12-2007

Personality Predictors of Motivation to Lead

Tracey Tafero

Clemson University, tlshilobod@aol.com

Follow this and additional works at: https://tigerprints.clemson.edu/all_dissertations

Part of the [Industrial and Organizational Psychology Commons](#)

Recommended Citation

Tafero, Tracey, "Personality Predictors of Motivation to Lead" (2007). *All Dissertations*. 144.
https://tigerprints.clemson.edu/all_dissertations/144

This Dissertation is brought to you for free and open access by the Dissertations at TigerPrints. It has been accepted for inclusion in All Dissertations by an authorized administrator of TigerPrints. For more information, please contact kokeefe@clemson.edu.

PERSONALITY PREDICTORS OF MOTIVATION TO LEAD

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Industrial/Organizational Psychology

by
Tracey Lee Tafero
December 2007

Accepted by:
Dr. Patrick Raymark, Committee Chair
Dr. DeWayne Moore
Dr. Fred Switzer
Dr. Robin Kowalski

ABSTRACT

In recent years, there has been a renewed interest in understanding the relationship between personality traits and leadership. Recent research suggests that some personality variables are related to leadership. However, research has rarely examined the process by which personality may impact leadership. This study explores the relationship between personality and motivation to lead, a proposed intervening variable between personality and leadership. In addition, this study looks at both broad and narrow measures of personality as predictors of motivation to lead. The current study both replicates and extends the findings of Chan & Drasgow (2001). Results reveal that facet-level personality scales can predict the motivation to lead beyond that of the Big Five personality factors.

ACKNOWLEDGMENTS

I would like to thank my dissertation committee, including Dr. Patrick Raymark, Dr. DeWayne Moore, Dr. Fred Switzer, and Dr. Robin Kowalski, for their invaluable time and guidance. As chair of my committee, Pat never gave up on me, despite the fact that it took me longer than desired to finish my dissertation. He continually provided me with words of encouragement, and always seemed to check in with me at just the right time to keep me moving along and focused on the end goal. I'd like to thank Dr. Moore for his expertise and guidance in completing my analyses, as I am certain that I would not yet have finished if it were not for his guidance.

I would also like to thank my family and friends for their continued support and encouragement as I worked toward completing my dissertation. There were many points over that past several years that have been trying, as I juggled my work obligations with finishing my degree. My parents were always around with a kind word of encouragement or an ear to listen as I vented my frustrations. I'd also like to thank my husband, Greg. I think he's nearly as glad as I am for me to have finished my dissertation, as he has been right by my side the whole way through. Greg has also served as an inspiration to me to finish, having returned to school to pursue his educational goals. Thank you, Greg, for your love, support, and patience, and for inspiring me to achieve my goals.

In addition, I'd like to thank Dr. Johnell Brooks, for her on-going encouragement, for her friendship, and for being an inspiration through her achievements.

TABLE OF CONTENTS

	Page
TITLE PAGE	i
ABSTRACT.....	ii
ACKNOWLEDGMENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
INTRODUCTION	1
Leadership Criteria.....	3
Trait Theories of Leadership.....	5
Five-Factor Model of Personality	11
Five-Factor Model Applied to Leadership Domain.....	13
Broad Versus Narrow Measures of Personality.....	16
Motivation to Lead.....	19
Proposed Relationships.....	23
METHODS	31
Personality Test.....	31
Leadership Self-efficacy Measure	32
Motivation to Lead Measure	32
Past Leadership Experience Measure	33
Background Information Measure	33
Procedure	34
RESULTS	35
Hypothesis 1: Extraversion will be related to affective/ identity MTL and LSE	39
Hypothesis 2: Conscientiousness will be related to social- normative MTL and LSE	39
Hypothesis 3: Agreeableness will be related to non-calculative MTL and social-normative MTL	40
Hypothesis 4: Leadership Self-efficacy will be predictive of affective/identity MTL and social-normative MTL.....	40

Table of Contents (Continued)

	Page
Secondary Hypothesis 1: Gregariousness and assertiveness will be predictive of affective/identity MTL	40
Secondary Hypothesis 2: Dutifulness and compliance will be predictive of social-normative MTL	41
Secondary Hypothesis 3: Trust and altruism will be predictive of non-calculative MTL	41
Secondary Hypothesis 4: Gregariousness, assertiveness, and competence will be predictive of leadership self-efficacy.....	41
DISCUSSION	44
TABLES AND FIGURES	51
APPENDICES	73
A. Leadership Self-efficacy Measure	74
B. Motivation to Lead Scale	75
C. Past Leadership Experience Measure	76
D. Background Information Measure	77
REFERENCES	78

LIST OF TABLES

Table	Page
1. Relationships between Big Five Traits and Leadership Criteria: Results from Judge et al (2002)	51
2. NEO Scale Descriptives Before and After Replacing Missing Data	52
3. Leadership Self-efficacy, Motivation to Lead, and Past Leadership Experience Scale Descriptives Before and After Replacing Missing Data.....	53
4. NEO Scale Reliabilities Before and After Replacing Missing Data	54
5. Leadership Self-efficacy, Motivation to Lead, and Past Leadership Experience Scale Reliabilities Before and After Replacing Missing Data.....	56
6. Intercorrelations Among the NEO Leadership Self-efficacy, Motivation to Lead, and Past Leadership Experience.....	57
7. Standardized Factor Loadings of NEO Facet Scales	63
8. Standardized Factor Loadings of LSE Scale Items.....	64
9. Standardized Factor Loadings of MTL Scale Items	65
10. Fit Indices for Nested Sequence of Models	68

LIST OF FIGURES

Figure	Page
1. Chan and Drasgow's (2001) Theoretical Model.....	69
2. Hypothesized Relationships.....	70
3. Model Including Replicated Relationships with Unstandardized Path Coefficients.....	71
4. Model Including Facet Relationships with Unstandardized Path Coefficients.....	72

INTRODUCTION

Leadership is an area of study that has fascinated researchers and practitioners for many years. Although early research had suggested that organizational outcomes are more a function of contextual differences than leadership (Lieberson & O'Conner, 1972), Thomas (1988) has presented compelling evidence to the contrary. Thomas (1988) found that leadership differences do in fact have a profound impact on organizational performance. In particular, it was argued that leadership makes a substantial difference at the level of the individual firm. In light of these findings, it is important to broaden our understanding of variables related to leadership success. Although there is considerable research relating individual differences with leadership outcomes, there is little understanding of the process by which this works (Chan & Drasgow, 2001). The primary purpose of this paper is to enhance our understanding of the process by which individual differences may influence leadership outcomes.

Research into the impact of individual differences on leadership outcomes has typically been given the label "trait approach to leadership." The trait approach to leadership focuses on personal dispositions of individuals, or various other individual differences that are predictive of leadership. Research in this area has a long history, but results from early studies tended to show weak and inconsistent relationships with leadership outcomes (Yukl & Van Fleet, 1992). The trait theories of leadership have traditionally been met with criticism, specifically with the argument that the effects of traits on leadership are situation-specific. However, recent research demonstrates that

some personality variables are related with various leadership outcomes across a variety of settings (Judge, Bono, Ilies, & Gerhardt, 2002).

As noted by Judge et al. (2002), “one of the biggest problems in past research relating personality to leadership is the lack of a structure in describing personality, leading to a wide range of traits being investigated under different labels” (p. 766). More recently, relationships between personality and various leadership criteria have been examined using the five-factor model of personality as an organizing framework (Judge et al., 2002). Research has supported the role of personality in predicting leadership criteria, with extraversion showing the strongest and most consistent relationship (this research will be discussed in more detail later in the paper).

Applying a standard framework of personality (i.e., the Big Five) to the study of trait theories of leadership is an important step towards developing a better understanding of the relations between personality and leadership. Specifically, this research has helped to identify the sets of personality variables that may be most relevant to various leadership outcomes, and thus it has enabled researchers to organize and focus their hypotheses regarding the trait approach to leadership. In fact, we are now at a stage in which it may be appropriate to narrow our focus and explore relations between more specific personality traits and leadership. That is, it might be the case the separate facets within the broad domains of the Big Five relate differently to leadership criteria; thus, one might achieve better prediction of leadership criteria through the specification of particular facets as predictors.

A second hurdle that the trait approach to leadership has yet to clear is the fact that very little is known about the intervening variables through which personality impacts leadership. As Judge et al. (2002) note “we have a relatively poor idea of not only which traits are relevant, but why” (p. 766). To further our understanding of how personality might be related to leadership outcomes, it is necessary to consider this issue from a broader perspective, taking into consideration possible intervening variables. For example, previous research has suggested that non-cognitive constructs, such as personality, are related to leadership behaviors through motivation to lead, which in turn influences participation in leadership roles and activities (Chan & Drasgow, 2001).

The purpose of the proposed study is to further examine the relations between personality variables and the motivation to lead. This paper will begin with a discussion of the various leadership criteria that have been studied. Next an overview of trait theories of leadership will be presented. Following this will be a discussion of the Big Five personality framework and its application to the leadership domain. Then an integrative theory of individual differences in the prediction of leadership, with a focus on the motivation to lead, will be presented.

Leadership Criteria

One of the interesting characteristics of early reviews of the relation between personality and leadership is that there is little effort to distinguish among the various leadership criteria. In particular, it is important to note the distinction between leadership emergence criteria and leadership effectiveness criteria. As Lord and Hall (1992) note,

“leader perception, leader emergence, and leader effectiveness are not equivalent dependent variables, and we should not assume that factors related to one of them will necessarily be related to others” (p. 154). Basically, leadership emergence refers to the degree to which one is perceived to possess leadership qualities, and thus more likely to “emerge” as a leader in a group situation. Thus, leadership emergence is driven by the perceptions of others, who typically only have limited information regarding that individual’s performance (Judge et al., 2002).

On the other hand, leadership effectiveness criteria assess an individual’s performance in influencing and guiding the activities of a group toward achievement of its goals (Judge et al., 2002). It has been suggested that leadership effectiveness should be measured in terms of team, group, or organizational performance. However, leadership effectiveness criteria usually consist of supervisor, peer, or subordinate ratings. One criticism of such ratings is that they may potentially be contaminated as they are “perceptions” of leadership effectiveness as opposed to objective performance outcomes, which may be influenced by that raters’ implicit leadership theories (Judge et. al., 2002; Lord, Foti, & DeVader, 1984). Regardless of this potential bias, though, research has shown that these ratings of leadership effectiveness converge with objective measures of group performance, supporting their use as criteria (Judge et al., 2002).

Although one can appreciate the conceptual difference between leadership emergence and effectiveness criteria, often times in practice the two become blurred. Again, it should be expected that different traits will predict leadership emergence than those that will predict leadership effectiveness. Simply because one is perceived to

possess leader-like qualities, and thus “emerge” as a leader, does not mean that person will necessarily be an effective leader. The distinction among these criteria will be addressed throughout the paper.

Trait Theories of Leadership

Trait theories of leadership stemmed from the “great man” theory, which suggested that leadership ability resided in a person and was possessed by only a few great men. Trait theories are similar to the “great man” theory in the sense that they examine the relationship between the possession of particular traits and leadership, but trait theories do not suggest that leadership ability only resides within a few great men. Early research attempted to isolate the traits that were important determinants of leadership. A number of different categories of traits have been examined by researchers including physical characteristics (height, weight, physical appearance, etc.), personality characteristics, social characteristics, and personal abilities and skills such as intelligence and knowledge (House & Podsakoff, 1994).

