MOTIVATION TO LEAD: EXAMINING ITS ANTECEDENTS AND CONSEQUENCES IN A TEAM CONTEXT

A Dissertation

by

ANDREW TIMOTHY HINRICHS

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2011

Major Subject: Management

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ABSTRACT

Motivation to Lead: Examining its Antecedents and Consequences in a Team Context.

(August 2011)

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Chair of Advisory Committee: Dr. Christopher O. L. H. Porter

A model was developed that explores several personal characteristic of individuals as predictors of their motivation to lead. Stable personality traits were hypothesized to interact with an individual's belief in the nature of effective leadership to differentially predict the level of their leadership aspirations. The use of a team laboratory design allowed for an examination of the causal nature of an individual's motivation to lead. An appointed team leader led their four-person team in a performance task with high levels of interdependence to examine the leader's impact on teamwork. Team leaders were rated by multiple sources during the task on directive leadership, empowering leadership, and laissez-faire leadership. Several significant relationships between personality and motivation to lead were found that lend support to earlier research on the antecedents to motivation to lead, although no moderating effects were uncovered. Leadership behaviors were differentially related to increases in team processes, and demonstrated strong associations with satisfaction with the leader, and leadership potential. Results indicated that team leaders who do not calculate the

personal costs of leadership may be unable to positively influence team action processes. This study has implications for functional leadership theory, the development of the motivation to lead construct, and trait perspectives of leadership.

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INTRODUCTION AND RESEARCH OBJECTIVES

Teams are important and they are used extensively in organizations. Research on teams suggests the importance of leaders for teams to operate effectively (Zaccaro, Rittman, & Marks, 2001). However, leaders differ and they are not equally effective in their attempts to positively influence teamwork. An important leadership construct that may help determine the extent to which leaders are effective in team contexts is the degree to which they are motivated to lead (MTL).

Leading a team is an interactive process that involves effort and persistence. An individual faced with the difficult task of leading a team should be highly motivated to face these challenges (Yukl, 2006; Foti & Miner, 2003; Mael & White, 1994). Research on team leadership is not new, yet leading scholars have noted how little we know about the team leadership influence process (Morgeson, DeReu, & Karam, 2010; Zaccaro et al., 2001). Team leadership is a valuable influence input on effective teamwork and desirable team outcomes. Therefore it is important for research to identify team leader variation as this input, more than any other, is likely to affect team outcomes (Mathieu, Maynard, Rapp, & Gilson, 2008).

This dissertation follows the style of *Academy of Management Journal*.

The desire to lead others is a type of motivation that has been shown to affect important leadership outcomes (Chan & Drasgow, 2001; Hendricks & Payne, 2007). When developing the construct of motivation to lead (MTL), Chan (1999) argued for an approach to understanding an individual's motivation to lead that includes development and performance. The developmental aspect of MTL assumes that some individuals seek out leadership training and opportunities to be leaders. The performance function of the definition states that high levels of MTL will influence the level and longevity of effort when occupying a leadership role. This two-part approach is evident in the definition of the construct which states, "motivation to lead (MTL) is an individual difference construct that affects a leader's or leader-to-be's decisions to assume leadership training, roles, and responsibilities and that affect his or her intensity of effort at leading and persisting as a leader" (Chan & Drasgow, 2001, p. 482). Therefore, when individuals are randomly assigned leadership roles, conclusions regarding the causality of MTL are more likely to be evident. Those individuals with higher levels of MTL should put more effort into their leadership responsibilities.

In addition to variation in overall leadership motivation, individuals can be motivated to lead for different reasons that are salient to the individual (Chan & Drasgow, 2001). The MTL construct is comprised of three related factors that describe different reasons why an individual would desire leadership. Individuals can have an affective response to leading and enjoy the process for its own sake. Chan labels this factor affective-identity motivation to lead (AIMTL). Social-normative motivation to lead (SNMTL) describes individuals who desire leadership when asked to lead. Leading

is an obligation to their group and leading is perceived as a sense of duty. Leadership comes with responsibilities and is a highly visible organizational role where costs and responsibilities may outweigh benefits. According to Chan and Drasgow (2001), motivation to lead is higher only when the costs of leadership are not calculated. This factor is labeled noncalculative motivation to lead (NCMTL).

Research on effective leadership has sought to explicate the progression of predictors that are possessed by leaders (Stogdill, 1948; Kirkpatrick & Locke, 1991). Associations between more stable, distal leadership predictors (e.g., personality traits) and more proximal leadership variables (e.g., MTL, behaviors) have been of particular interest to leadership scholars in recent years (Ng, Ang, & Chan, 2008; Zaccaro, 2007; Foti & Miner, 2003; Chan & Drasgow, 2001). In early attempts to predict differences in motivation to lead, researchers focused on stable individual difference factors as antecedents. Several studies employed the Big-Five personality framework in an effort to identify distal predictors of MTL. Support was found for associations between all five personality factors and the three factors of MTL. Although these relationships have been supported in Chan's seminal work on the MTL construct, more recent research has produced inconsistent relationships between the Big-Five and MTL (Hendricks & Payne, 2007; Van Iddekinge, Ferris, & Heffner, 2009; Hartman, Allen, & Karriker, unpublished manuscript). More specifically, relationships involving Extraversion, Conscientiousness, Agreeableness, Emotional Stability and AIMTL have been inconsistent. Similarly, Conscientiousness, Emotional Stability and SNMTL have demonstrated inconsistent associations. Finally, the relationships between Extraversion, Conscientiousness,

Emotional Stability and NCMTL are also in possible need of clarification. The theoretical framework to predict individual differences in motivation to lead is relatively new. Expanding the knowledge of what affects an individual's desire to lead by identifying moderators may help explain the lack of consistent findings between personality and MTL (Kark & Van Dijk, 2007).

Purpose

One purpose of this dissertation is to help better understand the relationships between stable personality antecedents and leadership aspirations. In this study, I propose that the inconsistencies between stable personality constructs and motivation to lead factors are moderated by an individual's orientation toward leadership. Also called leadership-structure schemas, orientations toward leadership (OTL) describe how individuals personally conceptualize leadership (DeRue & Ashford, 2010; Bedeian & Hunt, 2006; Hiller, 2005). An orientation toward leadership can be described as an organizing knowledge structure about leadership that individuals possess (DeRue & Ashforth, 2010; Drath, 2001). Theoretically, the OTL construct consists of three overarching knowledge structures individuals use to conceptualize leadership. The most basic (and common) understanding of leadership is the traditional hierarchical form where there is only one leader and it is their job to issue orders. This top-down approach to leadership is believed to emanate from the personal characteristics of the leader. In contrast, developmental OTL views leadership as an influence process that is negotiated by the leader and the group members. In this case, leadership is not the sole possession

of the leader. Leaders work to increase group functioning by involving and developing group members. Lastly, shared OTL describes leadership as a shared meaning-making process where leadership may emanate from any member of a group. Leadership moves beyond a hierarchical form to a collaborative form. If a formal leader exists, the actions they take are an aspect of participation in the leadership process (Hiller, 2005; Drath, 2001). I intend to hypothesize that an individual's orientation toward leadership interacts with personality traits to affect their level of motivation to lead. For example, extraverts are sociable, enthusiastic, and action-oriented. The leadership literature has noted that because of these characteristics, extraverts often emerge as a leader in group settings (Foti & Hauenstein, 2007). This suggests the possibility that extraverts will be less likely to be motivated to lead if they also hold a shared view of leadership where their personality and leadership skills may be muted by sharing the leader role with other group members. Therefore, one purpose of this research is to clarify the relationships between theoretically relevant personality factors and motivation to lead dimensions by examining OTL as a moderator.

The consequences to an individual's level and type of MTL are also of importance. Research exploring MTL in team settings is in its infancy with only one empirical study reporting significant relationships with team outcomes (Hendricks & Payne, 2007). The model outlined in this dissertation extends previous research by exploring motivation to lead as a possible driver of team functioning. Because of the complexities of teamwork, a team leader should be motivated to perform their role. When a leader is unmotivated, it is difficult for such a leader to have significant impact

on teamwork. I propose that high levels of MTL will be associated with leadership behaviors that function to improve team processes. Improvements in team processes have been shown to consistently impact team effectiveness in positive directions (LePine, Piccolo, Jackson, Mathieu, & Saul, 2008). The inclusion of relevant team leadership behaviors will help scholars determine *how* motivated team leaders affect team processes. Therefore, as well as investigating antecedents to MTL, this dissertation examines important consequences of an individuals desire to lead.

An important assumption is that MTL is relatively stable over time, yet is malleable to some extent as individuals accrue leadership experience (Chan, 1999; Kark & Van Dijk, 2007). In a developmental context, Chan and Drasgow (2001) found that AIMTL and NCMTL were both predictive of leadership potential ratings. These ratings were provided with assessments of new recruits in a Singapore military sample and highlight the validity of MTL as a predictor of important leader-related behaviors or criteria (Chan & Drasgow, 2001). In a similar context, Amit and colleagues found MTL levels were significantly higher after basic training for a group of military recruits who were rated by peers and commanders as leaders than for the group rated as non-leaders (Amit, Lisak, Popper, & Gal, 2007). These results suggest that without the accrual of much leadership experience, variations in MTL become important (early) determinants for the performance-focused side of the MTL construct. Therefore, MTL is a strong discriminating factor that affects perceptions and ratings of individuals' leadership in the early stages of their careers and can serve as an indicator of possible future leadership

effectiveness (Amit et al., 2007). For this reason, leadership potential was included as an outcome of interest in this study.

I examined my model by utilizing a team laboratory where this study is part of a larger research agenda focused on leadership and team effectiveness. While it is important to create a context where variance in MTL exists between leaders, a laboratory context allows for causal inferences as leaders are actively engaged in a leadership event. Causality is an important issue in leadership research and recent scholars have called for an increase in the number of experimental designs to aid in the causal interpretation of leadership (Hunter, Bedell-Avers, & Mumford, 2007). In organizational research, too often it is assumed that at any level of management or leadership, each individual is equally motivated to perform their leadership role. In organizational settings, this is often not the case nor is it assumed by those operating within or external to an organization. In this study, leader participants are randomly sampled from the population of students in a large management course and the role of team leader was disclosed to the leader participants after the random sign-up in a separate leader training session. This ensured that those with a desire to lead did not self select into the leader participant group. Although this design creates variance and allows for causal inference in my focal construct, MTL, it must be accompanied by appropriate boundary conditions with respect to generalizability concerns.

This research is applicable to action or performance teams with a hierarchical structure that have a defined leadership role. Most organizational teams have such structures where a leader is responsible for team outcomes (Zaccaro, Rittman, & Marks,

2001). Action or performance teams represent organizational team-types that operate on a short-term basis and work toward specific performance goals. Typically, in an action team, team viability is not of concern because of the short lifespan of the team (Sundstrom, 1999; Cohen & Bailey, 1997). Additionally, the laboratory task for this research had a high degree of task interdependence ensuring the laboratory activity engages participants as a team (Hollenbeck, Moon, Ellis, West, Ilgen, & Sheppard, 2002). Further, using students as team leaders may suggest a limitation on the type of leadership to which this study applies. MTL was conceptualized to explain individual differences in peoples' desire to lead with no boundaries placed on the situation or the context. Indeed, Chan (1999) introduced MTL because of the lack of leadership research that involves aspects of 'everyday leadership' where situations range from leading simple group tasks to more complex leadership responsibilities. The use of students, therefore, is a relevant sample for two reasons – first, the team laboratory task is applicable to an 'everyday leadership' event and second, variation in MTL at an early stage in the leadership development process has been shown to affect important leadership related criteria (Chan & Drasgow, 2001; Amit et al., 2007).

Contributions of the Study

First, this study contributes to the literature involving distal and proximal leader individual differences as predictors of leadership outcomes. Although the agreement on predictive leadership individual differences has been elusive, meta-analytic evidence has demonstrated the importance of individual differences in the prediction of leadership

outcomes (Judge, Bono, Ilies, & Gerhardt, 2002; Lord, De Vader, & Alliger, 1986). By focusing on MTL, this study is unique in that it has the ability to contribute to the expanding literature that explores an individual's desire to lead as a possible explanatory construct between more distal and stable leadership predictors (e.g., personality) and more proximal and malleable leadership predictors (e.g., behaviors). Further, this study is beneficial to trait perspectives on leadership in that it also explores orientations toward leadership as a possible moderator as an explanation for the inconsistent results regarding Big-Five personality traits and corresponding motivation to lead factors.

This study also contributes to the growing literature on team leadership (Morgeson et al., 2010; Carson, Tesluk, & Marrone, 2007; Schaubroeck, Lam, & Cha, 2007; Zaccaro et al., 2001), where questions remain regarding how leaders affect team processes. Team leadership models often adopt a functional approach to leadership where leader individual differences are ignored and the actions leaders take are categorized as functional or nonfunctional (Morgeson et al., 2010; Zaccaro et al., 2001). Investigating MTL in a team setting demonstrates the importance of variation in leader inputs (e.g., MTL, OTL) that in turn have an affect on leadership behavior and team processes.

Additionally, by investigating the distinct factors of MTL this research can add to the predictive validity of MTL. The single study that has included MTL in a team design did not include leadership behaviors or team processes in their model (Hendricks & Payne, 2007). A fine-grained look at MTL, leadership behaviors, and team processes contributes by explaining how motivated leaders can influence team functioning (Day,

Gronn, & Salas, 2004). These results can inform organizational decision makers, or team builders, as to which characteristics to look for when selecting team leaders.

Finally, this research contributes to perceptual theories of leadership. By including orientation toward leadership as a moderator, this study can add to the understanding of how differences in individuals' beliefs regarding the nature of leadership affect their leadership aspirations. Including leaders' orientation toward leadership represents a unique contribution in that few studies have explored this variable in individuals who are involved in leadership roles (DeRue & Ashford, 2010; Bedeian & Hunt, 2006; Hinrichs, Wang, Hinrichs, & Romero, in press; Hiller, 2005). Further, the results may prove useful for organizations attempting to understand whether individuals bring certain leadership beliefs to group leadership situations that can affect their ability to influence teamwork in positive directions.

Motivation to Lead Model

The Big-Five predictors selected for this study were based on recent research involving MTL. Theoretically, distal leadership traits are proposed to affect more proximal leadership variables, such as MTL (Ng, Ang, & Chan, 2008; Kanfer, 1990). Because this type of motivation affects individuals, groups, and organizations, it is important to clarify any inconsistencies. I therefore focused only on the relationships that demonstrate a lack of consistency in recent empirical work. Orientations toward leadership are proposed to interact with personality such that the relationships between personality traits and MTL factors are contingent on personal views of the nature of

leadership. I selected OTL moderating factors that are supported based on theoretical leadership research involving personality traits. Clarifying the relationships among the antecedents to MTL help scholars understand the personal complexities a leader brings to a team performance context. Further, I investigated the consequences of MTL in a team context by examining the relationships that the different factors of MTL have with leadership behaviors, leader potential, and team processes.

Elements of teamwork are inherently interpersonal in nature requiring team leaders to direct or empower team action toward task accomplishment (LePine et al., 2008). A recent meta-analysis on team leadership showed that the actions leaders take affect important team (Burke, Stagl, Klein, Goodwin, Salas, Halpin, 2006). The inclusion of relevant leader behaviors in my model help explicate *how* motivated leaders are able to influence teamwork. The extent to which personality traits are predictive of an individual's leadership aspirations is proposed to be contingent on the type and level of their orientation toward leadership. The figure on page 17 is adapted from Chan and Drasgow (2001) and is a comprehensive theoretical framework for understanding the role of individual differences in leader behavior. The moderator OTL is noted in red and represents one contribution of the present study.

Overview of Research Methodology

The sample consists of 425 undergraduates from a large university in the Southwest. Participants were recruited from an undergraduate management survey course and were given extra course credit for their participation. The participants

completed the study in five person teams consisting of four team members and one team leader. Participants worked interdependently in teams (N = 85) on a computer-based tactical decision-making task. The task, called DDD, is a realistic command-and-control simulation where participants own and operate resources (e.g., tanks, helicopters, jets, and radar planes) faced with the task of monitoring a restricted air space for enemy targets. Each participant received a certain combination of these vehicles and no military experience is necessary to excel at the task. Each resource has different power levels and capabilities that allow the operator to identify and subdue enemy targets.

The roles of team member and team leader were determined before the laboratory study was conducted based on random participant sign-up procedures. This ensured that no participants had advance knowledge that they would be placed in a leadership position. It was explained to participants that they will be involved in a study about teamwork. Four team members sign up for a three hour lab session. The team leader participated in a one hour leadership training session and a two hour lab session where they were instructed to lead their team.

The team leaders' MTL and OTL were measured at the beginning of the one hour leadership training session; while team process, team leadership behaviors, leadership potential, and team leader personality variables were assessed during the laboratory session. After completion of the individual differences questionnaire, team leaders were then informed of their leadership role in this study and received separate training on the task and their role as team leader. The team leader's computer station had capabilities allowing them to coordinate activities and receive specific task information

not available to other team members. The team leader's awareness of their exclusive technological capabilities ensured that the leader's role is more than symbolic. During leader training, team leaders were asked to sign up for a team lab session that consists of a full team (i.e., four team members).

When they enter the laboratory, team members were randomly assigned to one of four networked computer stations. At the start of each three hour lab session, team members were trained on the team task by a trained experimenter from a prepared script. Team leaders enter the three hour lab session one hour into the actual session (after the team member training) and are introduced and allowed to interact with team members while the team practices the task.

Summary and Research Questions

Research has shown that individuals, for a variety of reasons that are salient to the individual, vary to the extent to which they are motivated to seek out leadership opportunities and to put forth effort toward and persist in the leadership process (Chan & Drasgow, 2001; Amit et al., 2007; Bobbio & Rattazzi, 2006). It therefore is important to include MTL in the growing intersection of leadership and team research because an individual may have leadership potential and possess characteristics conducive to the emergence of leadership, but no desire to hold a leadership position or demonstrate leadership (Amit et al., 2007; Popper & Mayseless, 2002). Although research involving antecedents to MTL has been helpful, there is very little research that incorporates MTL in a team context or examines its predictive validity (Van Iddekinge et al., 2009;

Hendricks & Payne, 2007). With this in mind, I have developed the following research questions:

1. Theory and empirical results suggest a relationship between personality and motivation to lead. Is this relationship moderated by an individual's orientation toward leadership?

2. Is motivation to lead an important leadership variable with specific dimensions that is predictive of leader behaviors and subsequent team processes?

3. If the second research question is correct, is the relationship between motivation to lead and team processes mediated by leadership behaviors?

4. Is motivation to lead predictive of leadership potential above and beyond leader personality traits? Is the relationship between motivation to lead and leadership potential mediated by team leadership behaviors?

5. What are the relationships between different leadership behaviors and leadership potential and satisfaction with the leader?

Below, I present three figures. Figure 1 depicts the overall research model tested in this dissertation. Figure 2 represents the moderation hypotheses that encompass the first portion of the overall model. Figure 3 is a general theoretical framework developed by Chan & Drasgow (2001) which depicts a comprehensive model of the influence of individual differences on leadership behaviors and group outcomes.

FIGURE 1

Antecedents and Consequences of Motivation to Lead: A General Model of Team Functioning.

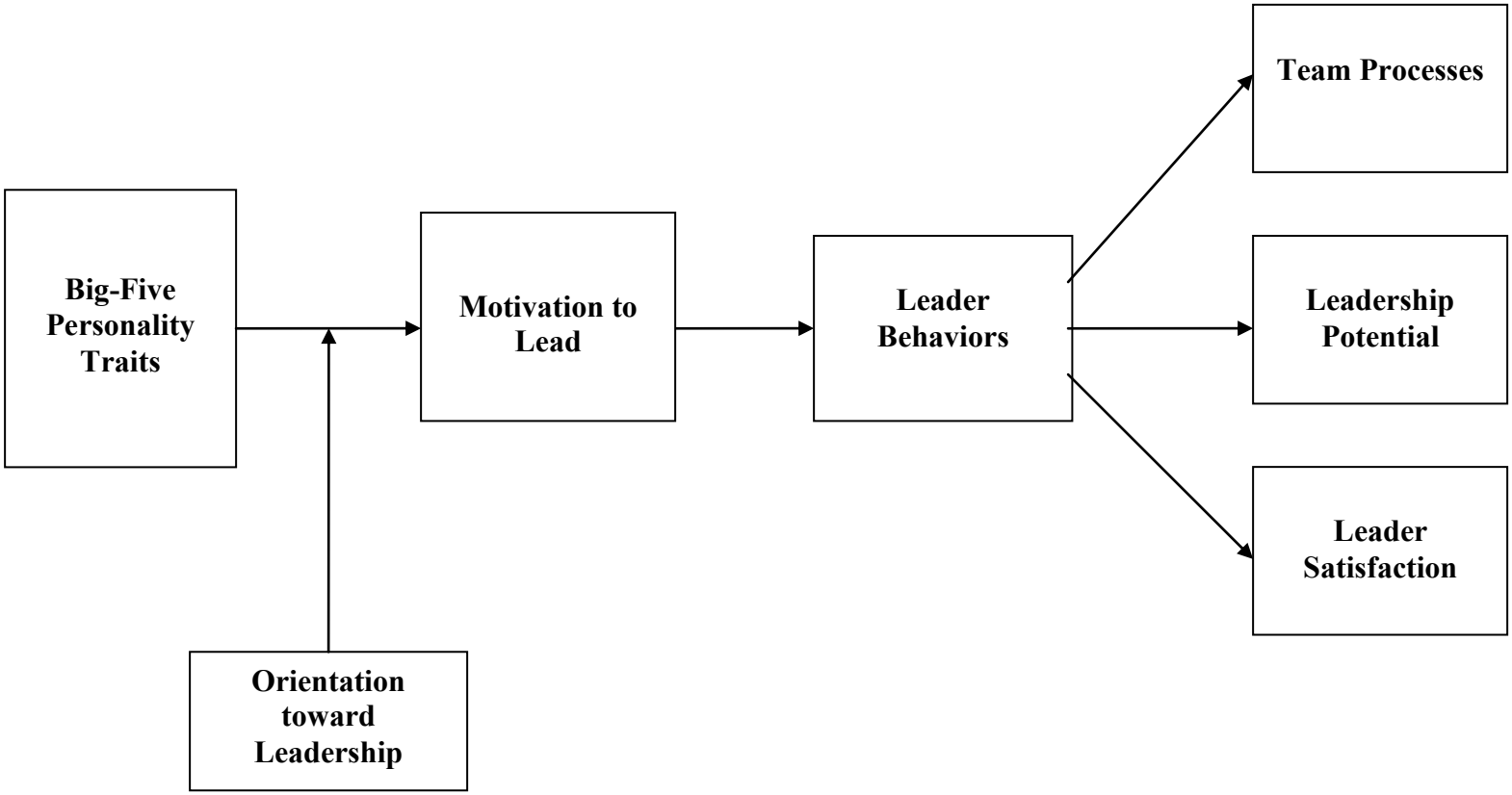


FIGURE 2

Distal Big-Five Predictors and Motivation to Lead Dimensions: The Moderating Role of Orientation Toward Leadership.

