 | -.68 | -.11 | -.19 |
| Moral Agency 21. Ignores others' unethical behaviors. | -.08 | .01 | .89 | .05 |
| Moral Agency 14. Is dishonest. | .47 | -.06 | .51 | -.01 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .09 | -.08 | | .79 |
| Charisma 10. Empowers others with confidence in their abilities. | .24 | -.17 | .06 | .61 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .07 | -.29 | .06 | .59 |
| Charisma 6. Inspires others. | .30 | -.11 | .12 | .56 |

Extraction Method: Principal Component Analysis.
 Rotation Method: Oblimin with Kaiser Normalization.
 Rotation converged in 25 iterations.

| Pattern Matrix – After Removing MA 21, Final 18 Items Constrained to Four Factors | Component | | | |
|--------------------------------------------------------------------------------------------------------|------------------|----------|----------|----------|
| | 1 | 2 | 3 | 4 |
| Moral Agency 14. Is dishonest. | .89 | | .07 | -.03 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .75 | .01 | .12 | -.29 |
| Moral Agency 33. Fails to keep promises. | .70 | -.19 | -.06 | .12 |
| Moral Agency 12. Acts disrespectfully toward others. | .68 | .02 | -.26 | .06 |
| Moral Agency 20. Acts like morals are not important. | .64 | -.11 | -.09 | -.05 |
| Moral Agency 15. Is fair when making difficult decisions. | .58 | -.02 | -.22 | -.05 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | -.13 | -.82 | .07 | -.19 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .14 | -.82 | .06 | -.04 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .05 | -.75 | -.10 | -.06 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .18 | -.61 | -.22 | .20 |
| Individual Consideration 4. Fails to see each group member as an individual. | -.10 | -.01 | -.91 | -.02 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .17 | -.06 | -.63 | -.09 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .14 | -.11 | -.58 | -.18 |
| Individual Consideration 18. Ignores some group members. | .21 | | -.55 | -.13 |
| Charisma 9. Encourages others to believe that their dreams can come true. | .03 | -.07 | -.08 | -.80 |
| Charisma 10. Empowers others with confidence in their abilities. | .18 | -.15 | -.14 | -.60 |
| Charisma 6. Inspires others. | .22 | -.09 | -.21 | -.55 |
| Charisma 13. Convinces others that they have what it takes to succeed. | | -.34 | -.14 | -.53 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Rotation converged in 13 iterations.

| Pattern Matrix – After Removing MA 21, Final 18 Items Left Unconstrained | Component | |
|--------------------------------------------------------------------------------------------------------|-----------|------|
| | 1 | 2 |
| Moral Agency 12. Acts disrespectfully toward others. | .92 | .15 |
| Moral Agency 14. Is dishonest. | .85 | .08 |
| Moral Agency 33. Fails to keep promises. | .80 | .03 |
| Moral Agency 15. Is fair when making difficult decisions. | .77 | .01 |
| Moral Agency 20. Acts like morals are not important. | .73 | -.07 |
| Individual Consideration 29. Fails to understand that group members have individual needs. | .69 | -.12 |
| Individual Consideration 4. Fails to see each group member as an individual. | .65 | -.04 |
| Individual Consideration 18. Ignores some group members. | .65 | -.11 |
| Moral Agency 7. Provides solutions that are moral and ethical. | .63 | -.17 |
| Individual Consideration 1. Fails to make each group member feel necessary. | .60 | -.25 |
| Intellectual Empowerment 23. Refuses to implement creative ideas generated by others. | .43 | -.31 |
| Intellectual Empowerment 25. Encourages group members to brainstorm with each other to solve problems. | -.17 | -.90 |
| Charisma 9. Encourages others to believe that their dreams can come true. | -.02 | -.81 |
| Charisma 13. Convinces others that they have what it takes to succeed. | .06 | -.79 |
| Intellectual Empowerment 28. Helps group members to be open-minded when solving problems. | .13 | -.72 |
| Intellectual Empowerment 32. Helps group members to think of solutions using innovative methods. | .17 | -.69 |
| Charisma 10. Empowers others with confidence in their abilities. | .22 | -.67 |
| Charisma 6. Inspires others. | .32 | -.58 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Rotation converged in 6 iterations.

Appendix R

Regression Results for the Subscale Incremental Predictions

| Dependent Variable: MLQ - Extra Effort | Unstandardized Coefficients | | Standardized Coefficients | t | p |
|----------------------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -0.53 | 0.18 | | -3.01 | .003 |
| MLQ – Inspirational Motivation | 0.47 | 0.06 | 0.44 | 8.20 | .000 |
| TLQ – Morality | 0.05 | 0.07 | 0.04 | 0.66 | .509 |
| TLQ – Intellectual Empowerment | 0.29 | 0.06 | 0.26 | 4.57 | .000 |
| TLQ – Individual Consideration | 0.12 | 0.06 | 0.12 | 1.95 | .052 |
| (Constant) | -0.51 | 0.17 | | -2.97 | .003 |
| MLQ – Inspirational Motivation | 0.38 | 0.06 | 0.35 | 6.12 | .000 |
| TLQ – Morality | 0.02 | 0.07 | 0.02 | 0.29 | .769 |
| TLQ – Intellectual Empowerment | 0.20 | 0.07 | 0.18 | 2.93 | .004 |
| TLQ – Individual Consideration | 0.08 | 0.06 | 0.08 | 1.22 | .225 |
| TLQ – Charisma | 0.24 | 0.07 | 0.24 | 3.50 | .001 |