According to Albright and Forziati (1995), this line of research suffered severe criticism and came to a virtual standstill in the 1940s and 1950s, based on two qualitative reviews (Mann, 1959; Stogdill, 1948). Stogdill’s (1948) review, however, lent support to a number of relationships between traits and leadership. He concluded that there was positive evidence of relationships between the following traits and leadership: intelligence, scholarship, dependability, activity and social participation, socio-economic status, sociability, initiative, persistence, knowing how to get things done, self-

confidence, insight into situations, cooperativeness, popularity, and adaptability.

Nonetheless, Stogdill also concluded that it is:

“clear that an adequate analysis of leadership involves not only a study of leaders, but also of situations. The evidence suggests that leadership is a relation that exists between persons in a social situation, and that persons who are leaders in one situation may not necessarily be leaders in other situations” (p. 65).

While Stogdill made the point that research needs to address situational factors in the study of leadership, he certainly did not argue against the existence of persistent and stable traits related to leadership. However, his review did contribute to a shift away from the study of traits and leadership. The case of leadership research moving away from the trait approach is similar to general research in the area of personality at this time period, which began to examine behavior as a function of the traits of the person and the aspects of the situation (Albright & Forziati, 1995). Trait theories of leadership were not abandoned altogether, though. In fact, research did eventually pick up and numerous studies since then have examined the relationships between traits and leadership.

There have been two approaches to the study of trait theories of leadership (Albright & Forziati, 1995). One approach examines the relations between individual differences and leadership status and effectiveness. The other approach uses rotation designs, in which aspects of the leadership situation are changed (such as task and group variation), and the stability of a leader across situations is examined. In other words, a rotation design examines the extent to which an individual emerges as a leader across situations. Previous research linking traits to leadership criteria will now be reviewed.

Although much of the previous research in the domain of leadership has not done an adequate job of distinguishing between leadership emergence and effectiveness criteria, an attempt will be made here to do so.

The bulk of research in the area of leadership has examined some form of leadership emergence criteria. For example, Kenny and Zaccaro (1983) re-examined a study that was conducted by Barnlund (1962). In this study, both member composition and group tasks were varied. Twenty-five participants worked in groups of five across six group sessions (no individual worked with another member in more than one session). At the conclusion of each session, participants ranked their preferences for a leader within that group. Barnlund (1962) reported a correlation of .64 between status rankings across groups. In other words, he was examining the degree to which one was ranked similarly in terms of leadership ability across groups, as rated by fellow group members. Barnlund found this correlation to be nonsignificant. He concluded that leadership emergence varied across situations, suggesting that leadership was not a stable characteristic. Barnlund (1962) assumed an n size of five in his analysis, which would have required a correlation of .878 to reach statistical significance. In Kenny and Zaccaro's (1983) re-examination of these findings, they applied Kenny's (1981) social relations model. Their re-analysis concluded that between 49% and 82% of leadership variance can be attributed to some stable characteristic.

Lord, DeVader, and Alliger (1986) conducted a meta-analysis examining the relationships between traits and leadership perceptions, or extent of leadership emergence. They claim that previous research on trait theories and leadership "has been

misinterpreted as applying to a leader's effect on performance, when it actually pertains to the relationship of leadership traits to leadership emergence" (Lord, DeVader, & Alliger, 1986; p. 402). They reported statistically significant relationships with leadership emergence for intelligence, dominance, and masculinity. In addition, they found that the variability across studies in the relation of these traits to leadership emergence could largely be explained by methodological factors (i.e., sampling error). Thus, this research indicates that there are traits that can consistently predict leadership emergence across a wide variety of settings.

Albright and Forziati (1995) examined consistency of leadership perceptions using a rotation design. These researchers had people who already held leadership positions interact with non-leaders across four tasks. They were interested in the cross-situational stability of leadership perceptions across different tasks and groups. They found that perceivers strongly agreed on how much leadership each person exhibited. The perceiver ratings correlated significantly with self-ratings and behavior ratings made by judges, lending support to the accuracy of the perceiver ratings. In the examination of cross-task consistency, the average correlation between leadership behaviors in different tasks was .46. The cross-group stability was not as strong, with a correlation of .33 ($p > .05$) between prior leadership status and overall leadership behavior. It might be the case that their use of "prior leadership status" was not an effective means to examine leadership across groups. The "prior leaders" in this study were students who had previously occupied leadership positions in organizations on campus. Although these students held leadership positions, they may not have actually exhibited leadership

behaviors or been perceived as “actual” leaders by their peers. Nonetheless, this study overall lends support to the consistency of leadership perceptions across situations.

Smith and Foti (1998) went beyond the study of individual trait variables in the prediction of leadership emergence; they examined multi-variable trait patterns as predictors of leadership emergence. They used a “person approach” which focuses on patterns of variables relevant for the problem under consideration (Mumford, et al., 2000; Smith & Foti, 1998). This approach focuses on the interaction among the variables; the person and not the variable is the basic unit of observation. Smith and Foti (1998) examined the pattern of three traits, dominance, intelligence, and self-efficacy, in relation to leadership emergence. These researchers found that all three of these traits were positively related to leadership emergence. They also found that the three-way interaction between dominance, intelligence, and self-efficacy was significant. Individuals who were high on all three of these traits emerged as leaders more frequently than others while those who were low on all three traits emerged less frequently than others. In addition, individuals that were high on all three traits received higher emergent leadership ratings than those low only in dominance, those low only in intelligence, and those low only in self-efficacy. This research lends support to trait theories of leadership, but also suggests a need to consider patterns of traits in relation to leadership. It should be noted that Smith and Foti’s (1998) research only examined traits that were positively associated with leadership emergence. It might be valuable to examine patterns of traits that also include negative relationships with leadership emergence, in order to establish more support for a trait-pattern approach to leadership.

In a qualitative examination of characteristics of leaders compared to non-leaders, based on a review of the literature, Kirkpatrick and Locke (1991) identify six traits as distinguishing characteristics of leaders: drive, the desire to lead, honesty/integrity, self-confidence, cognitive ability, and knowledge of the business. Drive refers to traits related to a high effort level; these authors note five aspects of drive: achievement motivation, ambition, energy, tenacity, and initiative. The desire to lead involves the desire to influence and lead others. Honesty and integrity are traits that have been found to distinguish leaders and non-leaders, with leaders being rated as more trustworthy and reliable. Self-confidence is also related to leadership for a number of reasons including the necessity of being self-confident in order for others to put their trust in your decision-making. Cognitive ability is also a trait that characterizes leaders, as leaders “need to be intelligent enough to formulate suitable strategies, solve problems, and make correct decisions” (p. 55). Above average intelligence is a trait characterizing leaders, but one need not be a genius to be a leader. Knowledge of the business refers to the fact that effective leaders tend to have a high degree of knowledge about the company, industry, and technical matters related to their organization. Kirkpatrick and Locke (1991) claim that there may be other important traits related to leadership, but these six traits are the core traits of leadership. As they explain, “traits *alone*, however, are not sufficient for successful business leadership—they are only a precondition” (p. 49). Although these researchers seem to imply that these traits are related to leadership “effectiveness,” one might argue that a comparison between leaders and non-leaders is actually assessing

leadership “emergence.” These researchers did not address the distinction between leadership effectiveness and leadership emergence.

It is evident that there is a considerable amount of research supporting the relationship between traits and leadership, and the consistency of leadership across situations. Among the traits previously found to be related to leadership are some that can be classified as personality variables. However, the previous lack of a guiding framework in the study of personality variables related to leadership made it difficult to integrate all of the findings. The next section will present an overview of the Five-factor model of personality, and its application to the study of traits in the prediction of leadership.

Five-Factor Model of Personality

In recent decades, personality psychologists have come to a consensus regarding the structure of personality, with the prevailing structure being a five-factor model of personality (Digman, 1990). These five robust factors of personality serve as a meaningful taxonomy for classifying personality attributes. This framework of classifying personality attributes has advanced the systematic study of personality in a number of domains. For instance, meta-analyses have found support for the prediction of job performance using the Five-Factor model of personality (Barrick & Mount, 1991; Tett, Jackson, & Rothstein, 1991).

The five personality factors within the Five-Factor model are neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Costa & McCrae, 1992). Neuroticism refers to the general tendency to experience negative affect

such as fear, sadness, embarrassment, anger, guilt, and disgust. Individuals high in neuroticism are prone to have irrational ideas, to be less able to control their impulses, and to cope with stress more poorly than others. Individuals low in neuroticism can be described as emotionally stable; they are calm, even-tempered, relaxed, and cope effectively with stress. Extraversion refers to a tendency to be sociable, to like being around people, and to enjoy excitement and stimulation. Individuals high in extraversion are assertive, active, talkative, energetic, and optimistic. Individuals low in extraversion, also referred to as introverts, prefer to be alone, are reserved, and are independent. Openness to experience is a personality domain characterized by active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, intellectual curiosity, and independence of judgment. Individuals high in openness to experience are willing to consider novel ideas and unconventional values. Openness to experience is related to aspects of intelligence that contribute to creativity. Individuals who are low in openness to experience exhibit conventional behavior and are conservative in their outlook; they prefer familiarity to novelty. Agreeableness refers to a tendency to be sympathetic to others, trusting, and eager to help others. Individuals low in agreeableness tend to be skeptical of others' intentions and competitive rather than cooperative. Conscientiousness refers to a tendency to be purposeful, strong-willed, and determined. Individuals high in conscientiousness are punctual and reliable, while individuals low in conscientiousness are more lackadaisical in working toward goals.

Five-Factor Model Applied to Leadership Domain

In recent years, some researchers have applied the five-factor model of personality to the study of leadership. This section will review this research, including meta-analyses that have applied the five-factor model to an examination of leadership.

Judge and Bono (2000) examined the relationship between the five-factor model of personality and transformational leadership behaviors. Transformational leadership has been defined as leadership in which one inspires followers to identify with a vision (Burns, 1978). Bass (1985) postulated a theory of transformational leadership that included four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. Idealized influence is the dimension referring to what is more commonly known as “charisma.” Inspirational motivation involves articulating a clear vision to followers. Intellectual stimulation involves stimulating follower creativity through questioning of assumptions and challenging the status quo. Individual consideration involves attending to the individual needs of followers. Judge and Bono (2000) reported a multiple correlation, corrected for measurement error, of .40 between the big five traits and transformational leadership behaviors. Of the big five traits, agreeableness showed the strongest relationship with transformational leadership behaviors, with a corrected correlation of .32. Extraversion and openness to experience were also significantly related to transformational leadership behaviors, with corrected correlations of .28 and .26, respectively.

Kickul and Neuman (2000) examined the relationship between the five factors of personality, emergent leadership behaviors, and team performance in a simulated group

setting. These researchers found that extraversion, openness to experience, and cognitive ability were predictive of emergent leadership behaviors. In addition, they examined the relationships between these traits and team performance. They found that conscientiousness and cognitive ability were predictive of team performance.