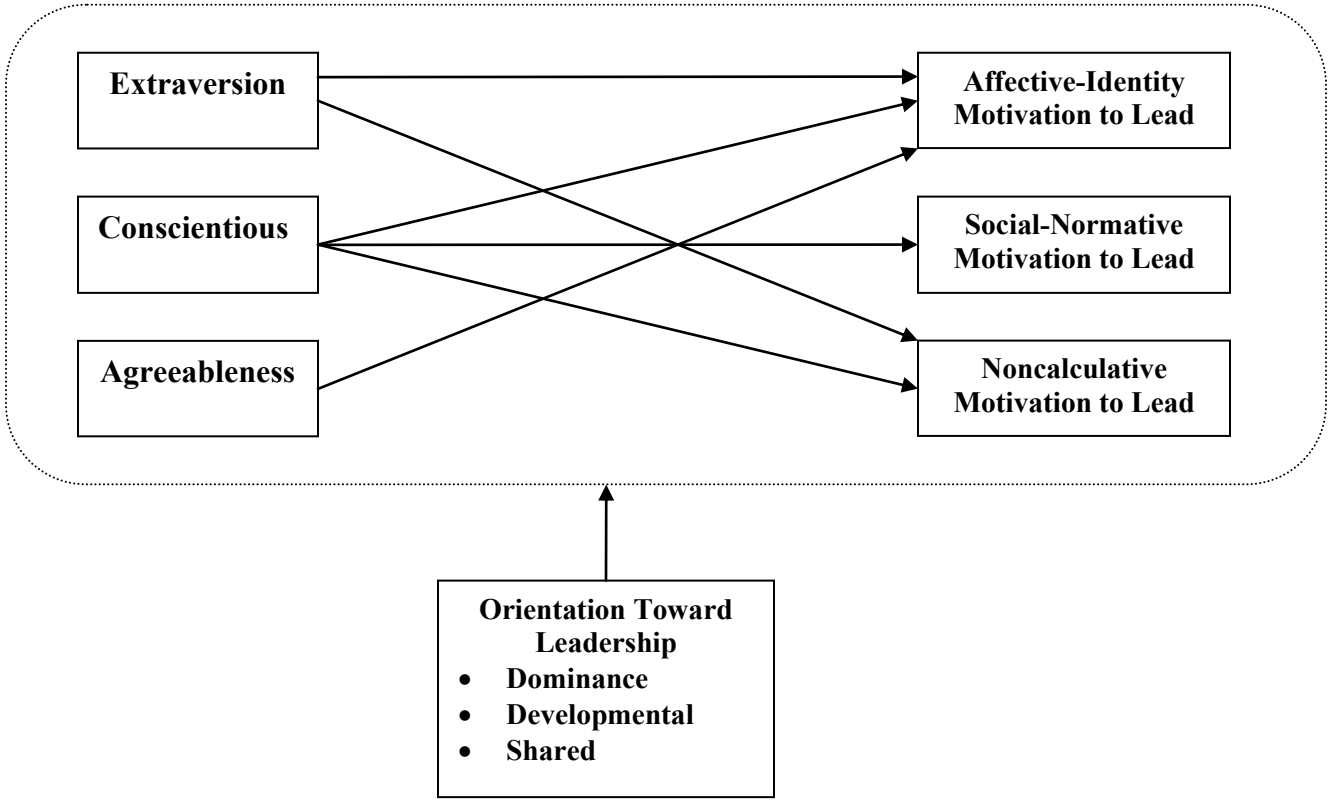
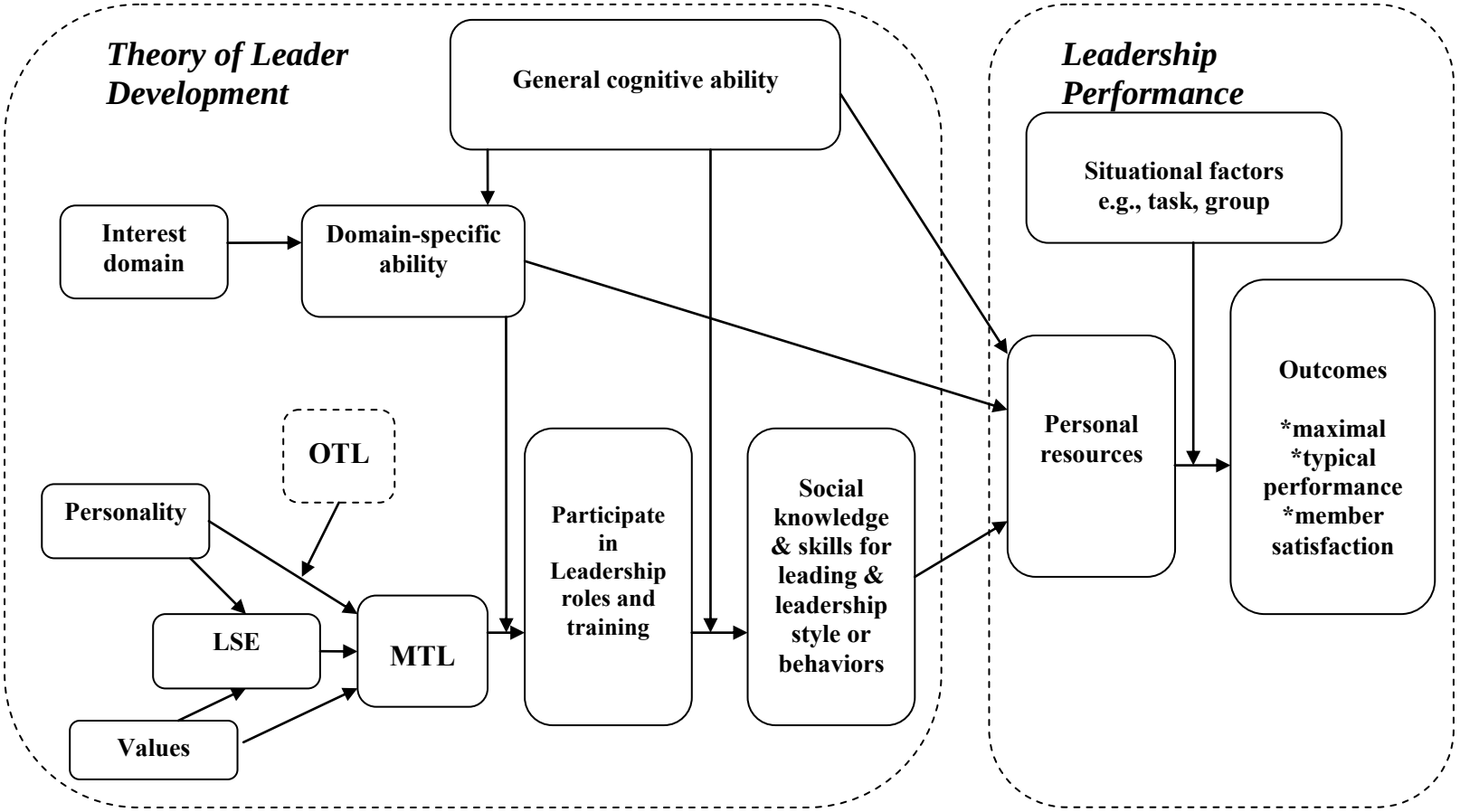


FIGURE 3

A Framework for Understanding the Role of Individual Differences in Leader Behavior.



CHAPTER II

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Teams

Task completion through organized work in teams is, or should be, more effective than individuals working separately. Over the past three decades, teams have emerged as a fixture for structuring organizational work (Mathieu, Gilson, & Ruddy, 2006; Stewart & Barrick, 2000). Empirical and theoretical research has mirrored this emergence with results contributing significant knowledge to the understanding of teams and how they work (Cohen & Bailey, 1997). Teams are defined as "collectives who exist to perform organizationally relevant tasks, share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organizational context…" (Kozlowski & Bell, 2003 p. 334). Teams that accomplish their goals are deemed successful, or effective. However, effectiveness is somewhat subjective because teams function in unique contexts. Early questions regarding teams include whether they are effective or not and what predicts team effectiveness. When answering these questions, team scholars have focused on identifiable variables that are initial distinguishing factors between teams. These variables are labeled as team inputs.

Typically, research has sought to determine which team inputs predict team effectiveness (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). Team composition and member characteristics are compositional inputs often explored as explanations for

variation in teamwork and effectiveness (Mathieu, Maynard, Rapp, & Gilson, 2008; van Knippenberg & Schippers, 2007; Porter, 2005; Barrick, Stewart, Neubert, & Mount, 1998). Demographic heterogeneity or homogeneity, abilities, attitudes, values, status and the functionality of team members represent higher level constructs "as a variance of lower level entity characteristics" and have been the focus of many primary team research designs (Mathieu et al., 2008, p. 433). Team design inputs represent constructs that are assumed to operate at the team level and affect the team equally as a unit (Williams & Allen, 2008). Team design inputs are numerous and include the amount and/or type of task interdependency, team size, technology and virtuality, team training, the structure of the team, and team leadership (Mathieu et al., 2008). Overall, evidence suggests that team design and compositional variables influence teamwork and in turn, effectiveness.

The most common framework for understanding team functioning has been the I-P-O (input-process-output) model based on the pioneering work of Steiner (1972), McGrath (1984), and Hackman (1987). This model is a heuristic for examining teams and suggests that team inputs influence team processes and, in turn, affect important team outcomes (Porter, 2005; Day, Gronn, & Salas, 2004). Recently, scholars have begun to move toward a more dynamic team model that accounts for temporal changes as teams grow and develop (Ilgen et al., 2005). Such a model views a team's more recent outputs as unique inputs toward future team functioning (Williams & Allen, 2008). This development has important implications for advancing the knowledge of long-term team functioning and viability (Ilgen et al., 2005). However, an action or performance team

has a short life span. Thus, the temporal nature of a performance team does not allow for cyclical feedback (Cohen & Bailey, 1997). Theory and research on team leadership is largely based on an I-P-O or similar model, thus I employ an I-P-O model to investigate an important team input variable. In this study, team leaders serve as inputs and the focal input variable is MTL. In turn, MTL is proposed to affect leadership behaviors; a proximal outcome to a leader's motivation (Chan, 1999). This is a unique contribution as the consequences of MTL have yet to be examined empirically.

Research on team inputs has been fruitful and has provided practicing managers with results helpful for team-building and team maintenance. Teams are increasingly employed in organizations and these teams more often than not have leaders (Ilgen et al., 2005). Because the question scholars ask regarding teams has shifted from, "what affects teamwork?" to "can teamwork be enhanced, and if so, how?" – team researchers often turn their attention toward the team leader.

Team Leadership. A team leader can be critical to the success of a team (Day et al., 2004; Druskat & Kayes, 2000). In their review of leadership in teams, Zaccaro, Rittman, & Marks (2001) state that "effective leadership processes represent perhaps the most critical factor in the success of organizational teams" (p. 452). The actions of team leaders have been shown to influence both affective and behavior-based outcomes (Burke et al., 2006). Viewed as a team-level input, team leaders are valuable because they have the ability to influence teamwork activities (e.g., coordination, planning, resource allocation, and conflict management) and team effectiveness (Kozlowski &

Bell, 2003; Mathieu et al., 2008). An important, yet understudied team leadership input variable is MTL. As a type of motivation, Chan describes MTL as a construct capable of capturing "leadership in everyday life" (Chan, 1999). Research often only investigates a leader's motives after important events, such as a crisis, that require leadership or has derived conclusions regarding a leader's motivation based on biographical studies of famous leaders (Amit et al., 2007). Although many insights have been gained, there is little empirical research that examines MTL in a team context which is representative of an 'everyday' leadership event. For example, large accounting firms often hire several new junior associates every year. The new hires assist senior associates in work teams engaged in tasks such as conducting financial audits. After two years with the firm, junior associates are promoted to a senior associate position and assigned a group of new hires to lead. Tasked with the complexities of leading a group, it is reasonable to assume that the newly promoted senior accountants vary in their desire to hold and carry out the team leader role. In support of this assumption, leadership scholars have noted that a leader must be motivated to perform their role effectively (McClelland, 1975; Yukl, 2006; Kark & Van Dijk, 2007; Mast, Hall, & Schmid, 2010). It is reasonable to assume organizations benefit from team leaders who are highly motivated to influence teamwork in positive directions. A detailed examination of team leaders' level of motivation to lead will be helpful for managers who build and maintain teams.

Team leadership research often adopts a functional perspective toward leadership (Hackman & Walton, 1986; McGrath, 1962; Zaccaro et al, 2001). Functional leadership is conceived to be a problem solving role, where it is up to the leader to "do what needs

to be done for effective performance" (Hackman & Walton, 1986, p. 77). Therefore, leadership becomes a process of social problem solving with decision making discretion afforded to the person in the leadership role. Leadership is conceptualized in terms of process solutions and goal attainment where the group is best served by the leader observing which functions are not being handled adequately by the team, or a portion of the team, and taking action to fulfill them (Schultz, 1961).

Although research from a functional perspective is appropriate and timely, I am proposing that before attention is directed away from the leader and toward functions, we should continue to investigate what the leader brings to the team in terms of their motivation (e.g., effort/persistence), their orientations toward leadership, and the leadership behaviors they enact. Research that explores MTL in a team context is noticeably lacking and the validity of MTL in teams is still in question (Van Iddekinge, et al., 2009; Bobbio & Rattazzi, 2006). The single study that incorporated MTL in a team model did not explore leader behaviors or team processes (Hendricks & Payne, 2007). Thus, research utilizing an I-P-O framework (McGrath, 1984; Williams et al., 2008) that includes MTL and leader behaviors can contribute to the development of team leadership models by determining *how* team leaders influence teamwork and ultimately, team effectiveness. The personality antecedents to MTL represent distal leadership constructs that have been shown to have significant effects on more proximal leadership variables such as leadership behaviors (Bono & Judge, 2004; Judge et al., 2002).

The interplay of distal and proximal leadership predictors is complex (Ng et al., 2008; Yukl, 2006; Zaccaro, 2007). A leader contributes many characteristics and

personal perspectives to a leadership situation. As an important team input variable, a more complete understanding of the differences between team leaders is warranted.

***Individual Differences and Leadership*.** The search for traits and characteristics that predict leadership outcomes is extensive. Most recently, scholars have turned toward explicating the leadership outcomes that are affected by traits (Zaccaro, 2007). Traits are defined broadly to include a range of individual attributes that promote cross-situational consistency in leadership behavior, performance, and effectiveness (Day & Zaccaro, 2007). Common outcomes assessed in studies on leadership traits include leader effectiveness, leadership behaviors, leader emergence, leader satisfaction and group effectiveness (Hogan, Curphy, & Hogan, 1994; Hollander, 1992). Personality traits are distal predictors of many leadership outcomes and often operate through more proximal predictors of leadership (Zaccaro, 2007; Yukl, 2006; Judge et al., 2002; Hoffman, Woehr, Maldegan-Youngjohn, & Lyons, 2010). The results of a recent meta-analysis indicate the need for researchers to model both distal and proximal leadership variables when examining effective leadership (Hoffman et al., 2010). The authors found that distal traits and more proximal variables (e.g., behaviors, skills, and knowledge) had similar bivariate relationships with important leadership outcomes. The accumulated knowledge regarding leader individual differences suggests more distal variables (e.g., the Big-Five) affect leadership effectiveness indirectly while more proximal leadership variables affect performance more directly (Chan & Drasgow, 2001; Hughes, Ginnett, & Curphy, 1993; Yukl & Van Fleet, 1992). One important mediating mechanism linking

leadership traits to these leadership outcomes is a leader's motivation to lead. From this perspective, extraversion, a distal leadership trait, affects leadership behaviors through more proximal variables (e.g., MTL) that are more directly related to team or group performance (Judge & Bono, 2000; Burke et al., 2006). This is analogous to the theoretical models involving distal traits and learning outcomes. In a study about individuals' learning motives, it was found that distal variables such as Conscientiousness and goal orientation, affected learning through more a more proximal construct, motivation to learn (Colquitt & Simmering, 1998).

Until recently, the personality trait approach to leadership has often equated personality traits with MTL (Chan & Drasgow, 2001; Hogan et al, 1994; Hollander, 1992). As research on leadership individual differences has developed and matured, the results suggest the need to model both distal and proximal leadership predictors to better understand the effectiveness of team leaders. Empirically, very little is known of motivation to lead and its relationship with team leadership behaviors (Hendricks & Payne, 2007; Popper, 2000). In an attempt to advance the understanding of leadership effectiveness models, I suggest MTL plays an important role in explicating the nature of the relationship between distal and proximal leadership effectiveness predictors.

Motivation to Lead

Motivation refers to complex within-person processes that affect three aspects of behavior: (a) direction; (b) intensity; (c) persistence (Kanfer, 1990). When studying the motivational aspects of behaviors, indication of the specific aspect of that behavior being

predicted is necessary. MTL is defined as a broad area of study of factors or processes that affect a leader's (or leader-to-be's) decisions to be involved in leadership training, roles and responsibilities, his or her intensity of effort at leading, and his or her persistence as a leader of a group (Chan & Drasgow, 2001). Conceptualized this way, MTL is an important proximal leadership and team functioning antecedent. A key assumption underlying this research is that within any group of individuals, one can find individual differences in MTL that are relatively stable over time, save for major interventions or life events.

One of the first comprehensive empirical attempts at explicating leadership desires was introduced by McClelland (1975), using the Thematic Appreception Test (TAT). Based on psychological needs theory, he argued that a successful manager would have a high level of activity inhibition, moderate levels of need for power, and low levels of need for affiliation. The attempt involved the creation of a typology of motives that discriminate between successful and unsuccessful leaders that was much more predictive in large organizations rather than small ones (McClelland & Boyatzis, 1982). McClelland's approach was criticized for using a nonstandard projective tool and deemed psychometrically unsound (Brief, Aldag, & Chacko, 1977). It was further criticized for focusing only on an attempt to find a leadership motive pattern common to all managers rather than examining various profiles of MTL dimensions (Amit et al., 2007). Chan's motivation-to-lead model is a significantly improved empirical, standard-based model that facilitates the examination of different profiles of motivation to lead.

In their attempts to define and understand the concept of MTL, Chan and Drasgow (2001) studied the antecedents of MTL. They proposed various constructs as possible antecedents to MTL, among them personality constructs, general cognitive ability, and sociocultural values, as well as leadership experience and leadership self-efficacy. Because these constructs vary from one individual to another in both intensity and essence, and because they exist in interaction with the environment, they may be expected to form different combinations, and thus different motivations for leadership.

When conceptually developing the three MTL factors, Chan utilized the social-behavior theories of reasoned action (TRA) (Fishbein & Ajzen, 1975) and Triandis's (1980) theory of interpersonal behavior (TIB). The MTL dimensions focuses on three determinants of behavior outlined in these perspectives. These theories state that certain primary structures coalesce to form behavior: values relating to action (affective-identity structure), social norms relating to action (social normative structure), as well as beliefs regarding the results of the action (calculative structure). Chan's assumption was that these theories provide the framework for understanding the psychological structure of motivation to lead. Therefore, through their means, the dominant factors in an individual's desire to lead can be determined. Following this logic, Chan labels the different factors of MTL as affective-identity MTL, social-normative MTL, and. noncalculative MTL. Chan (1999) initially theorized that MTL could be conceptualized as a unidimensional construct ranging from high to low MTL, or as three lower-order factors that describe the different components of leaders' motivations. However, recent

empirical work has demonstrated the distinction of the three MTL factors (Chan & Drasgow, 2001; Amit et al., 2007; Bobbio & Rattazzi, 2006).

Individuals who are high on affective-identity motivation to lead (AIMTL) see themselves as leaders and generally enjoy the leadership process and being a leader. They are sociable and outgoing, are achievement oriented, competitive, have more past leadership experience than their equals, have a high need for power, and possess individualistic values (Bobbio & Rattazzi, 2006; Chan & Drasgow, 2001). AIMTL has been associated with Extraversion in several studies that have explored antecedents to MTL (Van Iddekinge et al., 2009; Hendricks & Payne, 2007; Chan & Drasgow, 2001).

Individuals with high levels of social-normative motivation to lead (SNMTL) feel obligated to lead; they believe it is their social duty and are motivated by a sense of community. Amit et al. (2007) found that individuals who rated high in SNMTL also scored high on collectivist values. Chan & Drasgow (2001) stated that these individuals are "accepting of social hierarchies, but rejecting of social equality" (p. 492). SNMTL has been found to be associated with Conscientiousness, Agreeableness and selected leadership development activities (Chan & Drasgow, 2001; Van Iddekinge et al., 2009; Bobbio & Rattazzi, 2006; Hartman et al., unpublished manuscript).

Individuals are said to possess high levels of noncalculative motivation to lead (NCMTL) when they are motivated to lead without worry of the personal sacrifices they make for leading the group. Such people may only be motivated lead if they do not calculate the costs (Chan, 1999). Noncalculative motivation to lead operates on a continuum ranging from highly calculative to virtually no calculation of the leadership

role's costs. The focus is on the noncalculative element because, according to Chan, every leadership opportunity involves sacrifices and if the sacrifices are not calculated, it heightens the probability of desiring a leadership opportunity. The other end of the continuum is the calculative, rational approach to leadership where it is assumed, when calculated, the sacrifices outweigh the benefits and act as a de-motivator (Chan, 1999). Chan and Drasgow (2001) found that the noncalculative dimension of motivation to lead showed no association with past leadership experience, yet was positively associated with agreeableness, emotional stability and collectivist values. Additionally, recent research has shown NCMTL is positively associated with displacing responsibility for ethical behavior onto a leader or supervisor (Hinrichs, Wang, Hinrichs, & Romero, in press). Other research has also shown that NCMTL was significantly associated with socially desirable answers (Bobbio & Rattazzi, 2006).

A key assumption of this perspective, as noted by Chan, is that noncognitive ability constructs (e.g., personality, values, and beliefs) relate to leadership behaviors through an individual's MTL and in turn, MTL affects an individual's effort and persistence in leadership events which in turn affects their participation in leadership activities and roles. Through these activities, individuals acquire social abilities, useful experiences and their leadership style. A key proposition of Chan's model maintains that leadership ability and leadership style are learned and that MTL can change over the course of life. A full model of these propositions is contextualized into an Integrative Theory of Leadership Behavior (see Chan & Drasgow, 2001). As the more proximal antecedent to leadership behavior, MTL is an important construct affecting the

leadership process in group settings (Hendricks & Payne, 2007). In this study, I suggest another related social-cognitive construct—orientation toward leadership—as a possible moderator to the personality→MTL relationship. The direct effect of the Big-Five personality traits on the MTL factors is supported by empirical research and is reviewed below (Hendricks & Payne, 2007; Chan & Drasgow, 2001).

***Selection of Relevant Personality Constructs and MTL Factors*.** In their initial investigation of the antecedents to MTL, Chan & Drasgow (2001) employed the Big-Five personality taxonomy to explore individual differences in MTL. The Big-Five taxonomy has emerged as an accepted way to organize and describe the more salient aspects of an individual's personality (Goldberg, 1990). More recent research has attempted to replicate the relationships between Big-Five personality factors and MTL (Hendricks & Payne, 2007; Van Iddeking et al., 2009). Although many significant relationships have been uncovered, several of these relationships remain inconsistent. One purpose of the present research is to examine these ambiguous relationships and explore possible moderation effects. Before discussing any moderating effects, I will summarize the relationships between the Big-Five personality constructs and the three factors of MTL.