| Dependent Variable: Straightforwardness | Unstandardized Coefficients | | Standardized Coefficients | t | p |
|-----------------------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 2.16 | 0.19 | | 11.18 | .000 |
| MLQ – Idealized Influence (Attributed) | 0.00 | 0.09 | 0.00 | -0.03 | .977 |
| MLQ – Idealized Influence (Behavioral) | 0.12 | 0.08 | 0.11 | 1.58 | .116 |
| TLQ – Charisma | -0.10 | 0.09 | -0.10 | -1.13 | .258 |
| TLQ – Intellectual Empowerment | 0.14 | 0.08 | 0.13 | 1.72 | .087 |
| TLQ – Individual Consideration | 0.45 | 0.07 | 0.49 | 6.84 | .000 |
| (Constant) | 1.54 | 0.19 | | 8.12 | .000 |
| MLQ – Idealized Influence (Attributed) | -0.10 | 0.08 | -0.09 | -1.19 | .235 |
| MLQ – Idealized Influence (Behavioral) | 0.07 | 0.07 | 0.06 | 1.00 | .320 |
| TLQ – Charisma | -0.12 | 0.08 | -0.13 | -1.59 | .113 |
| TLQ – Intellectual Empowerment | 0.01 | 0.08 | 0.01 | 0.11 | .909 |
| TLQ – Individual Consideration | 0.18 | 0.07 | 0.20 | 2.69 | .007 |
| TLQ – Morality | 0.64 | 0.08 | 0.62 | 8.34 | .000 |

| Dependent Variable: Motivating Potential | Unstandardized Coefficients | | Standardized Coefficients | t | p |
|------------------------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 18.36 | 15.26 | | 1.20 | .230 |
| MLQ – Intellectual Stimulation | 9.88 | 5.36 | 0.14 | 1.84 | .066 |
| TLQ – Morality | -4.33 | 5.85 | -0.06 | -0.74 | .460 |
| TLQ – Intellectual Empowerment | 18.04 | 5.71 | 0.26 | 3.16 | .002 |
| TLQ – Individual Consideration | 7.37 | 5.26 | 0.12 | 1.40 | .162 |
| (Constant) | 18.77 | 15.25 | | 1.23 | .219 |
| MLQ – Intellectual Stimulation | 8.48 | 5.47 | 0.12 | 1.55 | .122 |
| TLQ – Morality | -5.47 | 5.91 | -0.08 | -0.93 | .356 |
| TLQ – Intellectual Empowerment | 15.10 | 6.16 | 0.22 | 2.45 | .015 |
| TLQ – Individual Consideration | 5.75 | 5.41 | 0.10 | 1.06 | .289 |
| TLQ – Charisma | 6.90 | 5.43 | 0.12 | 1.27 | .205 |

| Dependent Variable: Role Overload | Unstandardized Coefficients | | Standardized Coefficients | t | p |
|-----------------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 3.46 | 0.25 | | 13.96 | .000 |
| MLQ – Individual Consideration | -0.15 | 0.08 | -0.16 | -1.78 | .076 |
| TLQ – Charisma | 0.15 | 0.09 | 0.17 | 1.70 | .089 |
| TLQ – Morality | -0.18 | 0.08 | -0.18 | -2.12 | .035 |
| TLQ – Intellectual Empowerment | -0.14 | 0.10 | -0.13 | -1.43 | .154 |
| (Constant) | 3.52 | 0.24 | | 14.44 | .000 |
| MLQ – Individual Consideration | -0.06 | 0.09 | -0.06 | -0.68 | .498 |
| TLQ – Charisma | 0.20 | 0.09 | 0.22 | 2.29 | .023 |
| TLQ – Morality | -0.03 | 0.09 | -0.03 | -0.31 | .756 |
| TLQ – Intellectual Empowerment | -0.12 | 0.09 | -0.11 | -1.24 | .216 |
| TLQ – Individual Consideration | -0.31 | 0.09 | -0.34 | -3.49 | .001 |

| Dependent Variable: Role Ambiguity | Unstandardized Coefficients | | Standardized Coefficients | t | p |
|------------------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 2.61 | 0.15 | | 17.67 | .000 |
| MLQ – Individual Consideration | -0.13 | 0.05 | -0.22 | -2.67 | .008 |
| TLQ – Charisma | 0.00 | 0.05 | 0.00 | -0.04 | .966 |
| TLQ – Morality | -0.01 | 0.05 | -0.02 | -0.24 | .808 |
| TLQ – Intellectual Empowerment | -0.13 | 0.06 | -0.20 | -2.29 | .023 |
| (Constant) | 2.63 | 0.15 | | 17.82 | .000 |
| MLQ – Individual Consideration | -0.11 | 0.05 | -0.18 | -2.02 | .044 |
| TLQ – Charisma | 0.01 | 0.05 | 0.02 | 0.26 | .798 |
| TLQ – Morality | 0.03 | 0.06 | 0.05 | 0.61 | .545 |
| TLQ – Intellectual Empowerment | -0.12 | 0.06 | -0.19 | -2.19 | .030 |
| TLQ – Individual Consideration | -0.09 | 0.05 | -0.17 | -1.79 | .075 |