Silverthorne (2001) examined differences in the big five traits between effective and non-effective leaders. Perceptions of the effectiveness (effective vs. non-effective) of mid-level managers were gathered from executives. Effective leaders in a U.S. sample were found to be more emotionally stable, more extraverted, more open to experience, more agreeable, and more conscientious than non-effective leaders. This researcher also gathered data from the Republic of China and Thailand in order to make cross-cultural comparisons, particularly to assess whether the five-factor model holds in non-western cultures. In the Chinese sample, effective and non-effective leaders differed significantly on the neuroticism, extraversion, agreeableness, and conscientiousness scales. However, in this sample, effective and non-effective leaders did not differ significantly on the openness to experience scale. It may be the case that social and moral attitudes that reflect openness to experience are different in the Chinese culture, and thus this trait does not relate to leadership effectiveness. In the Thailand sample, effective and non-effective leaders differed significantly only on the neuroticism and extraversion scales. Silverthorne suggests that it's possible that the five factor model is not as useful in predicting leadership in 'eastern' cultures.

Peterson, Smith, Martorana, and Owens (2003) examined relations between the five factors of personality and leadership outcomes. Specifically, these researchers

examined the impact of a CEO's personality on team dynamics. Based on a priori hypotheses, they found support for a number of relationships between the five factors and team dynamics. Conscientiousness was significantly related to team-level concern for legalism and sense of control over the environment. Emotional Stability was significantly related to team cohesion, intellectual flexibility, and leader dominance. Agreeableness was significantly related to team-level cohesion and decentralization of power. Extraversion was significantly related to leader dominance. Openness to Experience was significantly related to team risk-taking and intellectual flexibility. These researchers then examined the relations between team dynamics and income growth of the organizations. They found that management teams characterized by intellectual flexibility, optimism, and cohesiveness experienced significantly greater income growth.

Judge, Bono, Ilies, and Gerhardt (2002) have also examined the relationship between the five factors of personality and leadership outcomes. These researchers conducted a meta-analysis applying the five factor model to better understand the somewhat inconsistent findings of past trait theory studies. Overall corrected correlations between the big five factors and leadership, as well as corrected correlations with leadership emergence and effectiveness are presented in Table 1. Extraversion was found to have the most consistent relationship with leadership across studies and leadership criteria, including leadership emergence and leadership effectiveness. In their study, the overall five-factor model of personality exhibited a multiple correlation of .48 with leadership, indicating support for the trait theory of leadership when examining traits based on the five-factor model. They found that the Big Five traits predicted leadership

emergence slightly better than they predicted leadership effectiveness. Across the two criteria, there were some consistencies as well as some inconsistencies. Extraversion and Openness to Experience exhibited nonzero correlations with both criteria. The credibility intervals included zero for the relationships between Agreeableness and both types of criteria. Conscientiousness and neuroticism showed differential relationships with the two types of criteria. For Conscientiousness, the credibility interval excluded zero for leader emergence, but not for leadership effectiveness. For Neuroticism, this pattern was reversed. Judge et al. (2002) also investigated the predictive power of broad versus specific measures of personality traits, a subject which will be addressed in the following section.

Broad Versus Narrow Measures of Personality

An important issue to consider in the measurement of personality traits, and thus in their prediction of leadership criteria, is the use of broad versus more narrow measures. Judge et al. (2002) note that “the Big Five traits may be too broad to predict the leadership criteria, thus potentially masking personality-leadership relations” (p. 769). They found mixed support for the differential validity of more specific personality traits over the broad factors. Specific traits within the extraversion domain (sociability and dominance) and the conscientiousness domain (achievement and dependability) were somewhat more strongly related to leadership than were the overall domains.

Saucier and Goldberg (2003) discuss some of the advantages to the use of more specific, narrow measures of personality over the broad Big Five factors. As they explain

you can “attain either great parsimony at the few-factor level or greater informativeness at levels with more factors. One can generate even more informativeness by subdividing the broader factors into more specific subcomponents (sometimes called facets)” (p. 13). They further explain that there are a number of limitations to the use of broad factors. Broad factors are composed of many variables, creating a degree of ambiguity; this is problematic as investigators differ in the psychological meaning that they give to each of the Big Five factors. In addition, broad factors blend together subcomponents that might be distinguishable from one another; therefore some of the finer features of personality description are lost. As Saucier and Goldberg (2003) explain, broad-bandwidth constructs “sacrifice fidelity to gain efficiency.” They argue that the major benefit to the use of more specific, narrow, measures of personality is predictive validity. They explain that the amalgamation of measures into broad factors leads to a loss of specific variance, and therefore lowers the overall validity.

Kroeck and Brown (2004) discuss this “bandwidth-fidelity dilemma” as well. They point out that the literature shows some advantages to the use of broad measures over more narrow measures. Some researchers have argued that alpha reliabilities tend to be stronger for the broader measures and that the broader measures are frequently more predictive of performance than narrow traits. Of course, these observations may be attributed to the fact that broader measures are typically assessed through a larger number of items, which would have an impact on alpha reliabilities. Kroeck and Brown (2004), however, also point out that other researchers have disputed the claim that broad measures are superior to narrow ones, arguing that “narrow variables can be more

‘purposefully’ selected on the basis of conceptual similarity or relatedness to the criterion or its facets; narrow variables may be combined to maximize the accuracy in predicting performance; and narrow variables offer greater ‘psychological meaningfulness’ in explaining behavior” (p. 120). Kroeck and Brown (2004) conclude that there are convincing arguments for both sides of the “bandwidth-fidelity dilemma” and there seems to be no end in sight for the debate.

Hough and Furnham (2003) also discuss the issue of using broad versus more narrow measures of personality. In particular, they discuss the idea that the bandwidth of the predictor and criterion should match. In other words, predictors should match criteria in terms of specificity. Their basic conclusions are that both measures of narrow and broad measures of personality are needed; the use of which should be determined by the particular study at hand.

In line with the need to consider more specific measures of personality within the Big Five domains, some researchers have decomposed the Big Five factors into facets (Costa & McCrae, 1992). For instance, the NEO decomposes the five broad domains of personality into 30 specific facets, 6 within each domain (Costa & McCrae, 1992). The specific facets within each of the domains are:

- Neuroticism: anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability
- Extraversion: warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions.
- Openness: fantasy, aesthetics, feelings, actions, ideas, and values

-Agreeableness: trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness.

-Conscientiousness: competence, order, dutifulness, achievement-striving, self-discipline, and deliberation

Judge et al. (2002) note that, in their meta-analysis, “almost no studies included measures of both facets along with the five-factor constructs” (p. 774). They suggested that future research in the area incorporate both facets as well as the broader domains of personality. Consistent with the relative benefits of examining both broad as well as narrow measures of personality, this study will incorporate both levels of personality variables.

It is also important to pinpoint how it is that personality impacts leadership outcomes; it is likely that there are intervening variables in the process. Moving beyond a simple relationship between personality and leadership, the next section will present a model of leadership that incorporates the potential mediating effects of motivation to lead.

Motivation to Lead

In their review of research in the area of leadership and individual differences, Lord and Hall (1992) suggest the need for more comprehensive analysis models as “the prediction of leadership is likely to be a multivariate problem” (p. 153). These researchers also suggested the need to pay explicit attention to the role of mediating

processes in leadership models. Chan and Drasgow's (2001) model accomplishes both of these goals.

Chan and Drasgow (2001) present a broad, integrative theory for understanding the relationship between individual differences and leadership in which they propose a new construct, the motivation to lead. As these researchers explain,

“a key assumption of the theory is that noncognitive ability constructs such as personality and values relate to leader behaviors through the individual's MTL (motivation to lead), which in turn affects the individual's participation in leadership roles and activities” (p. 481).

They define motivation to lead as a construct that affects an individual's decisions to assume leadership training, roles, and responsibilities, and that affect his/her intensity of effort at leading and persistence as a leader. The theory proposes that motivation to lead can change with leadership experience and training and that motivation to lead is an immediate outcome of an individual's leadership self-efficacy and accumulated leadership experience. Chan and Drasgow's (2001) model is presented in Figure 1. They propose three factors to underlie motivation to lead (MTL): affective/ identity MTL, social-normative MTL, and noncalculative MTL. The three components that they propose underlie MTL are based on the broad theoretical frameworks of Fishbein and Ajzen's (1975) theory of reasoned action and Triandis's (1980) theory of interpersonal behavior, in which they suggest that the determinants of a person's social behavior include the valences associated with an act (or affect toward the act), the person's beliefs about the outcomes associated with success, and social norms related to the act.

Affective/ identity MTL refers to the fact that some people simply like to lead. According to Chan, Rounds, and Drasgow (2000) individuals high on Affective/ identity MTL tend to be outgoing and sociable and to value competition and achievement. They also tend to be more confident in their leadership abilities and have more past leadership experiences than their peers.

Social-normative MTL refers to the fact that some people lead for reasons such as a sense of duty or responsibility. Individuals high on Social-normative MTL tend to be accepting of social hierarchies yet rejecting of social equality (Chan et al, 2000). Similar to those high on Affective/ identity MTL, these individuals also tend to have confidence in their leadership abilities and to have more past leadership experiences.

Noncalculative MTL refers to the fact that some people may only lead if they are not calculative about the costs of leading relative to the benefits. Sociocultural values play an important role in Noncalculative MTL; collectivistic values have shown a consistent positive relationship with Noncalculative MTL, while individualistic values have been negatively related to Noncalculative MTL (Chan et al, 2000). The noncalculative factor of MTL is based on the components of Fishbein and Ajzen's (1975) theory of reasoned action and Triandis's (1980) theory of interpersonal behavior focused on the value of perceived consequences. These models suggest that an individual considers the evaluation of potential outcomes in forming an attitude about a behavior, which then influences one's intention to engage in a behavior, and ultimately whether or not the individual engages in the target behavior.

To support their conceptualization of such a three factor model of MTL, Chan and Drasgow (2001) conducted a multi-sample confirmatory factor analysis of their 27-item proposed measure of this construct. They included three samples in this study, 2 of which were from Singapore, and one of which was from the United States. They found that their 3 factor model of MTL was relatively invariant across samples and provided a better fit to the data than a single-factor model. The fit indices reported for the three-factor model suggested a relatively good fit to the data (CFI= .85, RMSEA= .035, SRMR= .073). In addition, Chan and Drasgow (2001) examined the relationship between MTL and leadership potential in a Singapore military sample. They found that affective-identity MTL and noncalculative MTL were both significantly predictive of leadership potential ratings and contributed unique variance beyond the other individual difference variables included in their model, such as personality traits and past leadership experience.

Chan, Rounds, and Drasgow (2000) examined possible relations between vocational interests and motivation to lead. Specifically, they considered three possible ways in which vocational interests may relate to MTL. First, they suggest that MTL may be a general construct that is independent of vocational interests. A second possibility is that MTL can be conceptualized as a special case of a career choice. The third possibility they considered was that MTL may relate positively to certain vocational interests and negatively to others, perhaps due to shared personality traits and values. These researchers used multidimensional scaling to evaluate the relationship between vocational interests and MTL. Overall, their findings indicated that the MTL construct is relatively independent of vocational interests and that observed correlations between MTL and

vocational interests could be interpreted through their common relations with personality and values.

Chan and Drasgow (2001) made only a general hypothesis about the relationship between personality variables and motivation to lead, stating that “personality constructs (as represented by the Big-Five personality factors) are distal antecedents to MTL” (p. 483). Following some initial analyses, they tested a proposed model of motivation to lead, including the antecedents of personality and leadership self-efficacy, using a structural equation modeling analysis of their Singapore military samples.

The intent of the current study was to replicate and extend the line of research begun by Chan and Drasgow, and thus enhance our understanding of the relations between personality variables, leadership self-efficacy, and the motivation to lead. In addition, this study examined specific facets within the five broad domains of personality as predictive of leadership self-efficacy and motivation to lead.