Extraverts are sociable, energetic, dominant and talkative and not surprisingly, extraversion has been positively associated with leadership emergence in leader-less group settings (Foti & Hauenstein, 2007; Taggar, Hackett, & Saha, 1999). The characteristics of extraverts (e.g., sociable, dominant) complement the social aspect of

leadership duties (House & Howell, 1992). These results suggest that extraverts enjoy leading others and that other people attribute leadership to extraverted individuals (Lord, Foti, & DeVader, 1984). Extraversion has been show to be related to AIMTL, SNMTL, and NCMTL. Studies have found the relationship between Extraversion and SNMTL to be uniformly positive; however, however studies testing the relationship between Extraversion and AIMTL, and Extraversion and NCMTL have yielded ambiguous results. The magnitude of the effects of Extraversion on AIMTL range from moderate to strong and have been found to be positive. Similarly, investigations of the relationship between Extraversion and NCMTL also resulted in positive effects that range from insignificant to strong. Consequently, in this study I will focus on the relationships between Extraversion, AIMTL and NCMTL.

Conscientiousness has been examined in the leadership domain with regularity (Zaccaro, 2007; Bono & Judge, 2000; Kirkpatrick & Locke, 1991). Conscientious individuals are achievement-striving, performance-oriented and have a strong sense of direction. Additionally, they have been found to be well organized, cautious, disciplined and hard working (Costa, McCrae, & Dye, 1991; Judge & Ilies, 2002). Conscientiousness has been associated with all three factors of MTL. Correlations between Conscientiousness and each of the three MTL factors are ambiguous, ranging from near-zero and insignificant to positive and strong in magnitude.

Agreeableness has been found to be associated with a cooperative and trusting nature and the tendency to be kind, generous, and concerned for others (Judge & Bono, 2000; Graziano, Jensen-Campbell, & Hair, 1996). Individuals who are agreeable tend to

be friendly, easy-going, helpful, and value harmony and cooperation. Agreeable leaders are perceived to be more approachable by subordinates (Hogan & Shelton, 1998). Agreeableness has been found to be positively associated with transformational leadership behaviors and aspects of charisma (e.g., compassion, nurturance). Agreeableness is also related to all three MTL factors, although the relationship with AIMTL has not provided consistent results and thus will be included in the moderation analysis.

In the small amount of studies that have explored the relationship between Emotional Stability and the three MTL factors, the effects have ranged from small and negative to positive and moderate in size. Scholars have noted that self-esteem, an indicator of emotional stability (Eysenck, 1990), is predictive of leadership (Judge, Erez, Bono, & Thoresen, 2002). Research has shown a strong association between Emotional stability and high self-esteem and high general self-efficacy (Judge et al., 2002). Although, the correlations between Emotional stability and the various factors of MTL show evidence for moderation, it is not likely that these relationships are affected by OTL. There is no theoretical justification to believe that an emotionally stable individual would be more or less motivated to lead if they held different orientations toward leadership. In support of this, Hiller (2005) found self-confidence in leadership was unrelated to the three OTL factors. This suggests that seeing the self as a leader is essentially unrelated to an individual's belief in the nature of leadership (orientation toward leadership).Therefore the relationship between Emotional Stability and MTL will not be examined in this study.

Openness to Experience has shown uniformly positive associations with the three factors of MTL and will not be a focus of this study. A detailed explanation is provided after the moderator variable is discussed. Next, I review the literature on orientations toward leadership and hypothesize relationships on the moderating effects of personality and orientations toward leadership on motivation to lead.

***Orientations toward Leadership*.** Scholars have begun to understand that distal leadership variables are differently related to more proximal leadership variables and should be modeled appropriately (Hoffman et al., 2010). The relationships summarized above demonstrate that stable personality traits can have a wide range of effects with MTL; a more proximal construct to a leadership event (Rost, 1997). For example, the relationship between agreeableness and AIMTL suggests agreeable individuals desire leading and enjoy it for its own sake (Chan & Drasgow, 2001). However, the accumulated results also suggest that this relationship is not uniform and positive. One possible explanation for the lack of consistent results is that individuals differ in their belief of what leadership is and these differences explain variance in MTL. I propose that the inconsistent relationships between the Big-Five personality constructs and MTL factors outlined above are moderated by an individual's orientation toward leadership (OTL). As organizations increasingly employ flatter structures, traditional concepts of leadership are questioned as evidenced in team empowerment research (Kirkman & Rosen, 1999; Manz & Sims, 1987). Although many organizations take an empowerment approach toward teamwork, the teams often remain accountable to a formal team leader.

Individuals assigned to a formal team leadership position bring a mix of personality characteristics and beliefs that can affect their desire to lead and leadership approach (Day et al., 2004; Zaccaro et al., 2001).

OTL is a multi-dimensional construct that describes how individuals differ in their views of what constitutes (effective) leadership and that the different dimensions have implications for the leadership process (Hiller, 2005; Drath, 2001; Cohen & March, 1974). Labeled leadership-structure schemas by some scholars (DeRue & Ashford, 2010), empirical research on leadership orientations is in its early stages. Scholars have pointed out that even leadership research itself, with its many perspectives and paradigms, is evidence that individual scholars differ significantly in their views of the nature of leadership (DeRue & Ashford, 2010; Bedeian & Hunt, 2006). An empirical analysis of the leadership orientations of individuals tasked with leading a team may help explicate why differences exist in the motivation levels of team leaders. A leadership orientation is a knowledge principle, or a set of ideas and rules about the nature of reality, in this case leadership, that are taken for granted to be true by the individuals in possession of them. A leadership principle is difficult and slow to change because individuals do not easily detach themselves from a way of making sense of an important topic such as leadership (Drath, 2001; Weick, 1995).

The OTL construct was developed in response to deficiencies in the measurement of implicit leadership theory (ILT). ILT states that every individual holds an implicit theory of leadership or what traits, skills, and styles prototypical leaders possess. Individuals categorize leaders by “sizing them up” based on these

characteristics and this affects the extent to which the leader is seen as transformational, or effective (Epitropaki & Martin, 2007; Lord, Foti, & DeVader, 1984). The conclusion is that leadership is not an objective phenomenon, but is subject to individual interpretation. Research on ILTs has been largely supported empirically, but as some have suggested, the measurement of ILT is problematic (Miner, 2005; Hiller, 2005; Yukl, 2006). The argument is that ILT claims to measure leadership theories, but the measures are actually assessing individuals' perceptions of traits related to prototypical leaders, rather than what an individual's personal perspective of what leadership means. This is an important distinction between similar concepts, yet little empirical research exists that examines a leaders' OTL and its impact on motivation and behaviors.

The OTL construct is comprised of three dimensions. The first orientation, dominance, views leadership as something possessed by individuals based on their position, their characteristics, or both (Hiller, 2005). In this approach, leadership is seen as a top-down function where followers are directed by leaders. Further, leaders are seen as born, not made and are different than followers. While control and power are evident in this perspective, it is not equated with complete domination of others. Rather, designated leaders (i.e., formal) are seen as the source of leadership and followers as receivers of leadership. Drath (2001) states that the personal dominance perspective is how leadership has been viewed by most people throughout history (i.e., the Great Man approach).

A developmental OTL is a way of understanding leadership that actively involves followers in the process of negotiating influence (Drath, 2001). In this principle

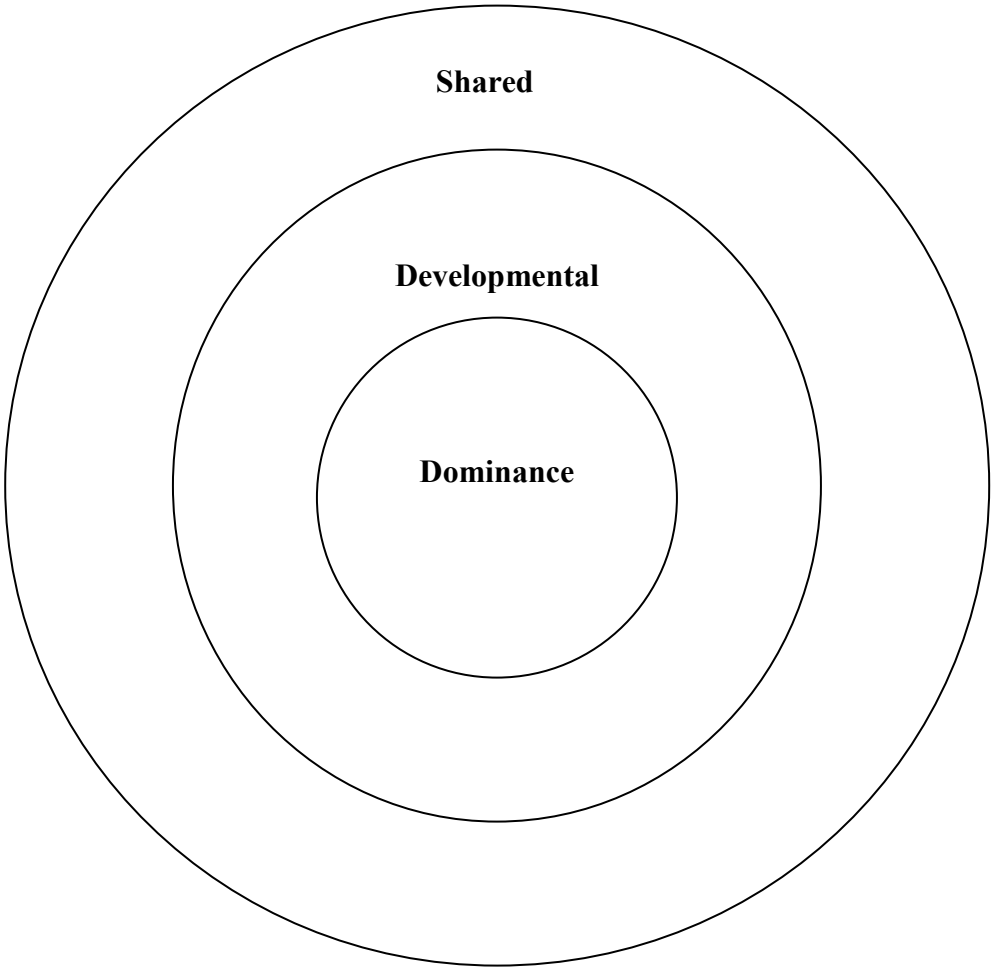
people can develop certain skills and qualities that enable them to be more effective in a leadership role. Leaders lead by influencing followers more than followers influence leaders. An individual that holds a high developmental OTL rejects the notion of the great man theory of leadership (Hiller, 2005). Theoretically, the developmental approach to leadership was constructed in response to the limitations, historical or otherwise, of the Dominance approach. According to Drath, this principle is conceptually similar to transformational leadership theory. Although this approach values the formal position that a leader occupies and understands that leadership still emanates from this position, it does not assume that leadership is devoid of a hierarchy.

A much different orientation toward leadership is described as a shared OTL. The focus here is on the process of leadership and this process fully involves other individuals in the group. Leadership is seen as a shared process of meaning-making where leadership is a property of the group or social system and not held by any one individual (Hiller, 2005). The tasks of leadership become the responsibility of the group because it is understood that the complexities of modern leadership are too much for one individual to manage (Drath, 2001).Those with a shared orientation may accept the role of leader believing that more than one individual in a group can emerge to lead or influence the group toward goal attainment (DeRue & Ashford, 2010). In a study involving leadership beliefs, a shared OTL was negatively associated with followers' propensity to displace responsibility for their own unethical behavior onto leaders (Hinrichs et al., 2010) suggesting varying leadership orientations have practical implications for practicing managers.

Although a low dominance OTL and a high developmental (or high shared OTL) seem analogous, they are treated as separate continuums. These orientations are not, however, completely mutually exclusive. The three factors have been conceptualized as three concentric rings with dominance in the center, developmental surrounding dominance, and shared encompassing developmental (see Figure 4). Drath (2001) theorized that when an individual holds a developmental OTL it does not prevent them from understanding the dominance view of leadership. Similarly, a shared OTL views leadership as a collaborative process yet understands and acknowledges the dominance and developmental approaches to leadership. This does not, according to Drath, work in the opposite direction. Theoretically, an individual with a wider understanding of leadership (e.g., shared) is able to understand and appreciate the narrower understandings of leadership as an approach to leadership, rather than the only approach (Hiller, 2005). Conversely, a dominance OTL is unable to understand the wider approaches or views them as something different, irrelevant, or unnecessary. Conceptualized this way, holding a shared OTL does not necessarily deny the utility of other leadership approaches. Overall, the shared, rather than the dominant leadership orientation, corresponds with increased cognitive complexity regarding leadership (Hiller, 2005). In this study, differences in a team leader's OTL are proposed to interact with personality traits to affect the extent to which that individual is motivated to lead. Next, I develop moderation hypotheses around personality, OTL and MTL.

FIGURE 4

The Three Dimensions of Orientation toward Leadership.[a]



[a] (Adapted from Drath, 2001; Hiller, 2005)

Antecedents to Motivation to Lead – Moderation Hypotheses

Extraversion → MTL. Studies testing the relationship between Extraversion and AIMTL, and Extraversion and NCMTL have yielded ambiguous results. The magnitude of the positive effects of Extraversion on AIMTL range from moderate (Van Iddeking et al., 2009) to strong (Chan & Drasgow, 2001; Hendricks & Payne, 2007). Similarly, investigations of the relationship between Extraversion and NCMTL resulted in positive effects that range from insignificant (Chan & Drasgow, 2001) to strong (Hendricks & Payne, 2007). Extraverts are described as gregarious, social, active, assertive, talkative, upbeat, optimistic and energetic. They seek excitement and social attention (Paunonen & Ashton, 2001). Extraversion is strongly related to social leadership (McCrae & Costa, 1997) and emergence in leaderless group settings (Foti & Hauenstein, 2007). Extraversion may be related to leadership because extraverts talk more and talking is strongly related to emergent leadership (Bass, 1990). An extravert may be more likely to be motivated to lead for affective reasons when they view leadership from a personal power perspective. Individuals who hold a high dominance OTL view leadership as a personal quality that individuals possess. Leaders lead and followers follow because they are convinced of the truth of an individual's leadership (Drath, 2001). When an extravert holds a high dominant orientation toward leadership they may view their involvement in leadership with more zeal. In relation to Extraversion, dominance connotes initiative in social settings, being socially engaging, stimulation of social interaction, as well as being humorous (House & Howell, 1992). These characteristics suggest that extraverts possess qualities that dominate in social context, yet do not necessarily connote aggressive or

abusive dominance (Judge & Bono, 2000). Research results suggest that similarities between Extraversion and the dominance factor of OTL will affect the relationship between Extraversion and AIMTL such that it is stronger when extraverts hold a high dominance OTL.

An extravert low in dominance OTL may still be motivated to lead and enjoy leading for its own sake however, the relationship will not be as strong as in someone with high dominance OTL. Low dominance OTL suggests that leadership is not believed to emanate from the personal qualities of the leader. When leadership is constructed without reliance on the personal qualities of the leader, an extravert understands that their own characteristics will not be the source of influence, thus making the leadership role seem less enjoyable.

> *Hypothesis 1: The relationship between Extraversion and Affective-identity motivation to lead will be moderated by Dominance orientation toward leadership such that the relationship will be more positive (STRONGER) among leaders with high levels of Dominance and less positive (WEAKER) among leaders with low levels of Dominance.*

Watson and Clark (1997) suggested that positive emotionality is at the core of extraversion – extraverts experience and express positive emotions. Because they are positive, ambitious, and influential, they are likely to generate confidence and enthusiasm in their followers (Bono & Judge, 2004). Extraverts may be better leaders due to their expressive nature or the contagion of their positive emotions (Bass, 1990). Scholars suggest that leaders, compared to non-leaders, tend to have high levels of

energy and stamina and are more active, lively, and restless (Kirkpatrick & Locke, 1991). It has been demonstrated that among the Big-Five personality constructs, Extraversion has the strongest relationship with transformational leadership (r=.24). Drath (2001), in his description of the orientation toward leadership factors, stated that the developmental factor is conceptually similar to transformational leadership. The development and influence of group members is descriptive of transformational leadership and a developmental leadership orientation. Consequently, it would be expected that having a developmental OTL would strengthen the relationship between extroversion and AIMTL. Extraverts with low levels of developmental OTL do not view leadership as a process of negotiated influence between leader and follower. Leadership is not something that can be developed or enhanced within an individual thus designating them as more leader-like. It is possible that an extravert who has a low level of developmental OTL may view a leadership opportunity with less enthusiasm. The energy they expend in the leadership role and their expectancy that they can influence and develop followers is likely to be diminished. In effect, not holding a developmental OTL may make the leadership role less desirable and less of an enjoyable experience.

> *Hypothesis 2: The relationship between Extraversion and Affective-identity motivation to lead will be moderated by Developmental orientation toward leadership such that the relationship will be more positive (STRONGER) among leaders with high levels of Developmental and less positive (WEAKER) among leaders with low levels of Developmental.*

Extraversion has a long history as a predictor of leadership outcomes (Bono & Judge, 2004). However, little is known about why extraverts are motivated to assume leadership positions because leadership roles are associated with many personal burdens (Judge et al., 2004; Yukl, 2006). The notion of sharing the leadership role with group members is opposite the tendency of extraverts to be sociable and dominant in a group or team setting. Further, the distributed communication process in a shared leadership situation could act to mute an extroverted leader and weaken their willingness to provide direction to the group. Affective-identity motives describe an individual who is interested in leading because leadership is an enjoyable task for them (Chan, 1999). If leadership is viewed as a shared process where leadership functions and decision making are transferred to group members, the leadership role may be less enjoyable and thus, less desirable to an extravert. Alternatively, a low shared OTL suggests that leadership is not viewed as a property of the group. An extravert with a low shared OTL may be more likely to lead for affective reasons because it is not believed that their leadership efforts will be diffused across the team.

Further, extraverts may be more likely to calculate the costs of leadership (i.e., low-level of NCMTL) when they view the leadership process as shared. When an individual has a high shared orientation toward leadership, they believe that leadership is the property of the group and not the sole possession of the leader (Hiller, 2005). Consequently, it is possible that an extraverted individual who holds a high shared OTL views the cost of assuming the leadership role as outweighing the benefits of the process, particularly if the rewards and recognition are shared. Alternatively, it may be likely that

extraverts do not calculate the costs of leadership as much when they hold low shared OTL. This assumes that individuals still view leadership as somewhat hierarchical making the leadership situation one where it is easier for their personality to be expressed (Tett & Burnett, 2003). Therefore, I expect the positive relationships Extraversion has with AIMTL and NCMTL will be lower when extraverts hold a shared orientation toward leadership.

> *Hypothesis 3: The relationship between Extraversion and Affective-identity motivation to lead will be moderated by Shared orientation toward leadership such that the relationship will be less positive (WEAKER) among leaders with high levels of Shared and more positive (STRONGER) among leaders with low levels of Shared.*

> *Hypothesis 4: The relationship between Extraversion and Noncalculative motivation to lead will be moderated by Shared orientation toward leadership such that the relationship will be less positive (WEAKER) among leaders with high levels of Shared and more positive (STRONGER) among leaders with low levels of Shared.*

Conscientiousness → MTL. The inconsistencies among Conscientiousness and AIMTL are wide-ranging. In one study, Chan & Drasgow (2001) reported a nonsignificant effect of 0.09, similar in size to Hartman et al.'s correlation of 0.14. Other studies have found strong effects (e.g., 0.60; Van Iddeking et al., 2009). Although positive in direction, research that can establish why an individual is highly motivated to lead, as opposed to slightly motivated to lead, is valuable. Conscientious individuals are described as individuals with a strong sense of direction who work hard to achieve goals.

They are cautious, deliberate, well organized and self-disciplined. In supervisory roles, conscientious individuals are better able to define and deliver on their contracts with others because of their integrity and work ethic (Hogan et al., 1994). They may be more willing to aspire to leadership positions for affective reasons because they enjoy the accomplishments that accompany leadership positions, as well the ability to direct work and organize with authority. If a conscientious individual holds a dominant view of leadership, they view leadership as personal power – the leader is the source of leadership and the followers are the receivers of leadership. AIMTL is a type of motivation emanating from the valances associated with leadership and the positive emotions generated when one leads others (Chan & Drasgow, 2001). A conscientious individual possessing a dominance OTL may be more motivated to lead because they presume that in their role as leader, others will comply with their requests when their direction is set forth. As mentioned above, conscientious individuals like to stay organized, work hard, and have a strong sense of direction. Thus, it is likely that the more a conscientious individual believes personal power is synonymous with leadership, they more they desire to lead. The leadership process would be enjoyable in this sense because with a dominance perspective, it is more likely that the group will work toward accomplishing the leader's agenda. When a conscientious individual does not hold a dominance OTL (i.e., low dominance OTL), they are less likely to believe that their possession of a leadership role will translate into compliance by followers.

> *Hypothesis 5: The relationship between Conscientiousness and Affective-identity motivation to lead will be moderated by Dominance orientation toward leadership such that the relationship will be more positive (STRONGER) among*

leaders with high levels of Dominance and less positive (WEAKER) among leaders with low levels of Dominance.

The strong sense of direction that is characteristic of conscientious individuals is likely to conflict with a shared OTL. Conscientious individuals may be less likely to be motivated to lead for affective reasons when they hold a high shared OTL. One assumption of a shared OTL is that individual people do not possess leadership; leadership happens when people participate in collaborative forms of ideas and action (Drath, 2001). Because conscientious individuals are cautious, deliberate, and well organized, the notion of sharing the leadership process with other group members may be viewed as a situation where the enjoyment of the leadership process (i.e., directing the group's efforts) is partially absent. This is consistent with trait activation theory which suggests personality traits require trait-relevant situations for their expressions to be realized (Tett & Burnett, 2003). Sharing of the leadership role and responsibilities may thwart their desire to lead and set a direction for the group to work hard and achieve group goals. Although the relationship between conscientiousness and AIMTL is likely still positive when holding a high shared OTL, it may not be as strong.

Hypothesis 6: The relationship between Conscientiousness and Affective-identity motivation to lead will be moderated by Shared orientation toward leadership such that the relationship will be less positive (WEAKER) among leaders with high levels of Shared and more positive (STRONGER) among leaders with low levels of Shared.

Conscientiousness is further related to leadership because conscientious individuals have integrity and engender trust (Hogan et al., 1994). They also excel at the process aspect of leadership, such as setting goals, staying on task, and have the initiative to persist at this process. Conscientiousness is related to overall job performance (Barrick & Mount, 1991), which suggests that as a leader it would be related to leadership effectiveness (Bono & Judge, 2004; Hogan et al., 1994). However, there is no reason to believe conscientious individuals would demonstrate vision or encouragement, which is central to a developmental OTL. In support of this, Conscientiousness was found to be unrelated to transformational leadership behaviors (Judge & Bono, 2000). Scholars suggest however, that conscientious individuals are goal and detail oriented. Bass noted that, "Task competence results in attempts to lead that are more likely to result in success for the leader and effectiveness for the group…" (p. 109). Scholars have also noted that initiative and persistence are related to leadership and that leaders must be tireless in the follow through of their activities (Kirkpatrick & Locke, 1991). Research investigating the relationship between conscientiousness and NCMTL has found (positive) nonsignificant to moderate effects (Chan & Drasgow, 2001; Hartman, Allen, & Karriker, unpublished; Hendricks & Payne, 2007). A person with a NCMTL would agree to lead others even when there are no special benefits or rewards for doing so (Chan & Drasgow, 2001; Hartman et al., unpublished). Because conscientious leaders are deliberate, achievement oriented, and well organized they value the process aspect of leadership. The focus on process suggests that they are more likely to calculate the costs of leading when their concept of leadership is

developmental. The responsibility associated with developing and nurturing group members, instilling a vision, and maintaining relational harmony could be seen as a disruption to the process aspect of leadership, therefore it is more likely the costs associated with leading would be calculated. With a developmental OTL, the costs outweigh the benefits associated with leadership and it is therefore less desirable.

> *Hypothesis 7: The relationship between Conscientiousness and Noncalculative motivation to lead will be moderated by Developmental orientation toward leadership such that the relationship will be less positive (WEAKER) among leaders with high levels of Developmental and more positive (STRONGER) among leaders with low levels of Developmental.*

The inconsistent results surrounding Conscientiousness and SNMTL are also of interest. The strength of that relationship may be affected by OTL such that the relationship may be stronger when conscientious individuals hold a dominance OTL. Research has shown that SNMTL is associated with collectivism, which supports the idea that individuals who rate high in SNMTL may assume leadership roles for 'the good of the group'. Such individuals may be offered leadership roles because of their hard-working, dependable nature – a characteristic of conscientious individuals. Chan theorized that individuals who rate high on SNMTL are "accepting of social hierarchies, but rejecting of social equality" (Chan & Drasgow, 2001, p. 492). This suggests that individuals who rate high on SNMTL may tend to view social situations as hierarchical and perceive leaders as a necessary stimulant for group activity. Consequently, when presented with a leadership opportunity, a conscientious individual may be more willing

to lead when they believe the role requires them to take a top-down, hierarchical approach to leading. A conscientious team leader is likely to be performance oriented and task focused (Bass, 1990). With a belief that group members are passive recipients of leadership, a conscientious team leader may conclude that their position power places unique responsibilities on them to direct the team's efforts and therefore are more likely to 'step up to the plate' and assume a leadership role.

> *Hypothesis 8: The relationship between Conscientiousness and Social-normative motivation to lead will be moderated by Dominance orientation toward leadership such that the relationship will be more positive (STRONGER) among leaders with high levels of Dominance and less positive (WEAKER) among leaders with low levels of Dominance.*

Agreeableness → MTL. Agreeableness represents the tendency to be cooperative, trusting, gentle, and kind (Graziano & Eisenberg, 1997). Individuals high in agreeableness avoid conflict and are concerned with the development and growth of individuals (Bono & Judge, 2004). The cooperative nature of agreeable individuals has been shown to be related to leadership (Bass, 1990). Zaccaro et al., (1991) found that interpersonal sensitivity, a characteristic of agreeable individuals, was related to leadership. In a meta-analysis, Agreeableness was related to transformational leadership and more specifically, charisma (Judge & Bono, 2000). This is consistent with the notion that charismatic leaders are described as trusting, empathetic, and compassionate, which are characteristics of an agreeable nature. This would lead one to believe that leaders should be agreeable. A leader has the opportunity to be helpful to others and more

agreeable individuals may be motivated to lead because helping others is enjoyable (Judge et al., 2002). For agreeable individuals, the enjoyment of leading is likely to stem, in part, from their ability as leader to be helpful and developmental. It follows that an agreeable individual who views leadership as a developmental process would be more likely to lead for affective reasons. The lack of a developmental OTL may suggest to them that leadership is void of developmental opportunities. This may lead to the individual devaluing the leadership role and therefore the relationship with AIMTL will be lower.

Of all the personality traits, Agreeableness is the most predictive of the quality of teamwork (i.e., team member interaction) and team performance (Mount, Barrick, & Stewart, 1998). This suggests that agreeable leaders have the skills necessary to build consensus and collaboration, which is a goal of shared leadership (Pearce et al., 2003). According to trait activation theory, holding a shared OTL may strengthen the emotional desire to lead (i.e., AIMTL) because it allows an agreeable individual the context to activate characteristics (e.g., collaboration) that match the cues of the situation (e.g., the need for shared leadership). The lack of a shared OTL may lead to a devaluation of the leadership role. An agreeable individual who does not view leadership as a property of the group may perceive a leadership situation with apprehension because there may be less of an opportunity to collaborate with the group.

> *Hypothesis 9: The relationship between Agreeableness and Affective-identity motivation to lead will be moderated by Developmental orientation toward leadership such that the relationship will be more positive (STRONGER) among*

leaders with high levels of Developmental and less positive (WEAKER) among leaders with low levels of Developmental.

Hypothesis 10: The relationship between Agreeableness and Affective-identity motivation to lead will be moderated by Shared orientation toward leadership such that the relationship will be more positive (STRONGER) among leaders with high levels of Shared and less positive (WEAKER) among leaders with low levels of Shared.

The collective nature of agreeable individuals is likely to conflict with a dominant orientation toward leadership. As noted earlier, people with a dominant orientation view leaders as fundamentally different from subordinates in that they possess leadership and use their power to gain compliance. Viewing leadership as a source of social distance may weaken the positive relationship between agreeableness and AIMTL. Agreeableness is also associated with modesty and need for affiliation – two characteristics that have been found to be negatively associated with leadership (Bass, 1990; Yukl, 1999). Agreeableness may be less related to leadership than other personality traits because it is both a hindrance and a help; they tend to be passive and compliant, but are likeable and empathetic as well (Bass, 1997). Additionally, leaders sometimes have to make unpopular decisions that could be resented by team members resulting in conflict and dissention. Agreeable individuals may want to avoid being in positions where their actions could alienate others and therefore do not demonstrate a strong desire to lead if their notion of leadership stems from personal power.

Alternatively, not holding a dominance OTL may strengthen the relationship between Agreeableness and AIMTL. A low dominance OTL suggests that an individual believes leadership involves collaboration and relationship-building. That is, the leadership process involves the followers and understands that leadership is not completely top-down in nature. Therefore, a low dominance OTL should lead to higher levels of AIMTL.

> *Hypothesis 11: The relationship between Agreeableness and Affective-identity motivation to lead will be moderated by Dominance orientation toward leadership such that the relationship will be less positive (WEAKER) among leaders with high levels of Dominance and more positive (STRONGER) among leaders with low levels of Dominance.*

Consequences to Motivation to Lead

***Leadership Behaviors*.** As reviewed above, leadership traits have been a popular topic of study for researchers interested in the leadership influence process. As research moved beyond traits, empirical investigations of the actions leaders take, or the behaviors enacted, grew in both popularity and support (Yukl & Van Fleet, 1992). The idea that leaders are born, not made, or that leadership is reserved for few individuals has largely not been supported by empirical evidence (Zaccaro, 2007; Bennis, 2007; Hoffman et al., 2010). Leadership behaviors represent skills that can be developed, managed, and maintained; they provide explanations as to why some leaders are more effective than others (Zaccaro, 2007; Burke et al., 2006; Bass, 1990). This is important because team leaders are quite influential with regard to the quality and quantity of

teamwork (Day et al., 2004). As an input to team processes, it is contingent on the team leader, when formally appointed, to be motivated to create and maintain an environment that furthers group goal attainment and encourages mutual performance among team members.

Motivation to lead is a necessary condition for the emergence of leadership behavior (Popper & Mayseless, 2002). The MTL construct describes intensity of effort and persistence put forth by leaders as drivers toward accomplishing team goals. Individuals high in MTL persist in influencing followers toward task accomplishment and in guiding team processes toward attaining team goals. Higher levels of each dimension of MTL indicate persistence in the team leadership role and will likely be observable through behaviors enacted by the leader. In this study, I focus on two opposing leadership styles that have been found to influence team functioning – directive and empowering leadership behaviors (Pearce & Sims, 2002). The distinction between these two behavioral styles is described below and hypotheses are developed relating MTL factors to leadership behaviors followed by mediating hypotheses regarding relationships between MTL and team processes that operate through leadership behaviors.

Directive leadership is characterized as leadership that relies on position power. It involves the planning and organizing of subordinates roles and responsibilities. This style of leadership relies on issuing instructions and commands while maintaining decision-making authority (Yukl, Gordon, & Taber, 2002). Directive leadership behaviors can be classified as task-focused where the primary objective of the leader is

to planning and organizing team members' roles and responsibilities (Pearce & Sims, 2002; Burke et al, 2006). Task-focused behaviors are those that facilitate the understanding of task responsibilities, procedures, and information which in turn, serves to guide the team toward goal accomplishment (Burke et al., 2006; Salas, Dickinson, Converse, & Tannenbaum, 1992). In a recent meta-analysis that focused on predictive leadership behaviors in a team context, it was found that task-focused behaviors were moderately related to perceived team effectiveness and team productivity (Burke et al., 2006).

More recently scholars have advanced a behavioral perspective that is primarily person-focused and involves empowering subordinates as well as encouraging their development (Pearce, Manz, & Sims, 2008; Pearce et al., 2003). Empowering leadership behaviors focus on how leaders affect the people they are responsible for in indirect ways (Manz & Sims, 2001). The empowering leadership process seeks to mold followers who are cooperative, capable of teamwork, and act autonomously without direction. This empowerment process is effective when, eventually, leadership responsibilities are shared among members of the group (Carson, Tesluk, & Marrone, 2007). In support of this, a study involving CEO leadership found that empowering leadership behaviors were critical to the creation of a shared leadership process in top management teams (Houghton, Neck, & Manz, 2003). Empowering leadership behaviors include encouraging team members to organize their efforts independently and interdependently without heavy reliance on the formal leader. Additionally, empowering leaders emphasize listening and answering questions, viewing mistakes as learning

opportunities, and expressing belief in their team's capabilities to succeed (Pearce et al., 2008). Burke et al., found moderate effect sizes for person-focused team leadership behavior and measures of team performance.

The two team leadership behaviors described above are representative of different approaches an individual could assume when in a team leadership role. It is expected that each factor of MTL will be positively associated with directive and empowering leadership behaviors, however the magnitude of the various effects may reveal important insights regarding leadership motivations and behaviors. More specifically, it is expected that AIMTL may be more strongly associated with directive leadership than empowering leadership because those who enjoy leading for its own sake likely desire to more fully occupy the leader role rather than distribute leadership to team members by encouraging them to help themselves. It is also expected that SNMTL will have a stronger positive relationship with directive leadership than empowering leadership because individuals who are motivated to lead out of sense of duty may feel obligated to take ownership of their leadership responsibilities from beginning to end. That is, the salience of their sense of duty and responsibility for team success makes it likely they will focus on their performance as the leader rather than on empowering or encouraging team members to direct their own behaviors. This is also consistent with the notion that as individuals accepting of social hierarchies and rejecting of social equality (Chan, 1999); those individuals exhibiting high levels of SNMTL will be more directive in their behavior toward the team.

Individuals high in NCMTL do not expect special benefits from accepting a leadership role and they do not calculate the personal costs involved. Chan & Drasgow (2001) found that NCMTL had no association with leadership self-efficacy or previous leadership experience. This evidence may suggest that individuals who rate high on NCMTL may find the leadership role difficult and overwhelming once the responsibilities of enacting leadership and the duties of the role become salient. Therefore, I suggest that these leaders will exhibit empowering leadership behaviors which minimize their individual leadership responsibilities. By empowering team members to self-manage the task, the high NCMTL leader may diffuse some of the pressure of the uncalculated responsibilities and duties that are commonly experienced when leading. Because of this, it is expected that leaders who rate high in NCMTL will be more likely to employ an empowering leadership style where they encourage team members to make independent decisions and take responsibilities for their own work behaviors (Pearce et al., 2008).

Hypothesis 12: Affective-identity motivation to lead will be positively associated with Directive and Empowering leadership behaviors. The effect size for the relationship with Directive behaviors will be larger than the effect size for relationship with Empowering behaviors.

Hypothesis 13: Social-normative motivation to lead will be positively associated with Directive and Empowering leadership behaviors. The effect size for the relationship with Directive behaviors will be larger than the effect size for the relationship with Empowering behaviors.

Hypothesis 14: Noncalculative motivation to lead will be positively associated with Directive and Empowering leadership behaviors. The effect size for the relationship with Empowering behaviors will be larger than the effect size for the relationship with Directive behaviors.

Laissez-faire leadership is a type of nonleadership behavioral category (Bono & Judge, 2004; Bass, 1990; Avolio, Bass, & Jung, 1999). Leaders who are rated high on laissez-faire leadership approach leading with a "hands-off" style and minimize their involvement in decision making. Laissez-faire leaders give little or no guidance to team members and avoid getting involved, even when elements of the task become critical. They are often absent when questions arise and delay giving specific directions. Judge and Piccolo (2004) found that laissez-faire leadership was negatively associated with leader effectiveness (r = -.54) and satisfaction with the leader (r = -.58). Additionally, laissez-faire leadership is not associated with encouraging team members to take initiative (Bass, 1990). The assumption is that individuals who possess high levels of MTL are likely to demonstrate leadership and be involved in the ongoing taskwork of the team. A motivated leader will not avoid leadership duties thus their behavioral ratings will reflect the frequency of these specific actions (Yukl, 2006; Avolio et al., 1999). In support of this, Judge and Piccolo stated that "the absence of leadership (laissez-faire leadership) is nearly as important as the presence of other forms of leadership" (p. 765). Thus, the three factors of MTL will have negative associations with laissez-faire leadership behaviors.

Hypothesis 15: Affective-identity, Social-normative, and Noncalculative motivation to lead will be negatively associated with Laissez-Faire leadership behaviors.

Team Processes

Team processes often represent the how and why teams are able to function properly and accomplish their goals. Through their input, team leaders are in a unique position to influence team processes (Morgeson et al., 2010; Day et al., 2004). They offer guidance and serve as sensemakers by gathering important knowledge about the task or environment and communicating key information to team members. Using the process taxonomy developed by Marks, Mathieu, & Zaccaro, (2001) this research explores the impact of MTL and leadership behaviors on team processes.

The model advanced by Marks et al. (2001) describes three process categories. The first, transition processes, allow teams to focus on planning, evaluating, and formulating strategies that foster goal attainment. Action processes describe the periods of taskwork where teams are focused on the actions that contribute directly to goal accomplishment (Marks et al., 2001). In addition to action and transition processes, Marks et al. (2001) include interpersonal processes, such as conflict and affect management, as important teamwork variables that operate during and between performance episodes. Marks et al. (2001) have provided team researchers with a team process taxonomy that allows important team processes to "fit" within the appropriate teamwork phase (LePine et al., 2008). As teams move through these phases they inevitably encounter challenges. If these challenges go unresolved they can diminish

team functioning of the team leaving team members unsatisfied and the team ineffective (Morgeson et al. 2010; LePine et al., 2008). Next, I outline the specific processes that reside in each of the three overarching processes.

***Transition Processes*.** In performance or action teams, an important initial process for success occurs before taskwork begins. The ability to plan and strategize for effective performance provides a team with a guiding framework for action and reaction if changes to the strategy become necessary. Research suggests that an important early task for a leader is setting performance expectations (Green & Mitchell, 1979; Gerstner & Day, 1997). In the transition phase, forming a strategy is an important step toward effective team functioning. As defined by Marks et al. (2001), *strategy formulation and planning* refer to "the development of alternative courses of action for mission accomplishment" (p. 365).

***Action Processes*.** Traditionally, action processes have received more attention than transition processes in team studies. The process taxonomy advanced by Marks et al. (2001) suggests that there are four activities, or actions that teams engage in to promote progress toward effective team functioning. First, teams can *monitor progress toward goals* and interpret and communicate information that helps team members gauge goal progression. A second action process that teams engage in is *systems monitoring* which refers to, "tracking team resources and environmental conditions as they relate to mission accomplishment; it involves (1) internal systems monitoring,

tracking team resources such as personnel, equipment, and other information that is generated or contained within the team, and (2) environmental monitoring, tracking the environmental conditions relevant to the team" (Marks et al., 2001, p. 367). *Team monitoring and backup behavior* represents a third action process that involves team members (including the team leader) assisting other members with task performance by providing verbal feedback or coaching or by directly assisting a team member with task completion. Similar concepts to team monitoring and backup behaviors studied in team process models include cooperation, workload sharing, and team organizational citizenship behaviors (LePine et al., 2008). The final action process activity, termed c*oordination activities*, is concerned with how teams align their actions with respect to the timing and sequencing of team members' responsibilities. The results of many primary studies demonstrate the importance that action processes such as communication and coordination have on team outcomes (Mathieu et al., 2008). In one such study, Porter (2005) showed that team backup behaviors were positively associated with decision-making performance.

Interpersonal Processes. Interpersonal processes represent the maintenance of team members' attitudes, emotions and interpersonal relationships. One of the primary functions of a team leader is maintaining these interpersonal processes (Zaccaro et al., 2001). The three interpersonal process dimensions outlined by Marks and colleagues are conflict management, motivation and confidence building, and affect management. According to Marks et al., (2001), *conflict management* involves preemptive and

reactive handling of potential team conflicts; preemptive conflict management "establishes conditions to prevent, control, or guide team conflict before it occurs, while reactive conflict management involves working through the task, process, and interpersonal disagreements among team members" (Marks et al., 2001, p. 368). *Motivating and confidence building*, according Marks et al., (2001), involves "generating and preserving a sense of collective confidence, motivation, and task-based cohesion with regard to mission accomplishment" (p. 368). *Affect management* involves "regulating member emotions during mission accomplishment, including (but not limited to) social cohesion, frustration, and excitement" (Marks et al., 2001, p. 369).

***MTL, Leadership Behaviors, and Team Processes*.** One of the contributions of this research will be to examine the relationships between MTL factors and team processes. This portion of the model addresses the affect of leadership motivations on team functioning. The extent to which MTL impacts team functioning is an important question for team leadership scholars to address (Day et al., 2004). Studies of the relationships between MTL factors and team processes are not yet to be found in the extant literature. Recently however, meta-analytic research results demonstrate the positive impact that team functioning (i.e., team processes) has on team effectiveness (LePine et al., 2008). LePine and colleagues tested the multidimensional team process model advanced by Marks et al., (2001) to explore its relationship with team effectiveness outcomes (LePine et al., 2008). Overall, meta-analytic results indicate that the team processes as outlined by Marks and colleagues have consistent positive

relationships with team performance and team member satisfaction (LePine et al., 2008). The authors stated that taken as a whole, a one standard deviation increase in overall team processes resulted in a one-third standard deviation increase in team performance and a one-half standard deviation in team member satisfaction. LePine and colleagues reported that these relationships were consistent across each process dimension and the magnitudes of the effects were similar whether examining three distinct processes or one overall process dimension. Although a leader's effectiveness is ultimately judged by objective performance criteria (Hogan et al., 1994), leaders' impact on performance operates through their considerable influence on team maintenance and functioning (Day et al., 2004; Zaccaro et al., 2001). Therefore, team processes are an appropriate outcome when examining team leader influence because the increased effort and persistence that more motivated leaders exert is likely to positively affect team processes (Hendricks & Payne, 2007).

Theoretically, a leader's motivation cannot in itself affect team functioning. The connection between a team leader's motivation to lead and team functioning is through the leadership behaviors that are enacted during the task. That is, I expect indirect effects between MTL and team processes that are explained by leadership behaviors. Below, I hypothesize relationships between directive, empowering, and laissez-faire leadership behaviors and team processes and conclude with mediation hypotheses.

Directive Leadership and Team Processes. Research indicates that directive team leadership behaviors can positively influence transition and action processes

(Morgeson et al., 2010; Sosik & Dinger, 2007; Zaccaro, 2001). Directive leadership has also been associated with increased task performance; a by-product of increased team processes (LePine et al., 2008; Burke et al., 2006). Team members rely on leaders to direct a course of action and develop contingencies (Day et al., 2004). In an action team, the most effective way team leaders achieve short-term performance goals is by directly influencing transition and action processes. Directive leaders focus on promoting actions that result in increased strategic planning, coordination of activities, and monitoring of progress toward goals (Pearce & Sims, 2002). In support of this, task-focused leadership behaviors have been associated with strategic planning (Sosik & Dinger, 2007). Although a small amount of research suggests that a more directive style can alleviate some interpersonal processes such as team conflict (Ensley, Hmieleski, & Pearce, 2006), research has also demonstrated that directive leadership can have a downside to group harmony in that directive leaders may be perceived as abrasive and their tendency to remain task-focused can hinder positive emotionality within the team (Burke et al., 2006; Yukl, 2006; Schriesheim, House, & Kerr, 1976). Although a directive leadership style primarily focuses on the process aspect of leadership, their attention to the process includes team members. Communicating responsibilities and directing the task of an action team may provide team members with a sense of confidence that the team will succeed in achieving their goals. This suggests that a directive style will be positively associated with interpersonal processes.

> *Hypothesis 16: Directive leadership will be positively associated with transition processes, action processes, and interpersonal processes.*

Empowering Leadership and Team Processes. Empowering leaders get involved early on with their team members and participate in planning, goal setting, and developing team members who are capable of teamwork (Pearce et al., 2008; Houghton, Neck, & Manz, 2003). Successful empowering leadership encourages team members to think and act autonomously and replace conformity and dependence on the leader with initiative and interdependence (Pearce et al., 2008; Houghton et al., 2003). Empowering leaders view mistakes as learning opportunities, listen and ask questions, and provide team members with a sense of autonomy through indirect supervision. If successful, these types of behaviors translate into increased attention by team members on the processes that turn ideas (e.g., transition processes) into actions (e.g., action processes). In a study examining service technician teams, an empowered team was more likely to have higher levels of team processes and subsequent team performance (Mathieu, Gilson, & Ruddy, 2006). Similarly, Rapp and colleagues showed that empowering leadership behaviors improved the team planning process which is a key transition process (Rapp, Ahearne, Mathieu, & Rapp, 2010). Additionally, the personal attention and encouragement that empowering leaders demonstrate can motivate and build confidence among team members; an important component of interpersonal processes (Pearce et al., 2008; Marks et al., 2001). In a study of the effects of leadership styles in work groups, a person-focused style was related to more supportive remarks among group members demonstrating that leadership styles can affect interpersonal processes (Kahai, Sosik, & Avolio, 1997). A leadership style that focuses on empowering team

members to self-manage the task and encouraging team members to take an active role in problem solving can positively impact team processes.

Hypothesis 17: Empowering leadership will be positively associated with transition processes, action processes, and interpersonal processes.

Laissez-Faire Leadership and Team Processes. When a team leader is absent, shirks their leadership duties, and fails to respond to urgent team member needs, it can have harmful effects on teamwork. A laissez-faire leader is an inactive leader and is unlikely to be involved in the process aspect of leadership (Hinkin & Schriesheim, 2008; Bass, 1990). Further, a laissez-faire leader is unlikely to build confidence or motivate team members to collective action. Laissez-faire leaders are unlikely to manage the emotions of the team and be involved in dispute resolutions that foster interpersonal relationships important for team functioning because team members often look first to their leaders for guidance (Morgeson et al., 2010; Day et al., 2004). Consistent with functional approaches to team leadership where the leader's role is to simply 'get done what needs to be done' for the team to function successfully (Morgeson et al., 2010; Hackman & Wageman, 2005; Marks et al., 2001), in performance oriented teams the presence of a formal leader results in many process oriented responsibilities being placed on the leader (Zaccaro et al., 2001). A laissez-faire leader is essentially a non-functioning leader because they avoid leadership actions that may increase team functioning or meet team member needs. Therefore, I expect laissez-faire leadership to be negatively related to transition, action, and interpersonal processes.