Proposed Relationships

One purpose of the proposed study was to replicate relationships found by Chan and Drasgow (2001) between the Big Five domains and motivation to lead. These researchers found the following relationships with the Big Five factors:

- Extraversion was related to affective/identity MTL and leadership self-efficacy (LSE).
- Conscientiousness was related to social-normative MTL and LSE.

- Agreeableness was related to non-calculative MTL and social-normative MTL

As addressed previously, there are certain advantages to the use of more specific measures of personality over the broad five factors. In particular, with focused hypotheses based on specific facets we may achieve greater predictive ability. In this study, therefore, relationships between specific personality facets were expected to be better predictors of MTL than the broad factors.

Specific facets within the domains of Extraversion, Conscientiousness, and Agreeableness were examined. At this point it is important to gain a better understanding of the specific facets within these domains. Along with the definitions, the proposed relationships between the specific facets and MTL are presented.

The 6 facets within the Extraversion domain are warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions (Costa & McCrae, 1992). A brief definition of each of the facets, as presented by Costa and McCrae (1992) follows:

1. Warmth: affectionate and friendly. Warm people genuinely like people and easily form attachments to others. Low scorers on this scale are more formal and reserved.
2. Gregariousness: preference for other people's company. Gregarious people enjoy the company of others. Low scorers on this scale tend to be loners who avoid social stimulation.

3. Assertiveness: dominant, forceful, and socially ascendant. Assertive individuals tend to speak without hesitation. Low scorers on this scale prefer to let others do the talking.
4. Activity: high sense of energy, in a need to keep busy. Active people tend to lead fast-paced lives. Low scorers on this scale are more leisurely and relaxed.
5. Excitement-seeking: crave excitement and stimulation. High excitement-seekers tend to like bright colors and noisy environments. Low scorers on this scale have less of a need for thrills.
6. Positive Emotions: tendency to experience positive emotions such as joy, happiness, love, and excitement. Those high in positive emotions tend to laugh easily and often. Low scorers on this scale are less exuberant and high-spirited.

It was predicted that the facets of gregariousness and assertiveness, within the extraversion domain, would be related to affective/identity MTL and LSE.

Gregariousness is defined as the preference for other people's company (Costa & McCrae, 1992). Individuals high in gregariousness like to be around people, are sociable, and find it hard to work alone. Gregariousness was expected to relate to affective/identity MTL and LSE because enjoying other's company would likely be related to liking to lead as well as being confident in one's ability to lead others. Assertiveness is defined as dominant, forceful and socially ascendant (Costa & McCrae, 1992). Individuals high in assertiveness speak without hesitation, while individuals low in assertiveness prefer to

keep in the background and let others do the talking. Assertiveness was expected to relate with affective/identity MTL and LSE because individuals who are dominant and outspoken in social situations would likely enjoy leadership roles more and feel more confident in their ability to take charge.

The 6 facets within the Conscientiousness domain are competence, order, dutifulness, achievement striving, self-discipline, and deliberation (Costa & McCrae, 1992). A brief definition of each of the facets, as presented by Costa and McCrae (1992) follows:

1. Competence: sense that one is capable, sensible, prudent, and effective. Those high in competence feel well-prepared to deal with life. Low scorers on this scale have a lower opinion of their abilities and often feel unprepared.
2. Order: tendency to be neat, tidy, and well-organized. Those high in order tend to keep things in their proper places. Low scorers on this scale are unable to get organized.
3. Dutifulness: tend to be governed by conscience. Those high in dutifulness adhere strictly to their ethical principles and fulfill moral obligations. Low scorers on this scale are more casual about such matters.
4. Achievement Striving: tend to have high aspiration levels and work hard to achieve their goals. Those high in achievement striving are diligent and purposeful and have a sense of direction in life. Low scorers on this scale lack ambition and are not driven to succeed.

5. Self-Discipline: ability to begin tasks and carry them through to completion despite boredom and other distractions. Those high in self-discipline have the ability to motivate themselves to get the job done. Low scorers on this scale tend to procrastinate and are easily discouraged.
6. Deliberation: tendency to think carefully before acting. Those high in deliberation are cautious and deliberate. Low scorers on this scale are hasty and often speak without considering the consequences.

It was predicted that dutifulness, within the conscientiousness domain, would be related to social-normative MTL and that competence, also within the conscientiousness domain, would be related to LSE. Individuals high in dutifulness “adhere strictly to their ethical principles and scrupulously fulfill their moral obligations” (Costa & McCrae, 1992; p. 18). Dutifulness was expected to relate to social-normative MTL because social-normative MTL deals with leading because of a sense of duty or responsibility. Individuals high in competence have a sense that they are capable, sensible, prudent, and effective; these individuals tend to feel well-prepared (Costa & McCrae, 1992). This sense of capability is what drove the proposed relationship between competence and leadership self-efficacy.

The 6 facets within the Agreeableness domain are trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness (Costa & McCrae, 1992). A brief definition of each of the facets, as presented by Costa and McCrae (1992) follows:

1. Trust: tend to believe that others are honest and well-intentioned. Low scorers on this scale tend to be cynical and skeptical.

2. Straightforwardness: tend to be frank, sincere, and ingenuous. Low scorers on this scale are more willing to use flattery, craftiness, or deception.
3. Altruism: have an active concern for others' welfare as shown in generosity, consideration of others, and a willingness to assist others in need of help. Low scorers on this scale are somewhat more self-centered and more reluctant to get involved when others need help.
4. Compliance: tend to defer to others, to inhibit aggression, and to forgive and forget. Those high in compliance tend to be meek and mild. Low scorers on this scale tend to be aggressive and prefer to compete rather than cooperate.
5. Modesty: tend to be humble and self-effacing although they are not necessarily lacking in self-confidence or self-esteem. Low scorers on this scale tend to believe that they are superior and may be considered arrogant by others.
6. Tender-mindedness: tend to be moved by others' needs and emphasize the human side of social policies. Low scorers on this scale are more hardheaded and less moved by appeals to pity.

It was predicted that trust and altruism, within the agreeableness domain, would be related to non-calculative MTL and that compliance, also within the agreeableness domain, would be related to social-normative MTL. Individuals high in trust tend to believe that others are honest and well-intentioned (Costa & McCrae, 1992). Trust was expected to relate to non-calculative MTL because individuals high in trust likely tend to

trust that the benefits of leading will outweigh the costs, without actually calculating such costs. Individuals high in altruism have an active concern for others, are generous, considerate, and willing to assist others in need of help (Costa & McCrae, 1992). Individuals low in altruism are more self-centered and are reluctant to help others. Altruism was expected to relate to noncalculative MTL because altruistic individuals would likely outweigh the benefits to others of their leadership relative to their own personal costs and benefits. Compliance refers to a tendency to defer to others and to inhibit aggression (Costa & McCrae, 1992). Compliance was expected to relate to social-normative MTL, because compliant individuals would be more likely to cooperate and pursue a leadership role when it is expected of them.

Chan and Drasgow (2001) also found leadership self-efficacy to be related to affective/identity MTL and social-normative MTL, relationships that were also hypothesized in this study.

To sum up the proposed relationships, the first set of hypotheses was directed at replicating Chan and Drasgow's (2001) findings. These hypotheses were:

1. Extraversion will be related to affective/identity MTL and LSE
2. Conscientiousness will be related to social-normative MTL and LSE.
3. Agreeableness will be related to non-calculative MTL and social-normative MTL
4. Leadership self-efficacy will be predictive of affective/identity MTL and social-normative MTL.

It was also hypothesized that specific facets (of proposed relationships) would be predictive of MTL. The specific facet relationships that were examined, as secondary hypotheses, were:

1. Gregariousness and assertiveness will be predictive of affective/identity MTL.
2. Dutifulness and compliance will be predictive of social-normative MTL.
3. Trust and altruism will be predictive of non-calculative MTL.
4. Gregariousness, assertiveness, and competence will be predictive of leadership self-efficacy.

The relationships of these secondary hypotheses are presented in Figure 2.

In addition, the current study assessed whether the study of leadership may be enhanced by studying personality factors that are more narrow than the Big Five factors. Specifically, the following research question was offered: Do facet level personality variables enhance the prediction of the motivation to lead beyond that produced by the parent Big Five factors?

METHODS

The sample consisted of approximately 220 undergraduate students, and was limited to those who have held a job at some point in their lives. All participants completed five measures: a personality test, a leadership self-efficacy measure, a motivation to lead measure, a past leadership experience measure, and a background information measure.

Personality Test

Sub-scales of the NEO PI-R, Form S (Costa & McCrae, 1992) were used. The NEO PI-R consists of five personality domain scales and 30 facet scales within these five domains. This study was limited to 3 domain scales: Extraversion, Conscientiousness, and Agreeableness, as well as the facet scales that comprised these domains. Each domain scale consists of 48 items, for a total of 144 items on this measure. The NEO PI-R is a well-established instrument for measuring personality. Reported coefficient alpha values for the domain scales used in this study are .89 for Extraversion, .90 for Conscientiousness, and .86 for Agreeableness. Reported coefficient alpha values for the facet scales employed in this study range from .59 for compliance to .79 for trust. In addition, test-retest reliabilities have ranged from .66 to .92 on the facet scales.

In addition, Costa, McCrae, and Dye (1991) conducted a factor analysis on the 240 NEO PI-R items. These researchers conducted a principal components analysis with varimax rotation, extracting five factors. Correlations between the factor scores and the Extraversion, Conscientiousness, and Agreeableness domain scales were .89, .89, and .95, respectively. Similarly, Rossier, de Stadelhofen, and Berthoud (2004), conducted a

principal axis analysis with varimax rotation, extracting five factors from the NEO PI-R. They found correlations between the factor scores and the Extraversion, Conscientiousness, and Agreeableness domain scales to be .83, .96, and .92, respectively. This five factor solution explained 58.1% of the variance.

Leadership Self-efficacy Measure

The leadership self-efficacy measure developed by Chan and Drasgow (2001) was used in this study. A copy of this measure is included as Appendix A. This measure contained six items with likert-type response scales. An example item from this measure is “I feel confident that I can be an effective leader in most groups that I work with.” Reported coefficient alpha values range from .76 to .83.

Motivation to Lead Measure

The motivation to lead measure developed by Chan and Drasgow (2001) was used in this study. A copy of this measure is included as Appendix B. This measure included 27 items, with 9 items assessing each MTL factor: affective/identity MTL, social-normative MTL, and noncalculative MTL. An example item from the affective/identity factor is: “I usually want to be the leader in groups that I work in.” An example item from the social-normative factor is: “I feel that I have a duty to lead others if I am asked.” An example item from the noncalculative factor is: “If I agree to lead a group, I would never expect any advantages or special benefits.” Reported coefficient alpha values for the three sub-scales range from .65 to .91. A confirmatory factor analysis conducted on this

three-factor model reported a relatively good fit (GFI = .85, SRMR = .073, RMSEA = .035, NNFI = .84, CFI = .85). In their analysis of the structural model including MTL, it's relevant to note that they reported using composites of three to four items as indicators for each latent construct in their model.

Past Leadership Experience Measure

The past leadership experience measure used by Chan and Drasgow (2001) was used in this study. A copy of this measure is included as Appendix C. It consisted of three items that assessed quantity as well as quality of past leadership experiences. The following is an example of an item from this measure:

Looking at your work and school life to date, how would you rate the AMOUNT of leadership experience you have compared to your peers (i.e., people of the same age as you)?