Hypothesis 18: Laissez-Faire leadership will be negatively associated with transition, action and interpersonal team processes.

Overall, I expect that the positive associations that MTL has with team processes are indirect and are fully explained by observed leadership behaviors. According to Chan, MTL directly influences participation in leadership roles (Chan & Drasgow, 2001). In a short-term performance-oriented context such as an action team, a motivated team leader will stay engaged and actively persist in their leadership role. It is expected that both directive and empowering leadership behaviors will explain variance between each MTL factor and team processes. However, similar to Hypotheses 12-14 the leadership behaviors posited to have a stronger relationship with MTL factors will explain more variance. For example, AIMTL was hypothesized to be more strongly related to directive behaviors than empowering behaviors, thus it is expected that the indirect effect will be stronger for directive leadership in this case.

Hypothesis 19a: The relationship between AIMTL and team processes will be mediated by Directive and Empowering leadership behaviors.

Hypothesis 19b: The relationship between SNMTL and team processes will be mediated by Directive and Empowering leadership behaviors.

Hypothesis 19c: The relationship between NCMTL and team processes will be mediated by Directive and Empowering leadership behaviors.

Leadership Potential and Leader Satisfaction

Identifying individuals' potential for leadership has important economic and organizational implications (Marshall-Mies, Fleishman, Martin, Zaccaro, Baughman, & McGee; 2000; Wendel, Schmidt, & Loch, 1992). The concern with organizational continuity for performance and leadership has led to an increase in the development and identification of talent to fulfill leadership succession requirements (Higgs & Aitken, 2003). In their first empirical work on the topic Chan & Drasgow (2001) found that MTL predicted leadership development/potential ratings above and beyond the Big 5 personality dimensions. In a recent study in a military context, Amit et al., (2007) provided evidence that showed cadets who were perceived as having leader potential significantly differed from cadets with less perceived leadership potential on MTL. To date, the generalizability of results regarding the validity of MTL as a predictor of leadership potential is limited to military recruits (Amit et al., 2007; Chan & Drasgow, 2001). MTL has been described as a broad construct that allows researchers to answer questions with regards to 'every day leadership events' such as an action or performance team employed in this research. The situational specificity for the potential to lead has made the development of a general, reliable measure of leadership potential difficult. Although only a small amount of literature that exists regarding leadership potential, the predictive validity of leadership potential ratings have been demonstrating using assessment centers (Higgs & Aitken, 2003; Dulewicz, 1991; Thornton & Byham, 1982).

One contribution of this study is to demonstrate that the relationship between MTL and ratings of leadership potential are mediated by leadership behaviors. It is

logical to assume that the effect that MTL has on leadership potential arises from observed leadership behaviors. Theoretically, the increased level of effort and persistence that a motivated leader would devote to their leadership responsibilities would be observable through their actions (Popper, 2000; Chan, 1999). Although different leadership styles are presented, there is no reason to theorize that a directive style or an empowering style would result in higher leadership potential ratings, thus both styles are hypothesized to have positive associations with leader potential. The avoidance of leadership responsibilities is likely to be associated with lower leadership potential ratings; therefore a laissez-faire leadership style is expected to be negatively related to being perceived as having leadership potential.

Because of the nature of the laboratory design, it was determined to have subject matter experts rate the leadership potential of each team leader as they were consistently observing team interactions, which included team process ratings as well. Additional to focusing on outcomes such as potential, often it is important for research and practice to discern the level of satisfaction with their leader a team experienced during a task. It may also be important to understand the causes of member satisfaction with their leader because positive attitudes benefit organizations through increased performance (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). In this research design, fellow team members may be more likely to be satisfied with their leader if the leader is behaving in ways that lead to effective teamwork. Specifically, I hypothesize that higher behavioral ratings in leadership will be associated with more satisfied team members with regard to their designated leader. This is consistent with research investigating satisfaction with

the leader or supervisor where it has been shown that both task- and person-focused leadership behaviors are positively related to team member satisfaction with the leader (Burke et al., 2006; Bass, 1997).

> *Hypothesis 20: Directive and Empowering leadership behaviors will be positively related to leadership potential and leader satisfaction, while Laissez-faire leadership behaviors will be negatively related to leadership potential and leader satisfaction.*

> *Hypothesis 21: Affective-identity, Social-normative, and Noncalculative motivation to lead will be positively related to ratings of leadership potential above and beyond personality factors. These relationships will be mediated by leadership behaviors.*

Below, Hypotheses 12-21 are represented in Figures 5, 6, and 7. Displaying them in this manner aids in interpreting the directionality of the theoretical models that include both direct and indirect effects. Figure 5 shows a model predicting team processes, while Figure 6 predicts leadership potential and leader satisfaction. The figure on page 70 shows each motivation to lead factor and the factors hypothesized relationship with leadership behaviors for a more fine-grained look at the hypotheses surrounding team processes. These figures are followed by Chapter 3 which summarizes the research methodology, procedures, analyses, and results of the present study.

FIGURE 5

Team Leadership Behaviors as Direct Consequences of Motivation to Lead.

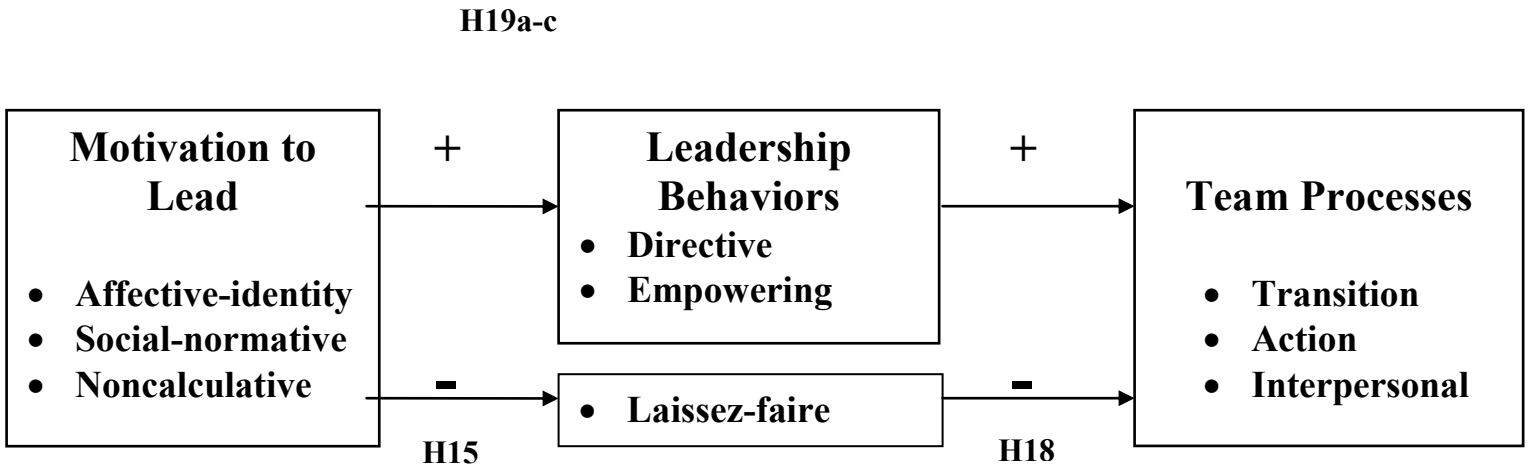


FIGURE 6

The Indirect Effects of MTL on Leadership Potential and Leader Satisfaction.

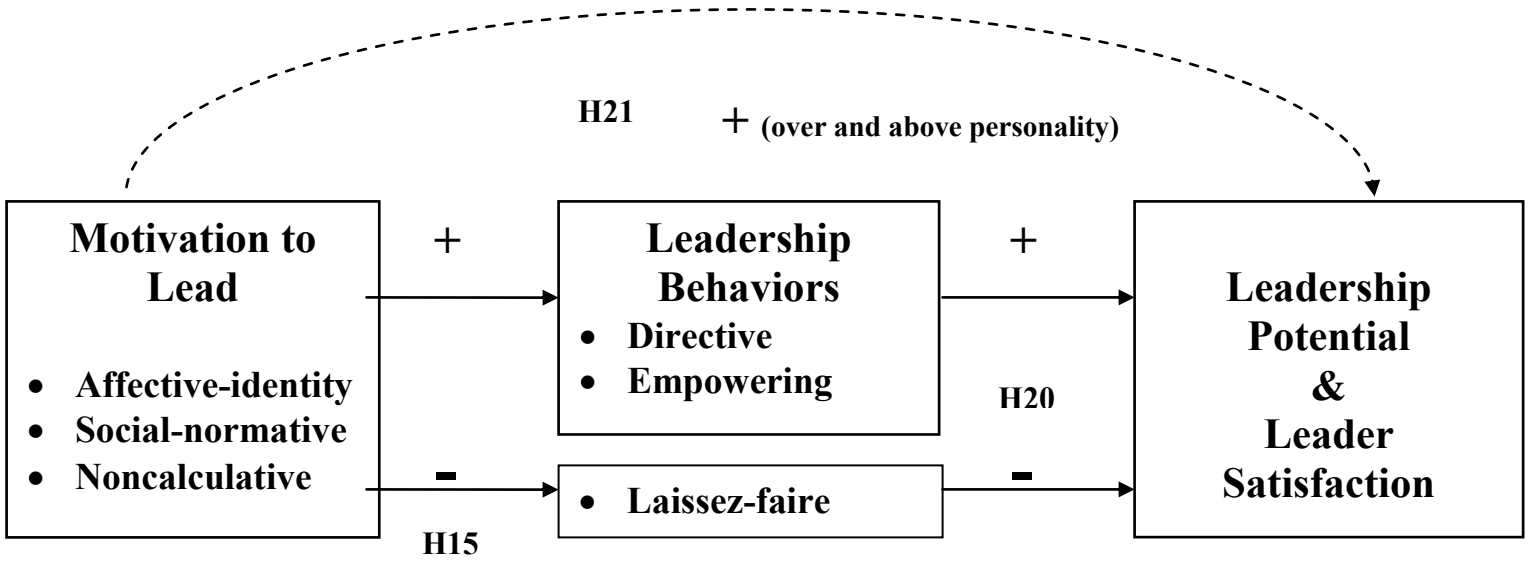
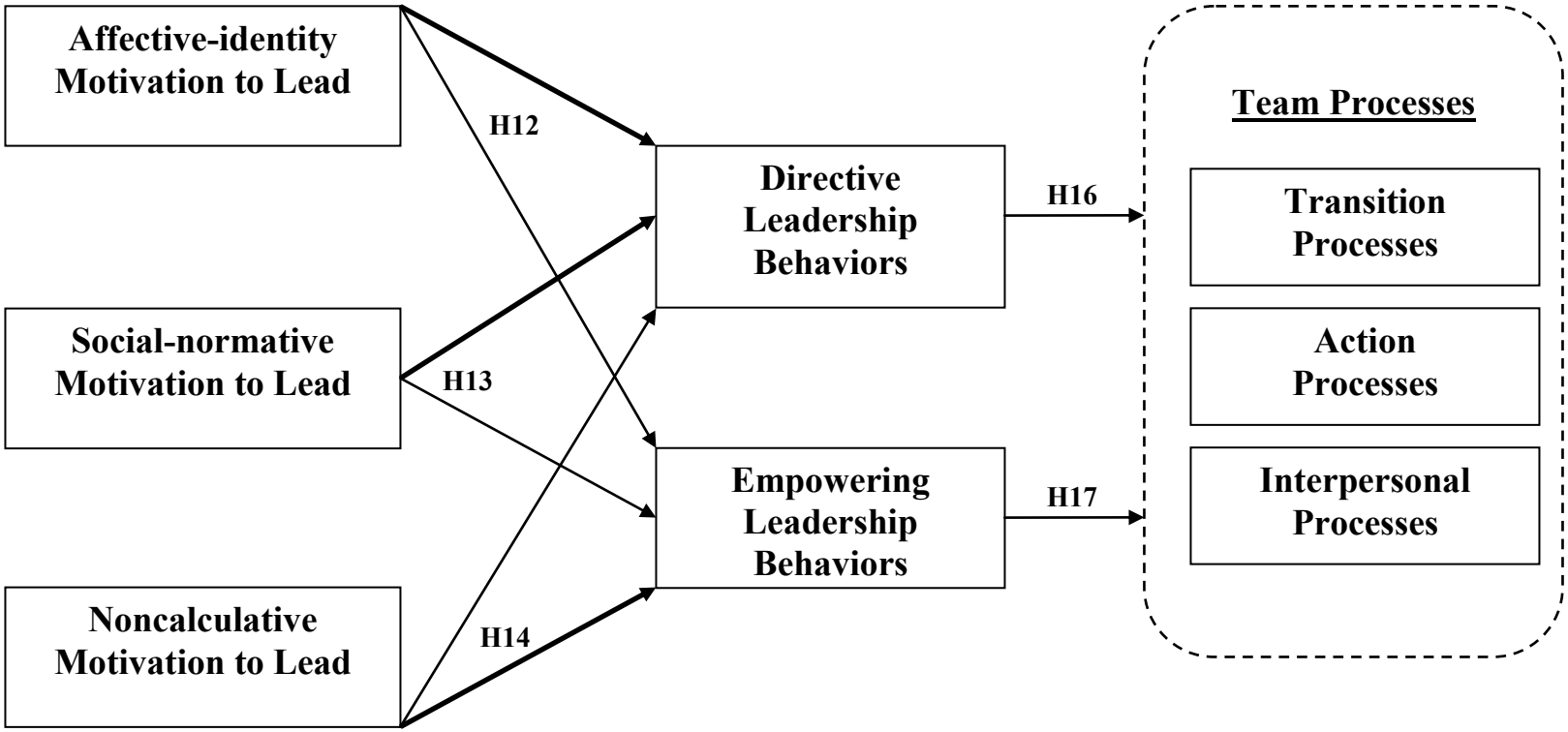


FIGURE 7

Team Leadership as an Input: Motivation to Lead Factors and their Relationships with Team Leadership Behaviors and Team Processes.[a]



[a]For Hyps 12-14: although positive relationships are hypothesized, the darker arrow is representative of a stronger positive relationship with a particular leadership style.

CHAPTER III

METHODOLOGY

Participants

The sample in this study consists of 425 undergraduates from a large southwestern university. The participant breakdown resulted in 85 team leaders and 340 team members. Of the 85 team leaders, 75 were Caucasian, 2 African-American, 5 Hispanic, and 3 of Asian ethnicity. Over half of the team leader participants were female (53%) and the average age was 21 as most participants were in their junior or senior year. The participants for this study were recruited from a management course. In exchange for their participation the students were offered extra course credit and incentivized with the possibility of obtaining a cash prize ($100 for each team member). The cash prize is based on their performance on the task. Participants are briefed on these rewards prior to their involvement in the study. A power analysis revealed that a minimum of 90 leaders were necessary to obtain correlations of .30 (a medium effect size; Cohen, Cohen, West, & Aiken, 2003) with the number of predictors in the model separate moderation models at an alpha level of 0.05. Because complete teams are necessary for empirically investigating the research questions presented in this dissertation, analysis moved forward with a complete dataset from 85 teams with 85 team leaders.

Empirical Context and Research Task

For purposes of this study, participants worked on a version of the Distributed Dynamic Decision-Making Simulation. This is a computer program developed by the Department of Defense for training purposes and the version used in this study requires no military experience. DDD is a simulated command and control program where team members work interdependently to defend a large section of an on-screen geographic location from enemy vehicles. Each team is given the mission to protect the on-screen geographic location by engaging and shooting down enemy targets that entered one of two restricted areas of the screen (i.e., no-fly zone) while avoiding shooting down any friendly targets that operate in the same locations. The resources of the team include 16 vehicles (e.g., jets, helicopters, tanks, radar planes) and are evenly distributed among team members, legitimizing comparisons across teams. Team members' computers were networked in a laboratory room close enough together to communicate verbally for the entire task.

Procedures

The role of team leader was randomly assigned to an individual when the undergraduate class was recruited for extra course credit. When leaders signed up for extra credit, they first attended a one hour session where they were briefed on team leadership, their role, and then trained on the nature of the task. Before being briefed, team leaders completed questionnaires that captured individual differences (e.g., OTL, MTL) and demographic information. At the conclusion of the one hour leader training

session, team leader participants were given a chance to sign-up for a two-hour lab session time where they completed their participation by leading their team through the DDD task.

Team members were randomly assigned to a four-person team and further randomly assigned to a computer station once they arrive for their team session. The four computer stations are labeled DM1-4 where DM stands for "Decision Maker" and correspond to where each team member was seated. When first entering the laboratory, team members complete questionnaires measuring individual differences and demographic information. Team members then received training related to the DDD task for approximately one hour and were allowed to practice the task once the team leader arrived. After the team leaders become acquainted with their team (approximately 10 minutes), the practice task ended and teams are told that they will soon begin the actual task where their performance will count toward the cash incentive. The actual task consists of a 30-minute performance episode. During this performance trial, the experimenter observed the team closely in order to accurately assess and rate team processes, leadership behaviors, and leadership potential. At the conclusion of the performance episode, team members completed surveys relating to team member attitudes, team processes, and observed leadership behaviors.

Level of Analysis

Personality antecedents and MTL are measured at the individual level and used to analyze the relationships with the moderator (OTL). For the purposes of empirical

testing, I evaluate team leadership constructs (e.g., MTL and leadership behaviors) as team-level input variables that affect team functioning. Research investigating team leadership often evaluates team leader characteristics as operating at the group level and that they affect the team as a unit (Hackman & Wageman, 2005; Day et al., 2004; Zaccaro et al., 2001). Appropriate aggregation statistics were computed for directive and empowering leadership behaviors, team processes, and leader satisfaction. Specifically, the computations of *rwg* and inter-class correlations (e.g., ICC1 & ICC2) determined whether aggregation to the team-level was appropriate for analysis (Bliese, 2000; James, Demaree, & Wolf, 1993).

Measures

***Personality*.** The Big-Five personality traits selected for this study are measured using the IPIP item set (Goldberg, 1999). Extraversion, Conscientiousness, and Agreeableness consist of ten items each and contain several reverse scored items. Items are measured on a five-point Likert scale. Examples of Extraversion include, "I feel comfortable around people," and "I keep in the background" (reverse scored). Two examples of an agreeable personality include, "I take time out for others," and "I insult people" (reverse scored). Conscientious items include items such as, "I am exacting in my work," and "I often forget to put things back in their proper place" (reverse scored). For team leaders, these items are measured during the two-hour lab session. The Cronbach's alphas for the three personality factors are as follows: $\alpha = .88$ for Extraversion; .82 for Conscientiousness; and .78 for Agreeableness.

Motivation to Lead. The second set of individual difference measures are intended to provide assessment of individuals' motivation to lead. Team leader participants were asked to complete Chan & Drasgow's (2001) Motivation to Lead construct using a five-point Likert scale with responses ranging from strongly disagree to strongly agree. This 27-item scale has three distinct factors (9 items each) and has been validated in several studies examining the MTL factor structure (Amit et al., 2007; Bobbio & Rattazzi, 2006; Chan & Drasgow, 2001). Affective-identity items ask individuals to rate such statements as "I usually want to be the leader in the groups that I work in," and "I am definitely not a leader by nature" (reverse scored). Items measuring social-normative motivation to lead include, "It is an honor and privilege to be asked to lead," and "I feel that I have a duty to lead others if I am asked." The noncalculative factor includes items such as, "I would only agree to be a group leader if I know I can benefit from that role," and "I never expect to get more privileges if I agree to lead a group" (reverse scored). The reliability analysis revealed alphas of .89 for AIMTL, .74 for SNMTL, and .79 for NCMTL.

Several studies have found evidence of the validity of the factor structure for the variables measured in this study, including OTL and MTL (Judge et al., 2002; Chan & Drasgow, 2001; Pearce & Sims, 2002; Burke et al., 2006; Bobbio & Rattazzi, 2006; Hiller, 2005; LePine et al., 2008). However, performing additional CFAs for OTL and MTL contributes to these constructs' validity as well as establishes the discriminant validity of the factors to be analyzed in the present research. Appropriate fit indexes

were examined to determine the best fitting factor structure (Kline, 2005; Hu & Bentler, 1999).

I performed a confirmatory factor analysis (CFA) using AMOS 17 to examine whether the data supported the conceptual distinctions and to ensure the construct validity of the motivation to lead factors presented in this portion of my theoretical model (e.g., AIMTL, SNMTL, and NCMTL). The three-factor measurement model provided good fit to the data ($\chi^2 = 529.06$, $p < .01$, CFI [comparative fit index] = .86, IFI [incremental fit index] = .87, RMSEA [root-mean-square error of approximation] = .04) compared to the two-factor model ($\chi^2 = 730.66$, $p < .01$, CFI [comparative fit index] = .55, IFI [incremental fit index] = .57, RMSEA [root-mean-square error of approximation] = .08) and a one-factor model ($\chi^2 = 884.42$, $p < .01$, CFI [comparative fit index] = .41, IFI [incremental fit index] = .44, RMSEA [root-mean-square error of approximation] = .11). The two-factor model grouped SNMTL and NCMTL into an external factor and AIMTL into an internal factor. This was based on the concept that SNMTL and NCMTL represent an overall factor regarding any external force driving the desire to lead (e.g., calculating the costs or being asked to lead), and the AIMTL factor is representative of a response to leadership opportunities that have internal origins (e.g., those who generally enjoy leading).

The chi-square difference statistic was significant between the three- and the two-factor models ($\Delta\chi$ ($N = 85$) = 189.22, $p < .01$) and the two- and one-factor models ($\Delta\chi$ ($N = 85$) = 139.27, $p < .01$). In addition, all the scale items loaded significantly onto their corresponding latent factors with the exception of the single reverse coded item in

the SNMTL factor. (standardized factor loadings ranged from .38 to .88). Standardized factor loadings for the MTL construct are located in Table 14. The correlations between the three factors ranged from .01 to .35 which helps demonstrate distinctions among individuals' various motivations to lead.

Orientation toward Leadership. This scale is composed of three factors that have been utilized to capture an individuals' personal belief regarding the nature of leadership (Hiller, 2005; See p. 31 for a detailed explanation of this variable). Participants score OTL using a five-point Likert scale with a strongly disagree to strongly agree answer range. Two example items of dominance OTL are, "Leaders order other people around" and "One's formal position determines whether they are a leader." Items that represent developmental OTL are, "Skills and abilities for leadership can be developed" and "People can be taught to be more effective leaders." Two example items that represent shared OTL are, "Leadership is about the group, rather than a single leader" and "Leadership involves a group collectively making decisions." This measure is used determine if a leader's beliefs about the nature of leadership moderates the relationships between a leader's personality and their motivation to lead. The reliability estimates for these factors included .76 for Dominance OTL, .78 for Developmental OTL, and .87 for Shared OTL.

I performed a confirmatory factor analysis (CFA) using AMOS 17 to examine whether the data supported the conceptual distinctions of the orientation toward leadership factors presented in this portion (i.e., Stage 1) of my theoretical model.

Specifically, it is important to confirm the distinction between OTL factors as separate beliefs regarding the nature of leadership. I specified a three-factor measurement model for each OTL factor (e.g., Dominance, Developmental, and Shared). Results show that a three-factor model fit the data well ($\chi^2 = 135.20$, $p < .01$, CFI [comparative fit index] = .90, IFI [incremental fit index] = .91, RMSEA [root-mean-square error of approximation] = .03) compared to a two-factor model ($\chi^2 = 245.22$, $p < .01$, CFI [comparative fit index] = .65, IFI [incremental fit index] = .67, RMSEA [root-mean-square error of approximation] = .09) and a one-factor model ($\chi^2 = 347.59$, $p < .01$, CFI [comparative fit index] = .48, IFI [incremental fit index] = .51, RMSEA [root-mean-square error of approximation] = .12). The two-factor model grouped dominance and developmental orientations into a hierarchy factor and shared OTL into a non-hierarchy factor. This was based on the concept that the dominance and developmental orientations hold to a belief that hierarchies are necessary for leadership to occur, while a shared OTL regards a hierarchical perspective of leadership as outdated (Drath, 2001).

The chi-square difference statistic was significant between the three- and two-factor models ($\Delta\chi$ ($N = 85$) = 94.48, $p < .05$) and the two- and one-factor models ($\Delta\chi$ ($N = 85$) = 88.19, $p < .05$). In addition, all the scale items loaded significantly onto their corresponding latent factors with the exception of the single reverse coded item in the Developmental factor. (standardized factor loadings ranged from .38 to .97). Standardized factor loadings for the OTL construct are located in Table 15. The correlations between the three factors ranged from -.05 to -.26 which helps demonstrate distinctions among individuals' beliefs regarding the nature of effective leadership.

Leadership Behaviors. Leadership behaviors are rated by team members using a five-point Likert scale with four items for directive and empowering behaviors. Trained subject matter experts rated three items assessing laissez-faire leadership. Directive and empowering items adapted from Pearce & Sims (2002) were employed for this study. The instruction for each rater asks the question, "To what extent did the team leader…" – a sample directive item includes, "Give the team direction". A sample empowering item is, "Give the team feedback on what he/she observes, rather than specific direction." Directive and empowering leadership behaviors are rated by team members at the conclusion of the task. An example item of laissez-faire leadership is, "Avoid getting involved when important issues arose." Subject matter experts (i.e., team lab experimenters) are briefed on aspects of the team leader's behavior that are representative of the behavioral categories. Cronbach's alphas for team member ratings included .88 for directive leadership and .85 for empowering leadership. The reliability estimates for the subject mater expert ratings demonstrated high reliabilities (α = .91 for directive; .93 for empowering; .93 for laissez-faire). To check the appropriateness of aggregation to the team level, interclass correlations were examined for each behavior. The results yielded acceptable values (ICC[1] = .33; ICC[2] = .72; *rwg* = .81 for team member ratings of directive leadership, ICC[1] = .24; ICC[2] = .80; *rwg* = .85 for team member ratings of empowering leadership).

Team Processes. During the task, team processes are measured by the trained experimenters while they observe the team activity and interaction. Using a behavioral-

anchored rating scale developed by Marks and colleagues, the subject matter experts observe team leader and team member interactions that reflect transition, action and interpersonal processes (Marks, DeChurch, Mathieu, Panzer, & Alonzo, 2005; Marks et al, 2001). After practicing the task, when the leader is introduced, teams have time to interact and prepare for the beginning of the task, ensuring appropriate time for teams to engage in transition processes (e.g., planning and strategizing). Additionally, team processes are measured by team members using a longer version of the Marks et al. taxonomy. The long version of the team process taxonomy contains three items for each process subdimension (e.g., conflict management) totaling thirty items (Mathieu & Marks, unpublished). For the purposes of this research, 24 items will be utilized. The six items measuring mission analysis formulation/planning and goal specification are not applicable to this research design. Each team is trained and given a consistent mission therefore no analysis or formulation of a mission is necessary. Similarly, the goals are specified in training and remain constant across teams. Team members are prompted to answer, "To what extent did your team actively work to…", a sample transition process item asks "Develop an overall strategy to guide our team activities?"; a sample action process item asks "Monitor important aspects of our work environment?"; a sample interpersonal item asks "Maintain group harmony?". The five-point Likert scale for this version ranges from (1) Not at all to (5) To a very great extent. Team member ratings of team processes demonstrated appropriate levels of reliability ($\alpha = .78$ for transition processes; .90 for action processes, and .88 for interpersonal processes). The reliability estimates for the subject matter expert ratings of team processes were similar ($\alpha = .77$ for

transition processes; .87 for action processes; and .89 for interpersonal processes). Similar to team member ratings of leadership behaviors, team member ratings of processes were analyzed for their appropriateness for aggregation. The interclass correlations demonstrated acceptable values (ICC[1] = .33; ICC[2] = .69; *rwg* = .79 for transition processes, ICC[1] = .27; ICC[2] = .75; *rwg* = .85 for action processes, ICC[1] = .24; ICC[2] = .77; *rwg* = .87 for interpersonal processes).

I performed an additional confirmatory factor analysis (CFA) using AMOS 17 to examine whether the data supported the conceptual distinctions and to ensure the construct validity of the long version of the team process taxonomy presented in this portion of my theoretical model (e.g., transition, action, and interpersonal). The three-factor model provided good fit to the data ($\chi^2 = 1208.71$, $p < .01$, CFI [comparative fit index] = .84, IFI [incremental fit index] = .87, RMSEA [root-mean-square error of approximation] = .07) compared to a one-factor model ($\chi^2 = 1524.09$, $p < .01$, CFI [comparative fit index] = .71, IFI [incremental fit index] = .67, RMSEA [root-mean-square error of approximation] = .12). The chi-square difference statistic was significant between the two models ($\Delta\chi$ ($N = 85$) = 304.57, $p < .01$). In addition, all the scale items loaded significantly onto their corresponding latent factors (standardized factor loadings ranged from .53 to .79). Standardized factor loadings for the team process dimensions (as measured by team members) are located in Table 16.

***Leadership Potential*.** Measures of leadership potential are inherently specific to the situation (Hogan et al., 1994; Wendel et al., 1992). For the purposes of this research,

items that tap the skills and abilities to lead an action or performance team were adapted from Wendel and colleagues who developed a more general measure of project leadership potential. The ratings are prompted by the statement – "This team leader…" and sample items include, "Can be a leader in small group situations" and "Has the skills necessary to lead action or performance teams." To alleviate concerns that implicit leadership prototypes of team members could confound potential ratings, subject matter experts who have been trained on the details of this research design rate the four items tapping the team leader's leadership potential. The Cronbach's alpha for this scale was .87.

***Leader Satisfaction*.** Team members rated their satisfaction with their leader with a 12-item scale. This scale originated from Scarpello and Vandenberg (1987). The prompt for the respondent was changed from 'the way my supervisor helps…' to 'the way my team leader helps…' to correspond to the situation. The scale prompts the participant to rate how satisfied they are with the way their team leader… "is consistent in his or her behavior towards team members" and, "follows through to get problems solved". The Cronbach's alpha for this scale was .93. Interclass correlations provided appropriate evidence for aggregation to the team level (ICC[1] = .23; ICC[2] = .82; *rwg* = .87).

Analysis

Their amounted to seven variables; five with three factors each with the addition of leadership potential and leader satisfaction. Diagnostics indicated there were no problems with multicollinearity with all variance inflation factors under the generally accepted limit of five (Hair, Anderson, Tatham, & Black, 2006). To examine the moderation hypotheses (i.e., Hypotheses 1-11) hierarchical moderated regression analysis was employed. Interaction terms were created by first centering the variables involved in the analysis to reduce multicollinearity (e.g., Big-Five, OTL). The interaction term was created by computing the product of the centered variables. A significant coefficient for my interaction term will indicate that there is a meaningful interaction between the Big-Five personality factors and corresponding orientations toward leadership. To test Hypotheses 12-18, ordinary least squares (OLS) regression analyses were performed.

This study also contains hypothesis regarding explanatory, or mediating variables. Mediation hypotheses posit how, or by what means, an independent variable (*X*) affects a dependent variable (*Y*) through one or more potential intervening variables, or mediators (*M*). The amount of mediation, which is called the indirect effect, is defined as the reduction of the effect of the initial variable on the outcome (Preacher & Kelley, 2010). Many methods for testing hypotheses about mediation have been proposed (see MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002, for an overview). In this study, I attempted the *causal steps approach* – popularized by Baron and Kenny (1986) to test Hypotheses 19 and 21. In this approach, the researcher estimates the paths of the

model using OLS regression or structural equation modeling and assesses the extent to which several criteria are met. As noted above, variable *M* is a mediator if *X* significantly accounts for variability in *M*, *X* significantly accounts for variability in *Y*, *M* significantly accounts for variability in *Y* when controlling for *X*, and the effect of *X* on *Y* decreases substantially when *M* is entered simultaneously with *X* as a predictor of *Y*. The latter step will be satisfied when the first and third step are satisfied and when the signs of the effects are consistent with the proposed mediation process (Preacher & Hayes, 2008).

Another approach to test mediation hypotheses (e.g., Hypotheses 19 and 21) focuses not on the individual paths in the mediation model but instead on a product term. Under this logic, the product term is equal to the difference between the total and direct effect. The Sobel test (Sobel, 1982, 1986), also called the *product-of-coefficients* approach involves computing the ratio of the product of the coefficients (i.e., paths *X→M and M→Y*) to its estimated standard error. Several formulas have been proposed for estimating this standard error but the differences among them usually have negligible effects in analysis (Preacher & Hayes, 2004). A *p*-value for this ratio is computed in reference to the standard normal distribution, and significance supports the hypothesis of mediation.

CHAPTER IV

RESULTS

In the following pages I present the results of the data analysis. As previously noted, I will test the model in two stages. The first stage will be testing Hypotheses 1-11 which represent moderating hypotheses. Because these hypotheses investigate leader-centric variables, moderating hypotheses operate at the individual level of analysis. The second stage includes examining mediating hypotheses where the analysis begins with MTL and investigates leadership behaviors on team process outcomes and leadership potential. In this portion of the model, MTL and leadership behaviors are measured at the individual level yet operate at the team level (Day et al, 2004; Zaccaro et al., 2001).

Intercorrelations among Study Variables

Table 1 presents the bivariate correlations among all study variables. In this table, the leader personality variables are entered first, followed by the three motivation to lead factors, three orientations toward leadership dimensions, the directive and empowering leadership behaviors as measured by team members, the directive and empowering leadership behaviors as measured by subject matter experts, and then laissez-faire leadership behaviors. Presented next are the dependent variables for this study – team processes as measured by team members, team processes as measured by subject matter experts, leadership potential, and leader satisfaction. The remainder of the results section tests the hypotheses in two stages. Hypotheses 1-11 are labeled Stage 1 of

my overall model (see Figure 1) and are followed by analyzing Stage 2 – which includes the mediation hypotheses (see Figures 5 and 6).

Results of Model Testing – Stage 1: Moderating Hypotheses

The first research question in this dissertation related to whether the relationship between personality factors and motivation to lead factors are moderated by an individual's orientation toward leadership. The research on the predictors of MTL has produced ambiguous results regarding the effects of personality (Chan & Drasgow, 2001; Hendricks & Payne, 2007). The purpose of testing this portion of the model was to determine, regardless of a significant main effect, if the interaction term explains a significant amount of variance in the hypothesized direction. Understanding the determinants of the level of team leaders' motivation to perform their role is important (Popper, 2000). An empirical analysis may reveal interesting insights to an understudied group – team leaders. For this reason, I report results for each interaction.

Hypothesis 1 stated that the relationship between Extraversion and AIMTL would be moderated by Dominance OTL such that it would be more positive among leaders with high levels of Dominance OTL and less positive among leaders with low levels of Dominance OTL. This hypothesis was tested using hierarchical moderated regression. Extraversion was found to have a significant association with AIMTL (r = .40, $p < .01$). This relationship is consistent with the findings in Van Iddekinge et al. (2009) and Hendricks and Payne (2007). Results found in Table 2 show that this interaction coefficient was not significant (B = .06, ns); therefore Hypothesis 1 was not

supported. Although, Extraversion was positively related to AIMTL, these results demonstrate that holding a dominant view of leadership does not significantly affect this positive relationship.

Hypothesis 2 stated that the relationship between Extraversion and AIMTL would be moderated by Developmental OTL with the relationship proposed similar to that in Hypothesis 1. Results of this moderating hypothesis were not supported (B = -.19, ns). Hypothesis 3 predicted that a shared OTL would weaken the positive relationship between Extraversion and AIMTL. Results show that although Extraversion remains a significant predictor of AIMTL (B = .42, $p < .01$), holding a shared OTL does not significantly change this relationship (B = .12, ns).

Hypothesis 4 stated that the association between Extraversion and NCMTL would be moderated by Shared OTL such that high levels of Shared OTL would attenuate the positive relationship. Table 4 reports the results of this interaction. This hypothesis was not supported by the data (B = -.06, ns). The association between Extraversion and NCMTL was negative (r = -.15, ns) which is not consistent with relationships found in studies examining these variables. The lowest correlations reported were .15 found in Chan & Drasgow (2001).

Hypotheses 5-8 focus on Conscientiousness and its relationship with AIMTL, NCMTL, and SNMTL. Previous literature has reported correlations ranging between .09 and .60 for Conscientiousness and AIMTL; -.03 and .42 for SNMTL; .04 and .31 for NCMTL. The reported associations for Conscientiousness and MTL in this study were .36 with AIMTL; .20 with SNMTL, and .09 with NCMTL. Each association is between

the lowest and highest reported correlations in previous studies. Hypothesis 5 predicted that the relationship between Conscientiousness and AIMTL would be moderated by Dominance OTL such that the positive relationship would be stronger at high levels of Dominance OTL. Table 3 presents the results of this hypothesis which was not supported (B = -.12, ns).

Hypothesis 6, which predicted that the relationship between Conscientiousness and AIMTL would be moderated by Shared OTL where high levels of Shared OTL weaken the positive relationship (see Table 3), was not supported by the data (B = -.10, ns).

Hypothesis 7 (see Table 4) argued that a Developmental OTL would weaken the positive relationship between Conscientiousness and NCMTL. Results of this hypothesis show a nonsignificant coefficient for the interaction term (B = .25, ns).

Hypothesis 8 stated that the relationship between Conscientiousness and SNMTL would be moderated by Dominance OTL where high levels of Dominance OTL strengthen the relationship. The results in Table 5 show that this hypothesis was not supported (B = .05, ns).

Hypotheses 9-11 surround the personality trait of Agreeableness and its association with the AIMTL factor. The association between Agreeableness and AIMTL was found to be similar to the results in Chan and Drasgow (2001), Hendricks & Payne (2007), and Hartman et al (unpublished). Hypothesis 9 predicted that as a moderator, Developmental OTL strengthens the positive relationship between Agreeableness and AIMTL. Results in Table 6 show that this hypothesis was not supported (B = .21, ns).

Hypothesis 10 (see Table 6) argued that a Shared OTL would also strengthen the positive relationship between Agreeableness and AIMTL. This moderation hypothesis was not supported (B = -.02, ns).

The last moderation hypothesis posited that the positive relationship between Agreeableness and AIMTL would be weaker if an individual held a Dominance OTL (B = .17, ns). Hypothesis 11 was not supported.

Hypotheses 12-15 predicted that the MTL factors would be positively associated with directive and empowering leadership behaviors, and negatively associated with laissez-faire leadership behaviors. Additionally, it was proposed that certain motivations may have different effects with certain behaviors. Different effect sizes among these factors may reveal important insight to the leadership process. Table 7a reports the results of MTL and team member ratings of leadership behaviors (i.e., Hypotheses 12-14) Table 7b reports the results of MTL and subject matter expert ratings of leadership behaviors and includes laissez-faire leadership in the last column as a test of Hypothesis 15.

Hypothesis 12 predicted that AIMTL would be positively related to directive and empowering leadership behaviors and that the strength of the relationship for directive leadership and AIMTL would be significantly larger. A look at Table 7a and 7b reveals that different team member ratings of behaviors did not achieve significance with regard to AIMTL (B = -.01, .-05, ns with team member ratings of directive and empowering behaviors; B = -.01, .14, ns with subject matter expert ratings of directive and empowering behaviors), thus overall support for Hypothesis 12 was not found.

Hypothesis 13 stated that SNMTL would be positively related to directive and empowering leadership behaviors and that the strength of the relationship with directive leadership would be larger. Table 7a & 7b reveal no significant relationships (B = .18, .20, ns with team member ratings of directive and empowering behaviors; B = .37, -.16, ns with subject matter expert ratings of directive and empowering behaviors, thus support for Hypothesis 13 was not found.

Hypothesis 14 posited that NCMTL would be positively related to directive and empowering leadership behaviors and that the strength of the relationship with empowering leadership would be larger. The results in Table 7a and 7b reveal that these relationships failed to reach significance (B = -.18, -.10, ns with team member ratings of directive and empowering behaviors; B = -.09, .06, ns with subject matter expert ratings of directive and empowering behaviors), thus Hypothesis 14 was not supported.

Hypothesis 15 argued that the three MTL factors would be negatively related to laissez-faire leadership. The results of this analysis are located within Table 7b in the last column. Although a trend of negative relationships are noted, Hypothesis 15 was not supported (AIMTL B = -.10, ns; SNMTL B = -.16, ns; NCMTL B = -.06, ns).

Hypothesis 16 predicted that directive leadership would be positively related to each team process dimension. The results from Table 8a demonstrated support for directive leadership rated by team members for action processes (B = .20, $p < .01$), interpersonal processes (B = .18, $p < .01$), but not transition processes (B = .14, ns) as rated by team members. Similarly, Table 8a showed support for one of the hypothesized relationships between team member ratings of directive leadership and action processes

rated by subject matter experts (B = .27, $p < .01$). The relationship with team member ratings of directive leadership, transition, and interpersonal processes rated by subject matter experts failed to reach significance (B = .15, ns; B = .04, ns). The results from Table 8b also show support for the directive leadership and team processes link. The relationship between directive leadership rated by subject matter experts and team member process ratings did not reach significance with transition (B = -.06, ns), or action (B = .03, ns), but was related to interpersonal processes (B = .15, $p < .05$). Similarly, Table 8b showed support for two of the hypothesized relationships between subject matter expert ratings of directive leadership and transition (B = .29, $p < .05$), and action processes (B = .27, $p < .05$), thus, Hypothesis 16 was partially supported.

Hypothesis 17 predicted that empowering leadership would be positively related to each team process dimension. The results from Table 8a demonstrated support for empowering leadership rated by team members and transition (B = .21, $p < .01$), action (B = .17, $p < .05$), and interpersonal processes (B = .20, $p < .01$) as rated by team members. Similarly, Table 8a showed support for all three relationships between team member ratings of empowering leadership and transition (B = .37, $p < .01$), action (B = .50, $p < .01$) interpersonal processes (B = .64, $p < .01$) rated by subject matter experts. Empowering leadership rated by subject matter experts were related to team member process ratings of interpersonal (B = .20, $p < .01$), and action processes (B = .15, $p < .05$), but was not related to transition processes (B = .13, ns). Similarly, Table 8b showed support for all relationships between subject matter expert ratings of empowering

leadership and team processes rated by subject matter experts (transition, B = .43, $p <$ .01; interpersonal processes, B = .31, $p < .01$; action B = .26, $p < .05$).

Hypothesis 18 predicted that laissez-faire leadership behaviors would be negatively related to transition, action, and interpersonal processes (see Table 8b). Team member ratings of team processes were not related to laissez-faire leadership (transition, B = -.03, ns; action B = -.15, ns; interpersonal processes, B = -.11, ns). Further, results partially supported relationships between laissez-faire leadership and subject matter rated interpersonal processes (transition, B = -.05, ns; action, B = -.08, ns; interpersonal processes B = -.18, $p < .05$). These results demonstrate a consistent negative relationship, although only the subject matter rating of interpersonal processes reached significance. Thus, there is partial support for Hypothesis 18.

Results of Model Testing – Stage 2: Mediating Hypotheses

The research questions pertaining to this section of the model (i.e., MTL to dependent variables) are useful in determining the causal nature of MTL. In this section of the model, the variables that are affected by MTL occur in the context of a team leadership event. Hypothesis 19a-c stated that the relationship between MTL and team processes would be mediated by team leadership behaviors. Specifically, Hypothesis 19a stated that the relationship between AIMTL and team processes would be mediated by directive and empowering leadership behaviors. Hypothesis 19b and 19c were similar with SNMTL and NCMTL in place of AIMTL. In order to test for relationships between the MTL and team processes, I ran a series of regressions for each MTL and each

process dimension for both team member ratings and subject matter expert ratings of team processes. For Hypotheses 19 and 21, I avoid testing hypotheses with measures from common sources. For example, Hypothesis 19a-c state that relationships between the MTL and team process dimensions will be mediated by leadership behaviors. These hypotheses are examined with team member ratings of leadership behaviors and subject matter expert ratings of team processes. For Hypothesis 21, leadership behaviors rated by team members are used when examining leadership potential as an outcome.

Hypothesis 19 stated that the relationship between MTL and team processes would be mediated by directive and empowering leadership behaviors. I tested Hypothesis 19 with the causal steps approach and with tests of significant indirect effects (i.e., Sobel test). The causal approach by Baron & Kenny (1986) has been criticized for being overly strict by some scholars, (Wood, Goodman, Beckmann, & Cook, 2008), therefore I further analyzed Hypothesis 19 by testing for significant indirect effects as well.

Table 9 reports the Sobel tests for the indirect effects of MTL with team member ratings of leadership behaviors and subject matter expert ratings of team processes. A Sobel test provides a more direct test of an indirect effect (Preacher & Hayes, 2004). As mentioned in the Analysis section, the Sobel test compares the strength of the indirect effect of *X* on *Y* (i.e., MTL→team processes) to the null hypothesis that it is equal to zero. In this study, the indirect effect on MTL on team processes is defined as the product of the predictor→mediator path (*a*) and the mediator→outcome path (*b*), or *ab*. Often, the product term (*ab*) is equal to the total effect minus the *X*→*Y* path with the

mediator controlled for (Preacher & Hayes, 2004). To conduct the Sobel test, *ab* is divided by the standard error of *ab* (*Sab*) to yield a critical ratio that is compared to a critical value from a normal distribution for a given level of alpha (.05 in the present study). The equation below was used to calculate the critical values for each test of indirect effects. An example of the computations using Hypothesis 19a (i.e., AIMTL→Directive Leadership→Transition Processes) can be found below Table 13 where Sobel test results are presented.

$$Sab = \sqrt{b^2 * s^2 a + a^2 * s^2 b}$$

The results of causal steps approach to Hypothesis 19a are located in Tables 10a-10c. These results were not supportive mediation. AIMTL was not significantly related to team process outcomes as rated by subject matter experts; a condition necessary for mediation to occur (Preacher & Hayes, 2004; Baron & Kenny, 1986). To further examine this hypothesis, I tested the indirect effect of AIMTL on team processes with leadership behaviors as the explanatory variable. The critical ratios (i.e., *z*-scores) were not significant and ranged from .31 to .83 (see Table 9), thus overall Hypothesis 19a was not supported.

For Hypothesis 19b, SNMTL was not found to be significantly related to team process outcomes as rated by subject matter experts. Table 10b reports the causal steps approach and similar to AIMTL, SNMTL was not related to the outcome variable of interest. Sobel tests were then conducted on SNMTL leadership behaviors rated by team

members, and transition, action, and interpersonal processes rated by subject matter experts to determine if there were significant indirect effects. Although positive, the critical values for these two tests for indirect effects failed to reach significance, ranging from .30 to 1.02 (see Table 9).