- (1) Almost no leadership experience compared to my peers.
- (2) Very little leadership experience compared to my peers.
- (3) Average leadership experience as the rest of my peers.
- (4) Above average amount of leadership experience.
- (5) I am in the top 10% in terms of leadership experience compared to my peers.

Background Information Measure

This measure asked demographic and background information such as age, gender, and a self-report of their SAT scores. A copy of this measure is included as Appendix D.

Procedure

The measures were administered to groups of participants via paper and pencil. Participants began by completing the informed consent. Then, they completed the personality measure, followed by the leadership self-efficacy measure, the motivation to lead measure, the past leadership experience measure, and the background information measure.

RESULTS

The initial data-set included 220 cases. The first step in the analysis process was to examine the data and prepare it to be analyzed. All reverse scored items were re-coded, such that all data within a particular measure was on the same scale. The data was then screened for univariate outliers. There was one age outlier, with a respondent being 17 years old. This case was removed prior to further analyses. All other data was within scale ranges, no additional univariate outliers were removed. The data was then examined for multivariate outliers using the Mahalanobis distance test. Based on this analysis, 5 extreme outliers were removed from the data set. Following this data-screening process, the data set to be analyzed included 214 cases.

The ages of participants included in the study ranged from 18 to 30 years old. The mean age of participants was 19 years old. The sample included 56% females (n=120) and 44% males (n=94).

There was a small percentage (less than 1%) of missing data in the data-set, with some items that participants did not respond to on the measures. In order to be able to use all cases for purposes of a structural equation modeling analysis, this missing data was replaced using EM imputation (Switzer & Roth, 2002).

The scale descriptives for the NEO, Leadership Self-Efficacy (LSE), Motivation to Lead (MTL), and Past Leadership Experience (PLE) both before and after replacing missing data are presented in Tables 2 and 3. The scale reliabilities both before and after replacing missing data are presented in Tables 4 and 5. Table 6 presents the intercorrelations among the NEO, LSE, MTL, and PLE after replacing missing data.

The structural equation modeling analysis began with an examination of the fit of the measurement models for each of the scales to be used in the analysis: the NEO, Leadership Self-Efficacy (LSE), and Motivation to Lead (MTL). Throughout the reporting of analyses, a number of fit indices will be presented including CFI, SRMR, and RMSEA. It's important to keep in mind that each goodness-of-fit index is based on a different calculation of fit, and thus presents slightly different information. As Marsh, Hau, and Wen (2004) explain, there is a complicated interaction between the data structure (simple vs. complex), the particular fit index, and the sample size, which affects whether or not a particular model will meet 'traditional' levels of acceptability. These researchers argue that current guidelines around acceptability of fit indices may be too stringent and often lead to falsely considering a model misspecified. The traditionally accepted cut-off values have been .90 or higher for incremental fit indices, such as the CFI. Traditionally accepted cut-offs for the RMSEA, an index based on a standardized measure of empirical discrepancy, suggest that an RMSEA less than .05 indicates a "close fit" and values up to .08 represent reasonable errors of approximation. However, Marsh et. al. (2004) explain that these "traditional cut-off values amount to little more than rules of thumb based largely on intuition, and have little statistical significance" (p. 321).

In the NEO measurement model, the facet scales are indicators in the model, and the 3 personality domains are the factors underlying those indicators. Upon analyzing the NEO measurement model, the initial fit of the model was not acceptable (CFI=.702, SRMR=.130, RMSEA=.126). In order to achieve acceptable fit, 3 poorly performing

facet scales were removed from the scale (Activity, Deliberation, and Modesty). These scales were determined to be poorly performing indicators based on their factor loadings and numerous cross-loadings with the other personality domains. In addition to removing these facets, 11 cross-loadings and 12 error covariances were added to the NEO model. After making these adjustments, the fit of the NEO measurement model was acceptable (CFI=.991, SRMR=.042, RMSEA=.028). The factor loadings of the NEO facets are presented in Table 7.

The initial fit of the Leadership Self-Efficacy model was: CFI= .931, SRMR=.055, RMSEA=.115. Adjustments to the LSE model included the addition of 3 error covariances. The fit of the LSE measurement model after making these adjustments was good (CFI=.997, SRMR=.024, RMSEA=.030). The factor loadings of the LSE scale items are presented in Table 8.

The initial fit of the Motivation to Lead (MTL) measurement model was not acceptable (CFI=.828, SRMR=.088, RMSEA=.075). In order to achieve acceptable fit of the MTL model, a few adjustments were made. First, two poorly performing items were removed. Following are the 2 items that were removed:

MTL 23: I have more of my own problems to worry about than to be concerned about the rest of the group.

MTL 18: It is not right to decline leadership roles.

MTL 23 was an indicator of the non-calculative factor of MTL, while MTL 18 was an indicator of the social-normative MTL factor. These items were determined to be poorly performing items based on their factor loadings and numerous cross-loadings. It is likely

that the wording of these items contributed to their poor performance on this measure. For example, participants' responses to MTL 23 may have been influenced by other factors, such as the perceived amount of their own problems. MTL 18 was worded negatively, although scored in the positive direction, which may have contributed to the poor performance of this item. In addition to removing these 2 items, 13 cross-loadings and 2 error covariances were added to the model. After making these adjustments, the fit of the MTL measurement model was acceptable (CFI=.931, SRMR=.087, RMSEA=.051). The factor loadings of the MTL scale items are presented in Table 9.

After acceptable fit was achieved for each of the individual scales to be included, the complete measurement model was tested, which included all of the scales. An examination of the data indicated a slight issue with multivariate kurtosis, with Mardia's coefficient = 171.56 and the normalized estimate = 18.88. Due to this kurtosis issue, robust statistics will be reported in addition to normal estimates. It is important to examine the robust statistics, as the normal estimation methods used in structural equation modeling assume normal distribution of the data (Kline, 1998). Due to the fact that the kurtosis observed is only moderate, there are not substantial differences between the normal and robust estimates.

The fit of the complete measurement model was found to be acceptable (CFI=.906, SRMR=.060, RMSEA=.045, Robust CFI=.916, Robust RMSEA= .038). Once acceptable fit was achieved for the measurement model, it was possible to proceed with testing of the structural models.

The first structural model examined the replicated relationships reported by Chan and Drasgow (2001), which included relationships between the personality domains (Extraversion, Conscientiousness, and Agreeableness), Leadership Self-Efficacy (LSE), and Motivation to Lead (MTL). The overall fit of the model was acceptable ($X^2=1503.97$, CFI=.870, SRMR=.092, RMSEA=.053, Robust $X^2=1348.59$, Robust CFI=.876, Robust RMSEA=.045). The path coefficients were examined in order to test the specific hypothesized relationships. The model with the path coefficients is presented in Figure 3. The findings in relation to each hypothesis are summarized as follows:

Hypothesis 1: Extraversion will be related to affective/identity MTL and LSE.

Extraversion was found to be significantly related to Leadership Self-efficacy. The direct relationship between Extraversion and affective-identity MTL was found to be non-significant. Extraversion did, however, exhibit a significant indirect effect on affective-identity MTL through leadership self-efficacy; the path coefficient for this indirect effect was .077, significant at $p < .05$.

Hypothesis 2: Conscientiousness will be related to social-normative MTL and LSE.

Conscientiousness was found to be significantly related to leadership self-efficacy. The direct relationship between Conscientiousness and social-normative MTL was found to be non-significant. Conscientiousness did, however, exhibit a significant indirect effect on social normative MTL through leadership self-efficacy; the path coefficient for this indirect effect was .065, significant at $p < .05$.

Hypothesis 3: Agreeableness will be related to non-calculative MTL and social-normative MTL.

Agreeableness was found to be significantly related to non-calculative MTL.

However, the relationship between Agreeableness and social-normative MTL was found to be non-significant.

Hypothesis 4: Leadership self-efficacy will be predictive of affective/identity MTL and social-normative MTL.

Leadership self-efficacy was found to be significantly related to both affective-identity MTL and social-normative MTL.

The second structural model examined the secondary hypotheses, which included relationships between specific personality facets, leadership self-efficacy (LSE), and Motivation to Lead (MTL). The overall fit of the model was acceptable ($\chi^2=1349.31$, CFI=.903, SRMR=.087, RMSEA=.046, Robust $\chi^2=1214.17$, Robust CFI=.914, Robust RMSEA=.038). The path coefficients were examined in order to test the specific hypothesized relationships. The path coefficients of the hypothesized relationships are presented in Figure 4. The findings in relation to each hypothesis are summarized as follows:

Secondary Hypothesis 1: Gregariousness and assertiveness will be predictive of affective/identity MTL.

Assertiveness was found to be significantly related to affective-identity MTL.

Assertiveness exhibited both a significant direct effect on affective-identity MTL, as well as an indirect effect through leadership self-efficacy; the path coefficient for this indirect effect was .024, significant at $p < .05$. The direct relationship between gregariousness and

affective-identity MTL was found to be non-significant. In addition, gregariousness did not exhibit a significant indirect effect on affective-identity MTL through leadership self-efficacy; the path coefficient for this indirect effect was .004, non-significant at $p < .05$.

Secondary Hypothesis 2: Dutifulness and compliance will be predictive of social-normative MTL.

This hypothesis was not supported. Both the relationship between dutifulness and social-normative MTL and the relationship between compliance and social-normative MTL were found to be non-significant.

Secondary Hypothesis 3: Trust and altruism will be predictive of non-calculative MTL.

This hypothesis was not supported. Both the relationship between trust and non-calculative MTL and the relationship between altruism and social-normative MTL were found to be non-significant.

Secondary Hypothesis 4: Gregariousness, assertiveness, and competence will be predictive of leadership self-efficacy.

Assertiveness and competence were both found to be significantly related to leadership self-efficacy. Gregariousness, however, was not found to be significantly related to leadership self-efficacy.

In addition to these hypotheses, the following research question was explored: Do facet level personality variables enhance the prediction of the motivation to lead beyond that produced by the parent Big Five factors? In order to explore this question, the incremental improvement in fit of the model when including the specific facet

relationships was examined. The first model included Chan and Drasgow's (2001) replicated relationships, which specified relationships between the Big-Five personality domains, leadership self-efficacy, and motivation to lead. The second model included the personality facet relationships with leadership self-efficacy and motivation to lead, in addition to the Big-Five personality relationships included in the first model. The fit of the two models, as well as the change in fit indices is presented in Table 10. As can be noted in the table, the addition of the facet relationships to the model improved the fit; the change in Chi-square between the two models was significant. The change in the Chi-square statistic was evaluated both based on robust and normal estimates, and the difference was significant in both cases. In addition, Cheung and Rensvold (2002) have suggested that it is useful to examine changes in other goodness-of-fit indices beyond the Chi-square statistic. Based on a Monte Carlo simulation that they conducted, these researchers suggested that a change in CFI between models greater than .01 indicates a significant improvement in fit. When adding the personality facets as predictors in the model, the change in CFI was .03, also evidence of a significant improvement in fit.

It's also important to note that some of the relationships observed in relation to the Big Five personality domains in the first model were not observed in the second model, when including the personality facet relationships in the model. In particular, the relationships between Extraversion and LSE and Conscientiousness and LSE were not found to be significant when including the facet relationships in the model. This observation suggests that much of the variance contributing to the significance of the relationships in the first model was accounted for by the more specific facet relationships.

This observation also lends support to the value of examining personality variables at the narrower facet level.