Hypothesis 19c predicted the relationship between NCMTL and team processes would be mediated by leadership behaviors. NCMTL was significantly related to action team processes (B = -.22, $p < .05$; rated by subject matter experts). However, the critical values for this particular relationship did not reach significance ($z = -1.24$). The critical values for Hypothesis 19c ranged from -.23 to -1.41. A test of Hypothesis 19c using the causal steps approach is presented in Table 10c and the results do show some evidence that the negative effects of NCMTL on action team processes are attenuated when directive leadership behaviors are entered into the model (B = -.15, ns) and similarly attenuated when empowering leadership behaviors are entered into the model (B = -.18, ns). This effect is difficult to interpret given that NCMTL was not significantly related to the mediating variable, leadership behaviors, thus Hypothesis 19c was not supported.

Results of Leadership Potential and Leader Satisfaction

Hypothesis 20 posited that directive and empowering leadership behaviors would be positively related to leadership potential and leadership satisfaction. The results in Tables 11a and 11b show that directive leadership was positively associated with leadership potential (team member ratings, B = .57, $p < .01$; subject matter expert ratings, B = .49, $p < .01$) and leader satisfaction (team member ratings, B = .35, $p < .01$;

subject matter expert ratings, B = .29, $p < .01$). Empowering leadership was positively related to leadership potential (team member ratings, B = .50, $p < .01$; subject matter expert ratings, B = .54, $p < .01$) and positively related to leader satisfaction (team member ratings, B = .26, $p < .01$; subject matter expert ratings, B = .29, $p < .01$). The relationships between subject matter expert ratings of laissez-faire leadership behaviors and leadership potential were negative (B = -.26, $p < .05$). The team member ratings of leader satisfaction were not associated with laissez-faire leadership behaviors (B = .01, ns). Thus, Hypothesis 20 was almost fully supported.

Hypothesis 21 stated that each MTL factor will explain additional variance in leadership potential ratings above that of personality effects. To test this hypothesis I ran a hierarchical regression analysis to examine MTL factors with leadership potential after entering personality (i.e., Extraversion, Conscientiousness, and Agreeableness) into the model. The results of these analyses are presented in Table 12. They show that MTL factors did not explain unique variance above and beyond personality effects on ratings of leadership potential (B = .13, ns for AIMTL; B = -.14, ns for SNMTL; and B = .06, ns for NCMTL; $\Delta R^2 = .00$, ns).

Hypothesis 21 further predicted that the effect of MTL on leadership potential would be mediated by leadership behaviors. To complete the analysis, I performed tests for indirect effects on these hypotheses. The results presented in Table 13 fail to support any indirect effects of MTL on leadership potential through leadership behaviors. Critical ratios regarding the relationship between MTL and leadership potential ranged

from .23 to .55, well below the critical significance level of ±1.96 (based on $\alpha = .05$), thus Hypothesis 21 was not supported.

Supplemental Analyses

The design and focus of this study relies heavily on dispositional predictors of motivation to lead. At the completion of this study, it was decided to further assess the dispositional influence in MTL. This led to additional analyses isolating one dimension of MTL. Supplemental models were developed including the key dispositional variables: Extraversion, Conscientiousness, and AIMTL. There is evidence that AIMTL is more trait-like than the social-normative and noncalculative factors (Amit et al., 2007; Chan & Drasgow, 2001). Individuals with high levels of AIMTL generally enjoy leading and see themselves as having leadership qualities (Chan & Drasgow, 2001; Van Iddekinge et al., 2009) and evidence shows this is quite stable over time. This trait-like effect is in contrast to either NCMTL or SNMTL that capture individuals tendency to calculate (or fail to calculate) the cost of leadership duties or lead only when asked. An individual's level of NCMTL and SNMTL may be more contingent on the leadership context and are more susceptible to being trained (Amit et al., 2007; Chan & Drasgow, 2001); therefore NCMTL and SNMTL were not included in the supplemental analysis. Scholars have called for more leadership research that includes both distal and proximal leadership variables as predictors of team and leadership outcomes (Hoffman et al., 2011; Van Iddekinge et al., 2009; Kark & Van Dijk, 2007; Schaubroeck et al., 2007; Day et al., 2004; Chan & Drasgow, 2001; Hogan et al., 1994), therefore it is important for models

to fully examine leader dispositions to achieve a more comprehensive analysis of their overall affect on team processes, leadership potential and leader satisfaction.

The supplemental analysis was conservatively conducted, as the mediating and outcome variables used different methods of collection. This analysis was completed with subject matter expert ratings of leadership behaviors and team member ratings of team processes. Because team members are engaged in the team task making it difficult to evaluate performance, subject matter experts are able to observe without distraction and accurately gauge team leadership behaviors. There are a number of reasons to focus on team member ratings of processes. First, Marks et al. (2001) discuss the issue of process measurement strategy and note that certain processes are less observable than others because some processes represent cognitive and attitudinal measures that are difficult to observe (e.g., monitoring the environment). Therefore, the authors suggest the use of self-report measures to examine distinct processes. Second, team members rate each process subdimension using a multiple item measure, whereas subject matter expert ratings use a behavioral-anchored rating scale where each process subdimension (e.g., affect management – interpersonal process) is assessed via a single item. Third, team member ratings of team processes are used in the supplemental analysis to avoid common source bias.

This study is rare in that it includes a number of team leadership outcomes captured in relatively few studies. A recent review spanning 25 years of research on leadership outcomes indicates that only eight percent of team-level leadership studies measured leadership behavior from the researcher's (i.e., subject matter expert)

perspective (Hiller, DeChurch, Murase, & Doty, 2011). Similarly, the distal leadership outcomes used in this study are equally uncommon in leadership literature. Laboratory outcomes pertaining to leadership performance (e.g., leadership potential) were reported in only 6.2% of studies, team member attitudes (e.g., leader satisfaction) in 6.2%, and group processes in 3% of 533 studies examined (Hiller et al., 2011). Modeling the effects of dispositions on these leadership outcomes represents a significant contribution to studies of team-level leadership effectiveness.

For a more complete picture of the impact that leader dispositions may have on team processes, leadership potential, and leadership satisfaction, a series of path analyses were conducted using AMOS 17. These structural models explore the effects of personality on team leader dispositions and in turn, on proximal mediators (e.g., behaviors) and to a number of important leadership outcomes (e.g., processes, potential, and satisfaction). Nine total models are presented. A two-step approach was employed by first examining the hypothesized model to determine model fit. The hypothesized relationships were tested in the structural model (Kline, 2005; Anderson and Gerbing, 1988). In line with theory, the hypothesized model included paths from Extraversion and Conscientiousness to AIMTL. Based on results in the initial analysis of the dispositional variables, paths were included that linked Extraversion to directive and laissez-faire leadership behaviors, and AIMTL to empowering leadership behaviors. In all structural models, paths lead from leadership behaviors to the outcome of interest. In later figures, significant paths from prior structural models are retained providing a comprehensive

analysis of how leadership behaviors and team processes affect team leadership outcomes.

A two-step nested approach was performed to test alternative models that were either more or less constrained than the hypothesized model (Anderson & Gerbing, 1988). In the first step, the hypothesized model was tested followed by a comparison of two alternative models. Two theory-based modified models with suggested constrained and unconstrained alternatives were examined in relation to the hypothesized model (Kline, 2005). The less constrained model included paths from AIMTL to directive and laissez-faire leadership based on earlier hypotheses, as well as paths from Conscientiousness and Extraversion to empowering leadership. The more constrained model removed the paths from Conscientiousness and Extraversion to AIMTL. Analysis of the hypothesized model indicated that the data fit the model reasonably well, GFI = .88, CFI = .89, IFI = .89, RMSEA = .05. The chi-square was found to be a significant improvement over the more constrained model ($\Delta\chi^2$ (3) = 34.89, $p < .01$). The hypothesized model was compared to the less constrained model. These models were not significantly different ($\Delta\chi^2$ (2) = 9.31, ns). An inspection of the standardized path loadings for the hypothesized model and less constrained model showed consistent relationships; therefore the hypothesized model was used in the analyses.

Initially, three models (Figures 8, 9, & 10) were analyzed with each team process dimension (rated by team members) as the dependent variable. Next, the hypothesized model was used to examine four additional models. Two models with leadership potential as the dependent variable and two models where leader satisfaction

was the dependent variable. In each case, the second model included direct paths from team processes to leadership outcome as a control. Figures 11-14 present the results. Finally, Figures 15 and 16 portray comprehensive path models with leadership potential and leader satisfaction as the outcome, respectively. These models examined the causal nature of the team leadership variables used in this supplemental analysis by examining dispositions, behaviors, and processes simultaneously.

Next, the nature of the relationships among all of these models is summarized. Figures 8, 9, and 10 show the path models predicting team processes. Figure 8 examined the impact of leader dispositions and leadership behaviors on transition processes. Extraversion was positively related to directive leadership behaviors (β = .35, p < .01), laissez-faire leadership (β = -.29, p < .01), and AIMTL (β = .30, p < .01). Conscientiousness was related to AIMTL (β = .25, p < .01). Further, Conscientiousness (β = .16, p < .05) and Extraversion (β = .28, p < .01) were positively related to transition team processes. Figure 9 examined the impact of leader dispositions and leadership behaviors on action processes. Empowering leadership behaviors were positively related to action team processes (β = .13, p < .05). Figure 10 examined the impact of leader dispositions and leadership behaviors on interpersonal processes. Directive and empowering leadership behaviors were positively related to interpersonal team processes (directive, β = .15, p < .05; empowering, β = .26, p < .01).

Figure 11 is a path model predicting leadership potential. The results indicate that leadership behaviors are strong predictors of leadership potential above that of leader dispositions. Specifically, directive and empowering leadership were positively related

to leadership potential (directive, β = .52, p < .01; empowering, β = .56, p < .01). Laissez-faire leadership was negatively related to leadership potential (β = -.24, p < .01). Figure 12 shows a path model predicting leadership potential where team processes are included as additional controls. The results of this model show that with the effects of team processes controlled for, leadership behaviors remain a significant predictor of leadership potential (directive, β = .50 , p < .01; empowering, β = .56, p < .01; laissez-faire, β = -.24, p < .01).

Figure 13 is a path model predicting leader satisfaction. The results indicate that leadership behaviors are strong predictors of leader satisfaction above that of leader dispositions. Specifically, directive and empowering leadership were positively related to leader satisfaction (directive, β = .44, p < .01; empowering, β = .58, p < .01). Laissez-faire leadership was negatively related to leadership potential (β = -.25, p < .01). Figure 14 shows a path model predicting leader satisfaction where team processes are included as additional controls. The results of this model show that with the effects of team processes controlled for, leadership behaviors remain a significant predictor of leader satisfaction (directive, β = .42 , p < .01; empowering, β = .58, p < .01; laissez-faire, β = -.25, p < .01).

The full path model in Figure 15 links distal leader dispositions to behaviors, leadership behaviors to team processes, and team processes to leadership potential. The results show that Extraversion remained a significant predictor of transition processes (β = .12, p < .05), directive leadership (β = .33, p < .01), laissez-faire leadership (β = -.30, p < .01), and AIMTL (β = .28, p < .01). Empowering leadership was related to

interpersonal processes (β = .11, p < .05) and leadership potential (β = .58, p < .01). Laissez-faire leadership was related to action processes (β = -.13, p < .05), interpersonal processes (β = -.11, p < .05), and leadership potential (β = -.16, p < .05). Directive leadership was related to leadership potential (β = .24, p < .01). Additionally, action processes were directly related to leadership potential (β = .11, p < .05).

The full path model in Figure 16 links distal leader dispositions to behaviors, leadership behaviors to team processes, and team processes to leader satisfaction. The significant relationships are quite similar to those found in Figure 15. Overall, behaviors were predictive of leader satisfaction, while action processes remained significantly related to the outcome; leader satisfaction (β = .11, p < .05).

Conclusion

The results of this supplemental analysis provide useful insight for research regarding more complex team leadership models (Mathieu et al., 2008; Day et al., 2004; Zaccaro et al., 2001). Overall, the results of the structural models demonstrate that distal traits can impact team work directly. Team leaders who are more conscientious and extraverted are able to positively impact critical planning and strategizing that teams engage in before task work. Further, dispositions proved to be predictive of leadership behaviors; in particular these results suggest that extraverts may prefer a more directive style of leadership. Extraverted leaders remain active throughout the task, evidenced by the consistent negative relationship with laissez-faire leadership behaviors in the structural models. Finally, although MTL was not very useful in these models, stable

personality traits are good indicators of AIMTL, consistent with results from the initial analysis.

A directive style of leading is often perceived as abrasive and curt (Yukl, 2006). These results suggest that many positive team and leadership outcomes are a consequence of a more directive style (Sosik & Dinger, 2007; Judge et al., 2004). Directive leaders are able to positively impact interpersonal processes by setting goals, directing task work, and making decisions for the team. It is possible that these directive behaviors produce confidence and motivation, important interpersonal processes, in action team members. Additionally, evidence exists that directive leaders may be more effective at managing dissent or intra-team conflict (Judge, Piccolo, & Ilies, 2004; Bass, 1997). Empowering leadership also emerged as an important team leadership behavior. Empowering leadership is predictive of action and interpersonal processes. These types of leaders encourage self-management by team members which perhaps is beneficial in short-term action teams. In contrast to the 'hands-off' style associated with laissez-faire leadership, empowering team leaders' active support positively impact task work and the social aspect of team work directly.

Leadership behaviors were found to be related to leadership potential and satisfaction the leader, two important leadership related outcomes that have received little empirical attention (Hiller et al., 2011). Regarding these leadership outcomes, one major theme emerged – behaviors matter. Directive, empowering, and laissez-faire leadership are impactful predictors of leadership potential and leadership satisfaction. Additionally, Action processes were also directly related to leadership potential and

leadership satisfaction. These relationships remained significant beyond direct and indirect of effects of dispositions and team work. Taken together, the results of the supplemental analysis suggest that it is advantageous for leaders to be active and remain active in their leadership role, regardless of their leadership style.

A recent meta-analysis concluded that task- and person-focused leadership behaviors each explain moderate to large amounts of variance in team outcomes (Burke et al., 2006). The authors concluded that leadership development interventions should incorporate both behavioral elements into their training. Others scholars have argued that increasing individuals' behavioral repertoire is advantageous for organizations (Lawrence, Lenk, & Quinn, 2009; Judge et al., 2004; Bass, 1997). The results of the initial and supplemental analyses provide support for the recommendation that leaders should be encouraged to develop and engage in different types of leadership behaviors (Burke et al., 2006; Bass, 1997). For those charged with leadership development, the results suggest that training in both directive and empowering leadership behaviors may benefit team interpersonal functioning (Pearce et al., 2008; Mathieu et al., 2008; Day et al., 2004; Pearce & Sims, 2002).

CHAPTER V

DISCUSSION AND CONCLUSION

This study examined team leadership in the context of an action team. Specifically, this study was designed to test how a team leader's individual differences, such as personality and beliefs regarding the nature of leadership, interact to predict if an individual is motivated to lead. Subjects were given a chance to lead a team in a laboratory setting toward performance goals. This context allowed for an examination of the causal link that motivation to lead plays in during a leadership event (Rost, 1997). The purpose was to help explain how a leader's more stable traits could affect leadership behaviors, and ultimately team functioning (i.e., team processes). Further, the potential to lead and satisfaction with the leader were also included as outcomes in the analysis. This research represents a contribution in that no studies to date have examined the link between motivation to lead, leadership behaviors, and measures of team processes (Hendricks & Payne, 2007).

I sought to integrate the findings of previous studies which explored antecedents to motivation to lead (Hendricks & Payne, 2007; Chan & Drasgow, 2001; Van Iddekinge et al., 2009). A portion of my model focused on the lack of consistent relationships between personality and MTL and suggested that the link between personality and MTL would be moderated by an individual's orientation toward leadership, or their belief about what constitutes effective leadership (Hiller, 2005; Drath, 2001). Additionally, this study is one of the first to examine if motivation to lead is related to leader behaviors and

subsequent team processes, and if so, are the relationships are mediated by leadership behaviors. I also proposed that motivation to lead is predictive of leadership potential above that of leader personality traits and that the relationship is mediated by team leadership behaviors, an extension of Chan's initial proposition (Chan, 1999). Finally, I tested the relationships between leadership behaviors and leadership potential and satisfaction with the leader.

I used data which were collected from a sample of 425 undergraduate students where 85 team leaders were in charge of leading groups of four team members (N = 340) in a team laboratory designed to promote team interdependency. Hypotheses related to my model were tested through hierarchical moderated regression and mediation analyses that included Baron & Kenny's (1986) causal steps approach as well as Sobel tests for indirect effects. I organize the discussion of the findings in this study by first focusing on antecedents to MTL (i.e., Stage 1), then consequences of MTL (i.e., Stage 2), followed by findings regarding other predicted relationships, and finally non-hypothesized findings. An overall summary of the findings is followed by a discussion of theoretical implications, managerial implications, limitations of the present research, and what future research might focus on given the results of this dissertation.

Findings Regarding Antecedents to MTL

Hypotheses 1-11 predicted moderating effects for various OTL dimensions on the relationships between personality factors and each of the MTL dimensions. Several of the relationships between personality factors and MTL dimensions were consistent

with previous research (Van Iddekinge et al., 2009; Hendricks & Payne, 2007; Chan & Drasgow, 2001; Hartman et al., unpublished). More specifically, the relationships regarding Extraversion, Conscientiousness, Agreeableness and MTL are similar to those found in previous studies (Chan & Drasgow, 2001; Van Iddekinge et al., 2009: Hendricks & Payne, 2007; Hartman et al., unpublished), however several are noteworthy.

Extraversion was found to be related to AIMTL (r = .40). The link between Extraversion and AIMTL was quite similar to that found in Hendricks and Payne (r = .40) and Van Iddekinge et al (r = .39). Extraversion is related to leadership emergence in leader-less group settings (Foti & Hauenstein, 2007), suggesting a link between extraverts and an overall desire to lead. More evidence of the consistent relationship between Extraversion and AIMTL suggest that AIMTL has a strong dispositional component. The relationship between Extraversion and SNMTL (r = .26) was slightly below what has been found in previous research (correlations range from .33 to .41). Conscientiousness was also found to be related to AIMTL (r = .36), which is similar to the relationships found in Chan and Drasgow (r = .35) and higher than that found in Hendricks and Payne (r = .25). These results complement findings that suggest hard working, dependable, organized individuals also like to lead. Perhaps this is so because conscientious individuals perceive the leadership role as one where they are able organize a group, their tasks, and are also attracted to the effort it takes to lead. This point would be more consistent with the relationship between Conscientiousness and SNMTL (r = .20), which suggests that conscientious individuals are more likely to

'answer the call' when asked to lead (Chan & Drasgow, 2001; Hendricks & Payne, 2007). Additionally, Agreeableness was significantly associated with SNMTL (r = .25). This relationship has demonstrated the highest consistency among the main effects (r = .24, .25, .30, .36) which suggests agreeable individuals are also more willing to 'step up to the plate' when asked to lead (Chan, 1999). NCMTL was not significantly related to the Big-Five personality traits selected for this study.

These findings indicate that stable personality traits are predictive of different leadership aspirations (Chan & Drasgow, 2001; McClelland & Boyatzis, 1982). More specifically, these results lend more support for the link between personality, AIMTL, and SNMTL. When compared to earlier research on antecedents to MTL, the significant relationships noted above lend support for the overall proposition that personal characteristics drive individuals to pursue leadership training and development opportunities (Chan, 1999; Mael & White, 1994). The size of the effects for the relationships between personality traits and MTL were proposed to be contingent on personal beliefs regarding the nature of leadership, or an individual's orientation toward leadership. Although moderating hypotheses were not supported, this study contributes to literature on the relationship between personality and MTL and in doing so reduces the lack of consistency among these variables.

Findings Regarding Consequences of MTL

Whereas the study's findings supported a relationship between personality and motivation to lead, with one exception, motivation to lead was not found to be predictive

of variance in the outcome variables of interest in this study. Hypotheses 12-15 predicted relationships between the MTL dimensions and leadership behaviors. These relationships were not supported by the data, however findings such as the relationship between SNMTL and directive leadership (B = .37, $p < .10$) are noteworthy for future studies attempting to link MTL to behavioral outcomes. Additionally, laissez-faire leadership was consistently negatively related to the MTL factors. Although the regression results for laissez-faire leadership and MTL failed to reach significance, the overall negative trend is encouraging evidence that more motivated leaders remain active throughout a leadership task.

This study represents the first to attempt to empirically link MTL to leadership behaviors and team processes. I predicted that the link between MTL and team processes would be explained by leadership behaviors. Although mediating effects were not uncovered, this study did find evidence for a relationship between MTL and team processes. The regression result of the relationship between NCMTL and action processes (B = -.20, $p < .05$), suggests that an individual who is motivated to lead without calculating the costs or responsibilities of the leadership role may be less likely to be helpful during actual task work. Although it was theorized that higher levels of any MTL factor would translate into higher levels of processes through related action on the part of the leader, the relationship described above suggests that those who do not calculate the costs of leadership are possibly naïve to their duties when exercising leadership and are therefore less than effective.

Further, I predicted a positive relationship between MTL and leadership potential above and beyond personality factors. This portion of the hypothesis was a replication of a similar hypothesis by Chan and Drasgow (2001) which used military recruits from Singapore. Results of the analysis revealed no support for the incremental validity of MTL to predict leadership potential ratings. Further, it was hypothesized that the relationship would be mediated by leadership behaviors. This hypothesis was not supported.

Regression Results Regarding Other Predicted Relationships. Support for a number of the predicted effects of leader behaviors on team processes, leadership potential and leader satisfaction represent this study's primary findings. Leadership behaviors and team processes were measured from two sources; team members and subject matter experts. Leadership potential was assessed by subject matter experts who observed the team leader during their role enactment, whereas the leader satisfaction variable represents team member ratings of their satisfaction with their leader during the task.

Hypotheses 16-18 predicted relationships between leadership behaviors and team processes. Overall, team member ratings of leadership behaviors demonstrated robust relationships among both sets of team process ratings. More specifically, directive leadership behaviors rated by team members demonstrated positive relationships action and interpersonal team member rated process. One noteworthy result was that directive leadership behaviors were predictive of action processes and this relationship was

consistent among team member and subject matter expert ratings of leadership behaviors and action processes, with one exception (Directive SME→Action TM; B = .03, ns). A directive leader concerns themselves with the performance of their team by setting goals, making decisions for the team, and getting involved in task work. Because of this, team work related to task performance (i.e., action processes) is positively impacted. This result suggests that different leadership styles do affect teams differently (Sosik & Dinger, 2007; Burke et al., 2006).

Empowering leadership was significantly related to team processes across both ratings of empowering leadership and team processes, with only one exception (Empowering SME→Transition TM; B = .13, ns). Leaders who exhibit empowering leadership behaviors are likely to engage in the person-focused behaviors such as managing conflict, engendering positive attitudes, and building confidence in team members (Pearce et al., 2008). Further, the consistent relationship with action and interpersonal processes indicate that it may be beneficial to team functioning for leaders to encourage team members to self-manage solutions to the problems teams encounter, rather than orchestrating and directing these process phases themselves (Pearce & Sims, 2002). These pattern of results suggests that in order for team leaders who 'do what needs to be done' for the team to function, their behavioral style may be important which conflicts with functional leadership theory (Morgeson et al., 2010; Zaccaro et al., 2001; Hackman & Walton, 1986).