Additional analyses were then conducted to determine if there were paths included in the model that if were removed, would not result in a change in fit of the model. In other words, an examination of potentially unnecessary paths was conducted.

This analysis suggested removing the following paths from the model:

- The relationship between altruism and non-calculative MTL.
- The relationship between gregariousness and LSE.
- The relationship between trust and non-calculative MTL.

Following the removal of the above identified paths, the overall fit of the model was still acceptable ($X^2=1350.27$, CFI=.904, SRMR=.087, RMSEA= .046, Robust $X^2=1215.19$, Robust CFI=.915, Robust RMSEA= .038). The change in Chi-square between the adjusted model and previous model was non-significant.

DISCUSSION

Some of the hypotheses proposed in this study received clear support, some received partial support, while others were not supported. This section will explore reasons and implications for these mixed findings. To begin, the majority of primary hypotheses involving the replicated relationships from Chan and Drasgow's (2001) model were supported or partially supported. However, there were some important differences in findings to be noted. It's important to keep in mind that Chan and Drasgow's (2001) examination of the relationship of personality factors in the model was purely exploratory. Thus, this study makes a contribution by independently confirming some of their findings, but also highlights some further distinctions in these relationships.

First of all, extraversion was found to be a significant predictor of the motivation to lead. However, the current results indicate that the relationship of extraversion and affective-identity MTL is fully mediated by leadership self-efficacy. In other words, those who are high in extraversion tend to exhibit higher leadership self-efficacy. Then, in turn, those high in leadership self-efficacy tend to be higher in affective-identity MTL. This makes sense conceptually, as those with more confidence in their leadership abilities report being motivated to lead because they enjoy leading others. The difference in findings between this study and that of Chan and Drasgow (2001) is that the relationship between Extraversion and affective-identity MTL was fully mediated by leadership self-efficacy, meaning that only those extraverts who are high in leadership self-efficacy are high in affective-identity MTL. It's important to note that the structural model tested by Chan and Drasgow (2001) used a sample from the Singapore military. It is possible that

there are cross-cultural differences in the relationships between personality, leadership self-efficacy, and motivation to lead. Therefore, the current study also contributes to research in this area by exploring the degree to which these relationships are different in the United States, as compared to the relationships Chan and Drasgow (2001) reported from their Singapore sample.

The findings were somewhat similar in regards to conscientiousness as a predictor in the model. The current study found that the relationship between conscientiousness and social-normative MTL is fully mediated by leadership self-efficacy. In other words, those who are more conscientious tend to exhibit higher leadership self-efficacy. Then, in turn, those high in leadership self-efficacy tend to be higher in social-normative MTL. Again, the major difference found between this study and Chan and Drasgow (2001) is that the relationship was fully mediated, meaning that only those who are high in conscientiousness, who are also high in leadership self-efficacy, are high in social-normative MTL. Again, it is possible that the difference in findings may be due to cross-cultural differences in these relationships.

There were mixed findings in regard to agreeableness as a predictor in the model; this personality domain was significantly related to non-calculative MTL, but was not significantly related social-normative MTL. Chan and Drasgow (2001) did report a slightly stronger relationship between agreeableness and non-calculative MTL than agreeableness and social-normative MTL. Again, the structural model that they tested used a sample from the Singapore military, so the differences in findings may be attributable to cross-cultural differences. In their exploration of motivation to lead, Chan

and Drasgow (2001) had conducted some initial analyses using both Singapore and U.S. samples prior to testing the structural model using only the Singapore samples. Examining these initial findings further, they also found a non-significant relationship between agreeableness and social-normative MTL when looking only at their U.S. sample, but found significant relationships using the Singapore samples. Given findings from the current study combined with the examination of findings from their U.S. sample, it might be the case that there are meaningful differences in the relationships among these variables across cultures.

The hypothesis predicting that leadership self-efficacy would be related to both affective-identity MTL and social-normative MTL was clearly supported in this study. It seems that one's confidence in their leadership abilities is related to whether they are likely to lead because they enjoy doing so and whether they are likely to lead due to a sense of duty or responsibility.

In regards to the secondary hypotheses examined in this study, assertiveness and competence were the two personality facets that exhibited significant relationships in the model. Assertiveness exhibited both a significant direct relationship with affective-identity MTL and leadership self-efficacy. Competence was significantly related to leadership self-efficacy. Thus, these specific personality factors may be of particular relevance in future studies designed to predict the motivation to lead and other leadership outcomes. The secondary hypotheses examining the relationships of gregariousness, dutifulness, compliance, trust, and altruism were not supported.

At a broader level, however, was the question of whether personality facets add to the prediction of MTL above and beyond the prediction achieved by the broad personality domains. Examining the change in fit between the initial model and the model including the facet relationships supports the prediction that the more narrow personality facets do, in fact, add to the model. Both an examination of the significance in the change in Chi-square and the change in CFI indicated a significant improvement of fit, suggesting that adding the facet relationships to the model accounted for unique variance not already explained through the relationships of the broad personality factors. This finding suggests that it is important to examine relationships at the personality facet level as opposed to simply at the more broad, domain level. Thus, future leadership research may benefit from examining the predictive relationships of personality variables at the facet level of measurement.

The current study as well as Chan and Drasgow's (2001) research suggests that leadership self-efficacy is a strong predictor of motivation to lead. However, there has been a relatively small amount of research exploring leadership self-efficacy. The LSE measure employed in the current study was the same as that developed and used by Chan and Drasgow (2001), who also found that past leadership experience was related to LSE. While these researchers found a relationship between past leadership experience and LSE, they did not explore the relationship in great detail. Future research should further explore and define the construct of leadership self-efficacy and other potential antecedents of this construct. It would be useful to examine both quantities and qualities of past leadership experiences, as well as whether certain types of training impact

leadership self-efficacy. Given the strong relationship between leadership self-efficacy and motivation to lead, determining types of training programs that could potentially impact leadership self-efficacy would have practical value to practitioners looking to build leadership capabilities within organizations. Future research should examine the extent to which leadership self-efficacy is a function of individual traits versus experiences.

In addition to further exploration of leadership self-efficacy, it would be beneficial to conduct research of other potential antecedents of motivation to lead. For example, Kark and Van Dijk (2007) have suggested that one's self-regulatory focus is an antecedent of motivation to lead. As these researchers explain, whether an individual operates primarily with a promotion versus a prevention focus will be related to their motivation to lead. Kark and Van Dijk (2007) propose that "leaders characterized by different chronic regulatory foci are likely to be driven to lead by different underlying types of motivations" (p.506). Specifically, these researchers propose that promotion-focused individuals will more likely be characterized by an affective-identity MTL; while prevention-focused individuals will more likely be characterized by a social-normative MTL. Kark and Van Dijk (2007) also propose that the values of openness to change and conservatism will relate to motivation to lead. These authors proposed these relationships as a theoretical framework to guide future research, thus future research should examine whether or not such relationships do in fact hold true when applied to a research sample.

Additionally, while the current study as well as Chan and Drasgow's (2001) study examined the intervening variable of motivation to lead in the personality-leadership

relationship, it is possible that there are other intervening variables worth exploring. For example, in a transformational leadership model, it's possible that personality characteristics of a leader impact followers' perceptions of that leader, which in turn influence followers' behaviors, thus impacting overall leadership outcomes. In this case, personality may relate to leadership outcomes through their connection with leader prototypes. Further research should identify other possible intervening variables in the relationship between personality and leadership outcomes.

In summary, the realm of leadership would benefit from further understanding of the relationships between individual characteristics and leadership outcomes and the intervening mechanisms involved in these relationships. Along these lines, Avolio (2007) advocates "a fuller and more integrative focus that is multilevel, multicomponent, and interdisciplinary, and that recognizes that leadership is a function of both the leader and the led and the complexity of the context" (p. 31). Leadership is a very complex phenomenon, and as such the models put forth to study leadership should take care to identify and include the complexities inherent in leadership.

Potential limitations of the current study include the fact that the facet level of personality constructs has not been as widely researched and developed as the Big Five domain level. While there is more of a consensus on the Big Five factors, there is much less agreement on what the subcomponents of personality are within the Big Five factors. More research is needed to define the levels of personality within the Big Five framework in order to reach a commonly accepted model for future research. Such a framework would guide future research around the prediction of more narrow personality traits.

Another potential limitation of the current study is the use of a student sample. However, it is worthwhile to note that Chan and Drasgow (2001) did not find meaningful differences in the relationships examined across a student and non-student sample, suggesting that the use of a student sample may be less of a concern.

Mono-method bias is another possible limitation of the current study, as all data gathered involved self-report measures completed by the participants. Additionally, another potential limitation is that the current study lacked an external criterion beyond motivation to lead. For example, the current study did not explore relationships with other leadership outcomes, such as leadership effectiveness.

In summary, this study examined Chan and Drasgow's (2001) theoretical model of leadership, exploring relationships between personality, leadership self-efficacy, and motivation to lead. It's important to examine such factors in order to better understand individual differences related to motivations to assume leadership positions. Furthering knowledge in this area can assist in identifying individuals more likely to pursue leadership roles, for purposes such as selection, career development, and succession planning efforts. The leadership of an organization can have such a profound impact on the success of that organization, it's critical to further research in this area. This study confirmed some of Chan and Drasgow's (2001) findings, added some further clarifications to the personality relationships to the model, and suggested that it is important to examine personality variables at more defined levels than the Big Five domain level.

TABLES AND FIGURES

Table 1. Relationships Between Big Five Traits and Leadership
Criteria: Results from Judge et al. (2002)

Trait	Corrected Correlation (ρ)		
	Overall	Leader Emergence	Leadership Effectiveness
Neuroticism	-.24* [†]	-.24*	-.22* [†]
Extraversion	.31* [†]	.33* [†]	.24* [†]
Openness	.24* [†]	.24* [†]	.24* [†]
Agreeableness	.08*	.05	.21*
Conscientiousness	.28* [†]	.33* [†]	.16*

Note. * indicates 95% confidence interval excluding zero. [†] indicates 80% credibility interval excluding zero.

Table 2. NEO Scale Descriptives Before and After Replacing Missing Data (N=214)

	Mean (sd)	Mean (sd)
	Before Replacing	After Replacing
Facet	Missing Data	Missing Data
Warmth	32.28 (3.42)	32.28 (3.42)
Gregariousness	28.63 (4.65)	28.59 (4.71)
Assertiveness	26.39 (4.38)	26.45 (4.35)
Activity	27.32 (3.46)	27.30 (3.45)
Excitement-Seeking	31.20 (3.79)	31.18 (3.77)
Positive Emotions	29.87 (4.33)	29.89 (4.33)
Competence	30.41 (3.26)	30.40 (3.25)
Order	25.33 (4.62)	25.32 (4.64)
Dutifulness	29.69 (3.32)	29.66 (3.32)
Achievement Striving	27.40 (4.08)	27.36 (4.09)
Self-discipline	27.72 (4.76)	27.72 (4.76)
Deliberation	24.19 (4.20)	24.21 (4.21)
Trust	27.43 (4.70)	27.39 (4.71)
Straightforwardness	26.67 (4.66)	26.69 (4.70)
Altruism	31.72 (2.90)	31.70 (2.89)
Compliance	23.90 (4.58)	23.84 (4.60)
Modesty	26.01 (4.85)	26.05 (4.88)
Tender-Mindedness	27.71 (3.16)	27.73 (3.18)

Table 3. Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience Scale Descriptives Before and After Replacing Missing Data (N=214)

Item	Mean (sd)	Mean (sd)
	Before Replacing	After Replacing
	Missing Data	Missing Data
Leadership Self-efficacy	24.04 (3.33)	24.22 (2.95)
MTL- Affective Identity	31.36 (6.34)	31.59 (6.01)
MTL- Non Calculative	33.22 (5.07)	33.41 (4.69)
MTL- Social Normative	32.75 (4.12)	32.92 (3.95)
Past Leadership Experience	11.21 (2.09)	11.27 (2.00)

Table 4. NEO Scale Reliabilities Before and After Replacing Missing Data (N=214)

Domain/Facet	Coefficient Alpha	
	Before Replacing	After Replacing
	Missing Data	Missing Data
Extraversion	.90	.88
Warmth	.76	.73
Gregariousness	.76	.76
Assertiveness	.80	.78
Activity	.58	.55
Excitement-Seeking	.61	.55
Positive Emotions	.76	.75
Conscientiousness	.91	.91
Competence	.62	.63
Order	.76	.76
Dutifulness	.56	.56
Achievement Striving	.76	.75
Self-discipline	.82	.81
Deliberation	.75	.74

Table 4. NEO Scale Reliabilities Before and After Replacing Missing Data (N=214)
(Continued)

Domain/Facet	Coefficient Alpha	Coefficient Alpha
	Before Replacing	After Replacing
	Missing Data	Missing Data
Agreeableness	.88	.89
Trust	.83	.82
Straightforwardness	.76	.76
Altruism	.63	.58
Compliance	.70	.71
Modesty	.80	.81
Tender-Mindedness	.44	.45

Table 5. Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience Scale Reliabilities Before and After Replacing Missing Data (N=214)

Scale	Coefficient Alpha	Coefficient Alpha
	Before Replacing	After Replacing
	Missing Data	Missing Data
Leadership Self-Efficacy	.82	.77
MTL- Affective Identity	.91	.90
MTL- Non Calculative	.86	.84
MTL- Social Normative	.75	.73
Past Leadership Experience	.81	.79

Table 6. Intercorrelations Among the NEO, Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience (N=214)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Extraversion	-	.24*	.09	.74*	.78*	.69*	.68*	.54*	.73*	.32*	.07	.16*
2. Conscientiousness	-	-	.13*	.23*	.02	.39*	.29*	-.07	.17*	.71*	.72*	.76*
3. Agreeableness	-	-	-	.38*	.09	-.18*	-.01	-.25*	.34*	-.03	.04	.19*
4. Warmth	-	-	-	-	.55*	.37*	.30*	.24*	.67*	.29*	.08	.19*
5. Gregariousness	-	-	-	-	-	.37*	.38*	.42*	.46*	.13	-.08	.02
6. Assertiveness	-	-	-	-	-	-	.60*	.21*	.31*	.45*	.19*	.22*
7. Activity	-	-	-	-	-	-	-	.17*	.41*	.24*	.11	.18*
8. Excitement-Seeking	-	-	-	-	-	-	-	-	.21*	.04	-.10	-.04
9. Positive Emotions	-	-	-	-	-	-	-	-	-	.21*	.12	.12
10. Competence	-	-	-	-	-	-	-	-	-	-	.35*	.54*
11. Order	-	-	-	-	-	-	-	-	-	-	-	.45*
12. Dutifulness	-	-	-	-	-	-	-	-	-	-	-	-

Table 6. Intercorrelations Among the NEO, Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience (N=214) (Continued)

Variable	13	14	15	16	17	18	19	20	21	22	23	24
1. Extraversion	.39*	.20*	-.03	.19*	.02	.28*	-.02	-.17*	.16*	.47*	.57*	.28*
2. Conscientiousness	.76*	.82*	.67*	.10	.18*	.36*	.10	-.09	-.03	.44*	.32*	.38*
3. Agreeableness	.03	.12	.24*	.68*	.76*	.66*	.73*	.64*	.64*	-.11	-.17*	.47*
4. Warmth	.21*	.14*	.15*	.40*	.20*	.47*	.24*	.05	.32*	.31*	.30*	.36*
5. Gregariousness	.17*	.02	-.12	.17*	.09	.14*	.03	-.13	.12	.21*	.29*	.07
6. Assertiveness	.49*	.35*	.07	.06	-.16*	.06	-.25*	-.29*	-.05	.61*	.82*	.25*
7. Activity	.50*	.28*	-.02	.01	.00	.17*	-.10	-.08	.04	.42*	.50*	.24*
8. Excitement-Seeking	.09	-.01	-.27*	-.15*	-.23*	.00	-.24*	-.27*	-.01	.14*	.21*	-.09
9. Positive Emotions	.20*	.06	.07	.32*	.19*	.39*	.26*	.05	.26*	.27*	.26*	.34*
10. Competence	.48*	.51*	.41*	.11	.04	.21*	-.04	-.26*	-.12	.45*	.41*	.30*
11. Order	.39*	.48*	.42*	.04	.07	.19*	.06	-.05	-.11	.29*	.15*	.18*
12. Dutifulness	.47*	.59*	.43*	.04	.23*	.41*	.12	.02	.03	.29*	.14*	.24*

Table 6. Intercorrelations Among the NEO, Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience (N=214) (Continued)

Variable	25	26
1. Extraversion	.39*	.42*
2. Conscientiousness	.18*	.30*
3. Agreeableness	.04	-.04
4. Warmth	.36*	.30*
5. Gregariousness	.22*	.16*
6. Assertiveness	.42*	.65*
7. Activity	.29*	.38*
8. Excitement-Seeking	.14*	.04
9. Positive Emotions	.19*	.21*
10. Competence	.29*	.39*
11. Order	.08	.14*
12. Dutifulness	.14*	.17*

Table 6. Intercorrelations Among the NEO, Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience (N=214) (Continued)

Variable	13	14	15	16	17	18	19	20	21	22	23	24
13. Achievement Striving	-	.68*	.36*	.02	.07	.24*	-.01	-.13	.03	.42*	.42*	.34*
14. Self-discipline	-	-	.36*	.08	.14*	.29*	.09	-.05	.01	.41*	.25*	.35*
15. Deliberation	-	-	-	.16*	.26*	.27*	.22*	.04	.04	.12	.09	.30*
16. Trust	-	-	-	-	.40*	.39*	.37*	.23*	.36*	.04	.05	.35*
17. Straightforwardness	-	-	-	-	-	.49*	.47*	.39*	.32*	-.12	-.16*	.33*
18. Altruism	-	-	-	-	-	-	.40*	.25*	.41*	.16*	.00	.39*
19. Compliance	-	-	-	-	-	-	-	.31*	.41*	-.07	-.23*	.33*
20. Modesty	-	-	-	-	-	-	-	-	.32*	-.27*	-.22*	.29*
21. Tender-Mindedness	-	-	-	-	-	-	-	-	-	-.08	-.08	.26*
22. Leadership Self-Efficacy	-	-	-	-	-	-	-	-	-	-	.64*	.34*
23. MTL- Affective Identity	-	-	-	-	-	-	-	-	-	-	-	.39*
24. MTL-Non Calculative	-	-	-	-	-	-	-	-	-	-	-	-

Table 6. Intercorrelations Among the NEO, Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience (N=214) (Continued)

Variable	25	26
13. Achievement Striving	.22*	.33*
14. Self-discipline	.09	.25*
15. Deliberation	.04	.11
16. Trust	.15*	.12
17. Straightforwardness	-.05	-.04
18. Altruism	.17*	.11
19. Compliance	.01	-.04
20. Modesty	-.10	-.20*
21. Tender-Mindedness	.09	-.06
22. Leadership Self-Efficacy	.44*	.59*
23. MTL- Affective Identity	.50*	.68*
24. MTL- Non Calculative	.35*	.35*

Table 6. Intercorrelations Among the NEO, Leadership Self-Efficacy, Motivation to Lead, and Past Leadership Experience (N=214) (Continued)

Variable	25	26
25. MTL- Social Normative	-	.54*
26. Past Leadership Experience	-	-

Table 7. Standardized Factor Loadings of NEO Facet Scales (N=214)

NEO Facet	Factor Loading
Domain: Extraversion	
Warmth	.86
Gregariousness	.87
Assertiveness	.91
Excitement-Seeking	.70
Positive Emotions	.76
Domain: Conscientiousness	
Competence	.59
Order	.57
Dutifulness	.66
Achievement-Striving	.71
Self-Discipline	.83
Domain: Agreeableness	
Trust	.59
Straightforwardness	.89
Altruism	.75
Compliance	.95
Tender-mindedness	.55

Table 8. Standardized Factor Loadings of LSE Scale Items (N=214)

LSE Item	Factor Loading
1. I am <u>not</u> confident that I can lead others effectively. (R)	.42
2. Leading others effectively is probably something I will be good at.	.84
3. I believe that leading others effectively is a skill that I can master.	.71
4. I do not expect to become very effective at leading. (R)	.61
5. I feel confident that I can be an effective leader in most of the groups that I work with.	.67
6. It probably will not be possible for me to lead others as effectively as I would like. (R)	.45

Note. (R) denotes that the item is reverse-scored.

Table 9. Standardized Factor Loadings of MTL Scale Items (N=214)

MTL Item	Factor Loading
Factor: Affective-Identity MTL	
1. Most of the time, I prefer being a leader rather than a follower when working in a group.	.82
2. I am the type of person who is not interested to lead others. (R)	.67
3. I am definitely not a leader by nature. (R)	.73
4. I am the type of person who likes to be in charge of others.	.66
5. I believe I can contribute more to a group if I am a follower rather than a leader. (R)	.70
6. I usually want to be the leader in the groups that I work with.	.74
7. I am the type who would actively support a leader but prefers not to be appointed as leader. (R)	.75
8. I have a tendency to take charge in most groups or teams that I work in.	.70
9. I am seldom reluctant to be the leader of a group.	.40
Factor: Noncalculative MTL	
10. I am only interested to lead a group if there are clear advantages for me. (R)	.68
11. I will never agree to lead if I cannot see any benefits from accepting that role. (R)	.77

Table 9. Standardized Factor Loadings of MTL Scale Items (N=214) (Continued)

MTL Item	Factor Loading
12. I would only agree to be a group leader if I know I can benefit from that role. (R)	.80
13. I would agree to lead others even if there are no special rewards or benefits with that role.	.52
14. I would want to know “what’s in it for me” if I am going to agree to lead a group. (R)	.69
15. I never expect to get more privileges if I agree to lead a group.	.44
16. If I agree to lead a group, I would never expect any advantages or special benefits.	.45
17. Leading others is really more of a dirty job rather than an honorable one. (R)	.48
Factor: Social-Normative MTL	
18. I feel that I have a duty to lead others if I am asked.	.61
19. I agree to lead whenever I am asked or nominated by the other members.	.62
20. I was taught to believe in the value of leading others.	.22
21. It is appropriate for people to accept leadership roles or positions when they are asked.	.57
22. I have been taught that I should always volunteer to lead others if I can.	.43

Table 9. Standardized Factor Loadings of MTL Scale Items (N=214) (Continued)

MTL Item	Factor Loading
23. It is an honor and privilege to be asked to lead.	.41
24. People should volunteer to lead rather than wait for others to ask or vote for them.	.27
25. I would never agree to lead just because others voted for me. (R)	.50

Note. (R) denotes that the item is reverse-scored.

Table 10. Fit Indices for Nested Sequence of Models (N=214)

Model	X^2	Robust X^2	CFI (Robust)	SRMR	RMSEA (Robust)	X^2_{diff}	$\Delta S-B X^2$	ΔCFI
1. Replicated model with Big Five Factors as predictors	1503.97*	1348.59*	.87 (.88)	.092	.053 (.045)			
2. Model with addition of personality facets as predictors	1349.31*	1214.17*	.90 (.91)	.087	.046 (.038)	154.66*	101.93*	.03

Note. CFI= comparative fit index; SRMR= standardized root-mean square residual; RMSEA= root mean square error of approximation;
 $\Delta S-B X^2$ = Satorra and Bentler correction for Robust change in X^2 .

* $p < .05$.

.

Figure 1. Chan and Drasgow's (2001) Theoretical Model

Figure 2. Hypothesized Relationships

Figure 3. Model Including Replicated Relationships with Unstandardized Path Coefficients

Figure 4. Model Including Facet Relationships with Unstandardized Path Coefficients

APPENDICES

Appendix A

Leadership Self-efficacy Measure (Chan & Drasgow, 2001)

All items are accompanied by a response scale from 1 to 5, with 1 = strongly disagree and 5 = strongly agree.

1. I am not confident that I can lead others effectively.
2. Leading others effectively is probably something I will be good at.
3. I believe that leading others effectively is a skill that I can master.
4. I do not expect to become very effective at leading.
5. I feel confident that I can be an effective leader in most of the groups that I work with.
6. It probably will not be possible for me to lead others as effectively as I would like.

Appendix B

Motivation to Lead Scale

All items are accompanied by a response scale from 1 to 5, with 1=strongly disagree and 5 = strongly agree

1. Most of the time, I prefer being a leader rather than a follower when working in a group.
2. I am only interested to lead a group if there are clear advantages for me.
3. I feel that I have a duty to lead others if I am asked.
4. I am the type of person who is not interested to lead others.
5. I will never agree to lead if I cannot see any benefits from accepting that role.
6. I agree to lead whenever I am asked or nominated by the other members.
7. I am definitely not a leader by nature.
8. I would only agree to be a group leader if I know I can benefit from that role.
9. I was taught to believe in the value of leading others.
10. I am the type of person who likes to be in charge of others.
11. I would agree to lead others even if there are no special rewards or benefits with that role.
12. It is appropriate for people to accept leadership roles or positions when they are asked.
13. I believe I can contribute more to a group if I am a follower rather than a leader.
14. I would want to know “what’s in it for me” if I am going to agree to lead a group.
15. I have been taught that I should always volunteer to lead others if I can.
16. I usually want to be the leader in the groups that I work with.
17. I never expect to get more privileges if I agree to lead a group.
18. It is not right to decline leadership roles.
19. I am the type who would actively support a leader but prefers not to be appointed as leader.
20. If I agree to lead a group, I would never expect any advantages or special benefits.
21. It is an honor and privilege to be asked to lead.
22. I have a tendency to take charge in most groups or teams that I work in.
23. I have more of my own problems to worry about than to be concerned about the rest of the group.
24. People should volunteer to lead rather than wait for others to ask or vote for them.
25. I am seldom reluctant to be the leader of a group.
26. Leading others is really more of a dirty job rather than an honorable one.
27. I would never agree to lead just because others voted for me.

Appendix C

Past Leadership Experience Measure (Chan & Drasgow, 2001)

1. Looking at your work and school life to date, how would you rate the AMOUNT of leadership experience you have compared to your peers (i.e., people of the same age as you)?
 - (1) Almost no leadership experience compared to my peers.
 - (2) Very little leadership experience compared to my peers.
 - (3) Average leadership experience compared to my peers.
 - (4) Above average amount of leadership experience.
 - (5) I am in the top 10% in terms of leadership experience compared to my peers.
2. In your past experience working in groups and teams, how often did you become the leader?
 - (1) Never
 - (2) Very seldom
 - (3) Sometimes
 - (4) Quite often
 - (5) Almost always
3. Looking back at your work and school life to date, how would you rate the QUALITY of leadership experience you have compared to your peers?
 - (1) Extremely bad/negative experiences. Didn't enjoy it at all.
 - (2) Quite bad/negative experiences. Didn't really enjoy leading.
 - (3) Average, some good some bad.
 - (4) Quite good/positive experiences. Did quite enjoy leading.
 - (5) Extremely good/positive experiences. Enjoyed it very much.

Appendix D

Background Information Measure

Please note that all information collected will remain strictly confidential.

1. **Name:** _____
2. **Age:** _____
3. **Gender (circle one):** Male Female
4. **SAT/ACT scores when applying to Clemson:**

SAT Math: _____
SAT Verbal: _____
ACT: _____

For a future study, we will need to contact a current or former employer of yours. He/she will be contacted via email and/or postal mail and asked to rate your leadership potential. Please provide the following contact information for a **current or former employer:**

Name: _____

Organization: _____

Postal address: _____

Email address (if known): _____

If you do not have access to this information at this time, we ask that you please send this information to us as soon as possible. Please send an email to tlshilobod@aol.com that includes your name, your participant number (included on the front of your packet), and the contact information of your current or former employer (name, organization, postal address, and email address).

Thank you!

REFERENCES

- Albright, L., & Forziati, C. (1995). Cross-situational consistency and perceptual accuracy in leadership. *Personality and Social Psychology Bulletin*, 12, 1269-1276.
- Avolio, B. J. (2007). Promoting more integrative strategies for leadership theory-building. *American Psychologist*, 62, 25-33.
- Barnlund, D.C. (1962). Consistency of emergent leadership in groups with changing tasks and members. *Speech Monographs*, 29, 45-52.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44, 1-26.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Burns, J. M. (1978). *Leadership*. New York: Harper & Row.
- Chan, K. Y., & Drasgow, F. (2001). Toward a theory of individual differences and leadership: Understanding the motivation to lead. *Journal of Applied Psychology*, 86, 481-498.
- Chan, K. Y., Rounds, J., & Drasgow, F. (2000). The relation between vocational interests and the motivation to lead. *Journal of Vocational Behavior*, 57, 226-245.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9, 233-255.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) Professional Manual*. Psychological Assessment Resources, Inc.
- Costa, P. T., Jr., McCrae, R. R., & Dye, D. A. (1991). Facet scales for Agreeableness and Conscientiousness: A revision of the NEO Personality Inventory. *Personality and Individual Differences*, 12, 887-898.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41, 417-440.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior*. Ontario, Canada: Addison-Wesley.

- Hough, L. M. & Furnham, A. (2003). Use of personality variables in work settings. In W.C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of Psychology, Volume 12: Industrial and Organizational Psychology*. John Wiley & Sons, Inc.
- House, R., & Podsakoff, P. M. (1994). Leadership effectiveness: Past perspectives and future directions for research. In J. Greenberg (Ed.), *Organizational Behavior: The state of the science* (pp. 45-82). Hillsdale, NJ: Lawrence Erlbaum.
- Judge, T. A., Bono, J. E. (2000). Five-factor model of personality and transformational leadership. *Journal of Applied Psychology*, 85, 751-765.
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, 87, 765-780.
- Kark, R., & Dijk, D.V (2007). Motivation to lead, motivation to follow: the role of the self-regulatory focus in leadership processes. *Academy of Management Review*, 32, 500-528.
- Kenny, D. A., & Zaccaro, S. J. (1983). An estimate of variance due to traits in leadership. *Journal of Applied Psychology*, 68, 678-685.
- Kenny, D. A. (1981). Interpersonal perception: a multivariate round robin analysis. In M. B. Brewer & B. E. Collins (Eds.), *Scientific inquiry and the social sciences: A volume in honor of Donald T. Campbell*. San Francisco: Jossey-Bass.
- Kickul, J. & Neuman, G. (2000). Emergent leadership behaviors: The function of personality and cognitive ability in determining teamwork performance and KSAs. *Journal of Business and Psychology*, 15, 27-51.
- Kirkpatrick, S. A., & Locke, E. A. (1991). Leadership: Do traits matter? *Academy of Management Executive*, 5, 48-60.
- Kline, R. B. (1998) *Principles and Practice of Structural Equation Modeling*. New York: The Guilford Press.
- Kroeck, K. G., & Brown, K. W. (2004). Work applications of the Big Five model of personality. In J. C. Thomas (Ed.), *Comprehensive Handbook of Psychological Assessment, Volume 4: Industrial and Organizational Assessment*. Hoboken, NJ: John Wiley & Sons, Inc.
- Lieberson, S., & O'Connor, J. F. (1972). Leadership and organizational performance: A study of large corporations. *American Sociological Review*, 37, 117-130.

- Lord, R. G., DeVader, C. L., & Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: A application of validity generalization procedures. *Journal of Applied Psychology*, 71, 402-410.
- Lord, R.G., Foti, R. J., & DeVader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance*, 34, 343-378.
- Lord, R. G., & Hall, R. J. (1992). Contemporary views of leadership and individual differences. *Leadership Quarterly*, 3, 137-157.
- Mann, R. D. (1959). A review of the relationships between personality and performance in small groups. *Psychological Bulletin*, 56, 241-270.
- Marsh, H. W., Hau, K.T., & Wen, Z. (2004). In search of golden rules: comment on hypothesis-testing approaches to setting cut-off values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, 11, 320-341.
- Mumford, M. D., Zaccaro, S. J., Johnson, J. F., Diana, M., Gilbert, J. A., & Threlfall, K.V. (2000). Patterns of leader characteristics: Implications for performance and development. *Leadership Quarterly*, 11, 115-133.
- Peterson, R. S., Smith, D. B., Martorana, P. V., & Owens, P. D. (2003). The impact of Chief Executive Officer personality on top management team dynamics: One mechanism by which leadership affects organizational performance. *Journal of Applied Psychology*, 88, (5), 795-808.
- Rossier, J., de Stadelhofen, F. M., Berthoud, S. (2004). The hierarchical structures of the NEO PI-R and the 16 PF 51. *European Journal of Psychological Assessment*, Vol. 20 (1), 27-38.
- Saucier, G. & Goldberg, L. R. (2003). The structure of personality attributes. In M. R. Barrick & A. M. Ryan (Eds.). *Personality and Work: Reconsidering the Role of Personality in Organizations*. San Francisco: Jossey-Bass.
- Silverthorne, C. (2001). Leadership effectiveness and personality: a cross cultural evaluation. *Personality and Individual Differences*, 30, 303-309.
- Smith, J. A., & Foti, R. J. (1998). A pattern approach to the study of leader emergence. *Leadership Quarterly*, 9, 147-160.
- Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology*, 25, 35-71.

- Switzer, F. S., III, & Roth, P. L. (2002). Coping with missing data. In S. G. Rogelberg (Ed.), *Handbook of research methods in industrial and organizational psychology* (pp. 310-323). Malden, MA: Blackwell.
- Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology*, 44, 703-742.
- Thomas, A. B. (1988). Does leadership make a difference to organizational performance? *Administrative Science Quarterly*, 33, 388-400.
- Triandis, H. C. (1980). Value, attitudes and interpersonal behavior. In M. M. Page (Ed.), *Nebraska Symposium on Motivation, Beliefs, Attitudes, and Values* (Vol. 1, pp. 195-259). Lincoln, NE: University of Nebraska.
- Yukl, G., & Van Fleet, D. D. (1992). Theory and research on leadership in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of Industrial and Organizational Psychology* (2nd ed., Vol. 3, pp. 147-197). Palo Alto, CA: Consulting Psychologists Press, Inc.