Additionally, laissez-faire leadership behaviors were found to be negatively associated with interpersonal processes. This finding is consistent with research on

laissez-faire leadership that suggests effective leaders are active, not passive during important leadership duties and that nonexistent leaders can negatively impact group attitudes (Hinkin & Schriesheim, 2008; Bennis, 2007; Judge et al., 2004).

Hypothesis 20 predicted a positive relationship between leadership behaviors and both leadership potential and leader satisfaction. This hypothesis was largely supported. Specifically, directive and empowering leadership rated by both team members and subject matter experts were found to be associated with leadership potential. Regardless of the observer, leaders who behave in ways consistent with either leadership style were perceived to have the potential to lead as rated by subject matter experts. This is consistent with literature on leadership potential which suggests that observing individuals in a leadership context results in more accurate assessments of their future abilities (Marshall-Meis et al., 2000). The consistency of the effects also suggests that leadership potential is not contingent upon demonstrating a particular style that may or may not be perceived as effective by subject matter experts. Further, laissez-faire leadership was found to be negatively associated with leadership potential. This finding is not surprising as non-existent or passive leadership has been shown to be ineffective in groups where action on the part of the leaders is expected (Hinkin & Schriesheim, 2008).

In the regression analysis, directive leadership behaviors as rated by team members and subject matter experts were found to be positively related to leader satisfaction. Laissez-faire leadership was not found to be related to leader satisfaction in these models. The predicted positive relationship between empowering leadership

behaviors and leader satisfaction was not supported with subject matter expert ratings of behaviors. Overall, these findings indicate that team members recognize and are satisfied with their leader when leaders are supporting the team and acting in ways that facilitate goal attainment (Day et al., 2004; Zaccaro et al., 2001). When examining these ratings, results suggest that team members are more satisfied with leaders who are active in either directing team work or encouraging team members to self-manage team activities.

Theoretical Implications

This research also has implications for the theoretical development of MTL. Early research on MTL has been focused on predicting individual differences in MTL. Evidence was found for personality antecedents, contributing to the early findings regarding predictors of MTL. However, the results did not support the hypotheses that these main effects would be contingent upon an individual's orientation toward leadership. This study's lack of results regarding the consequences of MTL may be due to several factors that should be considered before future research is conducted using the MTL construct. First, certain MTL factors may be more situationally based where contextual factors are important predictors of an individual's choice to lead, to expend effort at leading, or to persist at leading during contingencies (Amit et al., 2007; Chan, 1999). The prediction of individual differences in MTL, which was the focus of my moderating hypotheses, is helpful when the purpose is to predict behavioral consistencies (e.g., personnel selection) rather than behaviors in specific contexts (Chan & Drasgow, 2001). Because the present research is embedded in a specific team context

(i.e., an action or performance team), general conclusions regarding MTL may be premature. It may be that team or task-type act to strengthen or weaken the relationship between MTL and behavioral outcomes. In particular, the predictive validity of NCMTL and SNMTL are likely more dependent on the leadership context (Amit et al., 2007; Chan, 1999). Developing theory that conceptualizes how or if the desire to lead changes between specific contexts will be helpful as research on MTL advances. Second, the study subjects who were trained as leaders were assigned the role of leading their team through a performance task. The expectations of a leadership role and its duties may in itself motivate individuals to put forth effort in conformity with their assigned role. It may be that the training team leaders received heightened awareness of their role expectations and in so doing, suppressed any motivational effects. Third, it is possible that MTL's relevance is more applicable to leader-less group settings where no appointed leader is present. Amit et al. (2007) suggest that the items MTL are more consistent with items tapping leadership goal attainment or emergence. Research that explores the theoretical relationship between MTL and leader emergence in group situations would aid in establishing the predictive validity of the MTL construct.

This research has implications for functional leadership theory (Hackman & Walton, 1986). In a team leadership context, this theory views leadership roles as needs-based in that it is the leader's job to meet team needs (Morgeson et al., 2010; Zaccaro et al., 2001). Consistent with functional leadership theory, results of this study suggest leadership behaviors (e.g., directive and empowering) are the drivers behind team functioning. Leaders meet team needs by engaging in specific behaviors that help move

the team toward achieving team goals. My findings support the contention of functional leadership theory that the more active a leader is when leading a team, the more likely they are to influence teamwork in positive directions (Hackman, 1987). Beyond the connection between general leadership and team outcomes, the results of this study answers a specific call for research to explore whether team leadership behaviors can relate differentially to outcomes important to teams, such as team processes (Burke et al., 2006; Day et al., 2004). Although some of these differences were dependent on the source of the rating (e.g., team member or subject matter expert), some consistencies between leadership behaviors and outcomes were apparent across rating sources. In Morgeson et al's (2010) theoretical paper on team leadership, the authors identify 15 different leadership functions that 'meet team needs'. Given the results of this research, it may be important for the development of functional leadership measures to note that the results of the path analysis showed empowering behaviors were positively related to action processes, while directive behaviors were not. Further, both empowering and directive leadership predicted increases in interpersonal processes. This suggests that *how* the leader functions influences teamwork differently. These results help to explain why different team leadership behaviors result in different effects on team effectiveness outcomes (Burke et al., 2006).

The positive correlation between Extraversion, Agreeableness and shared OTL is also noteworthy. This finding indicates that extraverts and agreeable individuals tend to see leadership as more effective when the leadership role is shared among the group members, rather than the property of an individual (i.e. dominance OTL). It is possible

that agreeable individuals seek to interact with others, which is more likely to occur in a shared leadership context than a strict hierarchical context. Further, agreeable individuals are not as likely to view other people as a personal threat to their position as less agreeable individuals, thus they may be more comfortable sharing power with team members. They look to please others, therefore they may view leadership as a process to be shared because they see it as more likely to result in a favorable reaction from team members (Judge & Bono, 2004; Judge et al., 2002). Extraverts are sociable and desire interaction with other individuals. Therefore, like agreeable individuals; they may view a shared leadership context as more likely to provide opportunity for interpersonal interaction. Leadership trait research would benefit from additional theory that explicates when, or how, leader traits interact with beliefs in effective leadership.

Managerial Implications

Results of this dissertation can inform managers who select internal organizational leadership. The findings in this dissertation are embedded in the unique context of an action or performance team. Performance teams are short-term entities that often operate under time constraints (Cohen & Bailey, 1997). These results indicate that leader characteristics such as intelligence, Extraversion, and Agreeableness, are associated with many of the positive outcomes that performance teams desire. Team leaders who can positively influence teamwork will ultimately influence performance (LePine et al., 2008). Additionally, the results in this dissertation suggest that behaviors have a strong impact on team functioning. Leadership development programs typically

focus on how individuals can change or enhance their activities to make them more successful at influencing subordinates (Yukl, 2006). Therefore, organizational decision makers who select individuals to lead teams where the primary purpose is short-term performance are equipped with the knowledge that certain leader characteristics matter, but ultimately the actions leaders take set their teams apart (Judge et al., 2004).

Many managers are essentially team leaders. Given the results of this dissertation, managers may want to note that teamwork is significantly influenced by a leader's behavior, or the actions they take. Also, results indicate that different aspects of teamwork may be influenced by a different leadership style (e.g., empowering behaviors and interpersonal processes). Depending on a manager's personal leadership style, outcomes in their own teams may be differentially impacted. This information may be important to consider before teams are assembled because managers can then target distinct, desired outcomes by leading in ways consistent with achieving those outcomes (Morgeson et al., 2010).

Study Limitations

This study employed a complex laboratory design to further understand team leadership. The focus of much of this dissertation was to understand the differences between team leaders that may or may not impact important team-related outcomes. Although some supportive findings emerged at the individual level, a more diverse sample could aid in the generalizability of this, and similar research. This is true for several demographic variables that may be influential when attempting to determine

individuals' desire to lead and the reasons behind that motivation (Popper & Mayseless, 2002; Mael & White, 1994). As individuals age and gain leadership experience they may assess situations differently that could drastically change their tendency to 'step up to the plate' if asked to lead or to calculate the costs of leadership responsibilities. The present research was not able to gather data with any meaningful variance in age or leadership experience to contribute to these important questions. However, this study reaffirms that less malleable characteristics (e.g., personality) can be useful in predicting important differences among team leaders that ultimately influence team functioning (Van Iddekinge et al., 2009; Day et al., 2004; Chan & Drasgow, 2001).

Further, the participants in this study were undergraduate students. Although some scholars have argued against using student samples on the basis that the results are not as generalizable as studies using field samples (Gordon, Slade, & Schmitt, 1986), others have pointed out that empirical studies using student samples can provide valuable sources of information and that generalization cannot be inferred from any one study regardless of the sample (Greenberg, 1987; Locke, 1986; Bass & Firestone, 1980).

This research presents only two leadership behavioral styles in its analysis. It is possible that other approaches to leading a team could be predictive of the outcomes presented in this study. However, directive and empowering leadership behaviors represent measurement approaches typical of team leadership research (Zaccaro et al., 2001; Day et al., 2004), as well as in practice (Pearce et al., 2008). Further, laissez-faire leadership was included in many of the analyses to demonstrate the impact of the lack of

leadership behavior and was shown to be negatively associated with many important team leadership outcomes.

Lastly, this study was conducted in the context of a specific team type – an action or performance team. This limits any generalizations or contributions made by this study to those forms of teams. Many of the theorized relationships may be more relevant and of significance in other team types or group contexts. Related to this, the model presented in this study did not take into account any between-team differences in characteristics, demographics, or abilities. Research has noted that team members, or followers, are not passive recipients of leadership (Bedeian & Hunt, 2006; Bass, 1997). Models that can account for difference between teams and their members will offer a more complete picture of team leadership dynamics (Day et al., 2004; Zaccaro et al., 2001; Hogan et al., 1994; Hollander, 1992).

Future Research Directions

Literature on MTL would benefit from more diverse samples. As mentioned above, very little is known about MTL because variance in demographic and biographic data is missing from most of the samples in empirical studies (Van Iddekinge et al., 2009; Amit et al., 2007; Mael & White, 1994). For research to advance, more diverse set of individuals and groups should be utilized for exploring people's leadership desires. This holds true for individuals' orientations toward leadership as well. It is hard to imagine that many individuals move through life holding the same belief regarding the nature of leadership. Leadership orientations are likely to be shaped and molded by

various factors, such as critical life events, leadership experience, or training and development. To better understand these important constructs, leadership scholars will need to move past university student and military recruit samples (Chan & Drasgow, 2001).

Similarly, diversity in the context, or situation would contribute to the understanding of when MTL might matter and when it might not. This dissertation did not see many significant effects for the MTL factors in a short-term action team. As discussed above, the situational contingencies that affect MTL have not been fully conceptualized (Chan, 1999). Perhaps research utilizing teams in organizational settings that operate in longer duration and under a different set of team dynamics (e.g., politics) would uncover effects regarding the longitudinal nature of MTL. This presents a fruitful area for both theoretical and empirical research regarding the intersection of an individual's leadership desires and the leadership context. Similarly, the reasons behind individuals' desire to lead may not be limited to the three factors outlined by Chan (1999). Amit et al (2007) suggested the type of motivation may be different for different groups. Using a military sample, they found two alternative factors emerge among military personnel: ideological and patriotic MTL. These results suggest that the situation may also drive different motivations to emerge (Kark & Van Dijk, 2007).

Although the model presented in this dissertation was concerned with predicting team functioning, future studies should explore the linkages between team leadership, team work processes, and team effectiveness outcomes (e.g., team performance, satisfaction, viability, and learning). Recent meta-analytic evidence shows a positive link

between the leadership behaviors presented in this research and team effectiveness outcomes. One example is the positive relationship between empowering leadership behaviors and team learning. It is possible that increases in specific team processes (e.g., action processes) explain why a certain leadership style produces different levels of effectiveness (Burke et al., 2006; Day et al., 2004; Hackman & Wageman, 2005). Future research should explore the relationship between empowering leadership, action processes and team learning outcomes. Perhaps the encouraging nature of empowering leaders leads to more shared responsibility among team members. Recent team leadership models have shown that shared leadership is associated with team effectiveness (Carson et al., 2007; Pearce & Sims, 2002). The inclusion of team process measures to comprehensive team leadership models can help explain *how* empowering leadership behaviors affect team and leadership effectiveness.

Future research should explore the associations between OTL and related factors. One such relationship is the significant negative relationship between NCMTL and dominance OTL (r = -.39). This association suggests that individuals who calculate the personal costs of leadership view leadership as a top-down function of the person in charge. Taken another way, having a dominant view of leadership is associated with the calculation ‘what’s in it for me?’ before they are willing to lead (Chan & Drasgow, 2001). This is an interesting finding and the size of the effect suggest that it is worthy of future investigation. The present research found the presence of consistent negative (nonsignificant) effects between NCMTL and many of the outcomes desirable for teams and individual leaders. Perhaps their calculated decision to lead is somehow detectable

by team members and therefore makes it difficult to influence teamwork in positive directions. It would be interesting for future laboratory or field research to investigate this proposition. Very little empirical research exists that demonstrates why a motivated leader may have a difficult time influencing team members. Further, Extraversion and Agreeableness were found to be significantly correlated with shared OTL. This association indicates that stable characteristics found in extraverts and agreeable individuals are associated with the view that leadership is more effective when the roles are shared and is a property of the group, not an individual. Understanding the correlates of individuals' orientations toward leadership can help explicate group leadership dynamics, such as leadership emergence (DeRue & Ashford, 2010). This is an interesting finding that is discussed further in the section on future research.

Conclusions

Overall, this dissertation focused on motivation to lead. In a team laboratory setting, motivation to lead was explored as an important predictor and driver of team functioning. The majority of the research questions surrounded the team leader and how individual differences, both stable and malleable, shape their leadership style and consequently, a team's (positive) functioning. Certain stable personality traits were predictive of an individual's various motivations to lead; however these relationships were not contingent upon one's orientation toward leadership. Study results also uncovered that team leader dispositions can impact team work directly. Further, this study was able to demonstrate the importance that team leadership behaviors have on

team functioning. Other outcomes focused on how the leader ‘performed’ in the eyes of their team members and by subject matter experts. Leaders, as well as teams, who were more active in their roles received higher ratings of leadership potential and satisfaction with the leader.

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APPENDIX A

List of measures and items used - *(R denotes this item is reversed scored)

Personality – Big-Five Constructs:

Extraversion:

1. I am quiet around strangers.*
2. I am the life of the party.
3. I don't like to draw attention to myself.*
4. I don't mind being the center of attention.
5. I don't talk a lot.*
6. I feel comfortable around people.
7. I have little to say.*
8. I keep in the background.*
9. I start conversations.
10. I talk to a lot of different people at parties.

Conscientiousness:

1. I am always prepared.
2. I am exacting in my work.
3. I follow a schedule.
4. I get chores done right away.
5. I leave my belongings around.*
6. I like order.
7. I make a mess of things.*
8. I often forget to put things back in their proper place.*
9. I pay attention to details.
10. I shirk my duties.*

Agreeableness:

1. I am interested in people.
2. I am not interested in other people's problems.*
3. I am not really interested in others.*
4. I feel little concern for others.*
5. I feel others' emotions.
6. I have a soft heart.
7. I insult people.*
8. I make people feel at ease.
9. I sympathize with others' feelings.
10. I take time out for others.

Orientation toward Leadership:

Dominant:

1. Leaders order other people around.
2. Leadership and power are pretty much the same thing.
3. One's formal position determines whether they are a leader.
4. If you supervise others, you are a leader.

Developmental

1. People can be taught to be more effective leaders.
2. Skills and abilities for leadership can be developed.
3. Leaders can acquire skills to make them more effective.
4. You can't teach leadership.*

Shared:

1. Individual people do not possess leadership—it is a property of the group.
2. Leadership happens when people collaborate.
3. Leadership is the property of the group, not the individual.
4. Leadership involves a group collectively making decisions.
5. Leadership is the responsibility of everybody in a group.
6. Together, group members create leadership.
7. Leadership is about the group, rather than a single leader.
8. Leadership is not possessed by any one individual.

Motivation to Lead

Affective-Identity MTL

1. Most of the time, I prefer being a leader rather than a follower when working in a group.
2. I am the type of person who is not interested in leading others.*
3. I am definitely not a leader by nature.*
4. I am the type of person who likes to be in charge of others.
5. I believe I can contribute more to a group if I am a follower rather than a leader.*
6. I usually want to be the leader in the groups that I work in.

7. I am the type who would actively support a leader but prefers not to be appointed as leader.*
8. I have a tendency to take charge in most groups or teams that I work in.
9. I am seldom reluctant to be the leader of a group.

Social-Normative MTL

1. I feel that I have a duty to lead others if I am asked.
2. I agree to lead whenever I am asked or nominated by the other members.
3. I was taught to believe in the value of leading others.
4. It is appropriate for people to accept leadership roles or positions when they are asked.
5. I have been taught that I should always volunteer to lead others if I can.
6. It is not right to decline leadership roles.
7. It is an honor and privilege to be asked to lead.
8. People should volunteer to lead rather than wait for others to ask or vote for them.
9. I would never agree to lead just because others voted for me.*

Noncalculative MTL

1. I am only interested to lead a group if there are clear advantages for me.*
2. I will never agree to lead if I cannot see any benefits from accepting that role.*
3. I would only agree to be a group leader if I know I can benefit from that role.*
4. I would agree to lead others even if there are no special rewards or benefits with that role.
5. I would want to know "what's in it for me "if I am going to agree to lead a group.*
6. I never expect to get more privileges if I agree to lead a group.
7. If I agree to lead a group, I would never expect any advantages or special benefits.
8. I have my own problems to worry about than to be concerned about the rest of the group.*
9. Leading others is really more of a dirty job rather than an honorable one.*

Leadership Behaviors

Directive Leadership

1. Give the team direction.

2. Tell the team what to do in order to improve the team's performance.
3. Make decisions about how the team should interact.
4. Tell your team what goals to set.

Empowering Leadership

1. Encourage the team to organize its efforts without relying too much on them as a leader.
2. Give the team feedback on what he/she observes, rather than specific direction.
3. Express belief in the capability to perform well as a team.
4. Encourage your team to participate in setting its own goals.

Laissez-Faire Leadership

1. Avoid getting involved when important issues arose.
2. Avoid making decisions.
3. Delay responding to urgent questions.

Dependent Variables

Leadership Potential

1. Has future team leadership potential based on KSAs observed.
2. Has the ability to influence a group of their peers.
3. Can be a leader in small group situations.
4. Has the skills necessary to lead action or performance teams.

Team Processes – Team members & Leader: To what extent did your team actively work to…

1. Develop an overall strategy to guide our team activities?
2. Prepare contingency ("if-then") plans to deal with uncertain situations?
3. Know when to stick with a given working plan, and when to adopt a different one?
4. Regularly monitor how well we were meeting our team goals?
5. Use clearly defined metrics to assess our progress?
6. Seek timely feedback from the team leader about how well we were meeting our goals?
7. Monitor and manage our resources (e.g., vehicles, time, attention, etc.)?
8. Monitor important aspects of our work environment (e.g., coordination of efforts, processes, information flows, etc.)?
9. Monitor events and conditions outside the team that influenced our operations?
10. Develop standards for acceptable team member performance?
11. Balance the workload among our team members?

12. Assist each other when help was needed?
13. Communicate well with each other?
14. Smoothly integrate our work efforts?
15. Coordinate our activities with one another?
16. Deal with personal conflicts in fair and equitable ways?
17. Show respect for one another?
18. Maintain group harmony?
19. Take pride in our accomplishments?
20. Develop confidence in our team's ability to perform well?
21. Encourage each other to perform our very best?
22. Share a sense of togetherness and cohesion?
23. Manage stress?
24. Keep a good emotional balance in the team?

Leader Satisfaction

1. The way my team leader listens when I have something important to say.
2. The way my team leader sets clear work goals.
3. The way my team leader treats me when I make a mistake.
4. The way my team leader is consistent in his or her behavior towards team members.
5. The way my team leader helps me get the job done.
6. The way my team leader gives me credit for my ideas.
7. The way my team leader gives me clear instructions.
8. The way my team leader follows through to get problems solved.
9. The way my team leader understands the problems I might run into while doing the job.
10. The frequency with which I get a pat on the back for doing a good job.
11. The technical competence of my team leader.
12. The way my task responsibilities are clearly defined.

Team Process BARS Rating Scale Form – rated by Subject Matter Experts

STRATEGY FORMULATION & PLANNING

Definition: Formulation of strategies and courses of action for mission accomplishment. This dimension includes generic planning, contingency planning, and reactive strategic adjustment.

Examples:
- Developing a main plan to take out enemy targets without getting killed
- Communicating plans to team members
- Considering factors that might alter their mission plan
- Developing an alternative plan or specifically addressing how their mission plan and actions will be adjusted to unexpected events
- Adjusting team actions or responsibilities to adjust to unexpected events
- Recognizes how unplanned reactions impact remainder of mission plan

Complete skill	5		Team members (1) developed a primary course of action for mission accomplishment (2) considered a prior alternatives to their primary course of action and developed at least two or three secondary courses of action (3) were able to detect and quickly adapt/coordinate their actions to unexpected situations with appropriate behavior. All team members are aware of and understand how their individual task responsibilities fit into the primary and secondary courses of action.
Very much skill	4		
Adequate skill	3		Team members (1) had some difficulty developing a primary course of action for mission accomplishment (2) briefly considered a prior alternatives to their primary course of action and developed at least one secondary course of action (3) noticed and adapted their individual task responsibilities, but do not coordinate their actions within the MTS. All team members are aware of but may not understand how their individual task responsibilities fit into the primary and secondary courses of action.
Some skill	2		

Hardly any skill	1		Team members (1) were unable to develop a primary course of action for mission accomplishment (2) did not consider a prior alternatives (3) failed to notice unexpected events and situations and were unable to adapt/coordinate their actions. All team members are unaware how their individual task responsibilities fit to accomplish the task at hand.

MONITORING PROGRESS TOWARD GOALS

Definition: Tracking task and goal progress toward mission accomplishment; interpreting system information in terms of what needs to be accomplished for goal attainment, transmitting team goal progress to team members.

Examples: - Tracking team's (teams') progress on goals and subgoals (e.g., flight routes, targets destroyed, friendly casualties, and time expenditure)
- Reporting team's (teams') progress on goals and subgoals (e.g., flight routes, targets destroyed, friendly casualties, and time expenditure)

Complete skill	5		Maintained awareness of and tracked their primary and secondary goals progress throughout the mission. Understood which individual tasks and flight team responsibilities were necessary for goal attainment.
Very much skill	4		
Adequate skill	3		Maintained awareness of and tracked their primary and secondary goal progress throughout half of the mission for individualized tasks or flight teams. Did not understand how individual tasks and flight team responsibilities fit into goal attainment.
Some skill	2		

Hardly any skill	1		Displayed no awareness or tracking of any goal progress throughout the mission.

SYSTEMS MONITORING

Definition: Tracking team resources and environmental conditions as they relate to mission accomplishment. This dimension includes internal systems monitoring and environmental monitoring.

Examples: - Tracking team related factors (e.g., weapon availability, speed, fuel, altitude, radar information) and ensure that these systems are operating effectively
- Tracking aspects of the aircraft environment (e.g., terrain shifts, enemy locations and strength, friendly forces)

Complete skill	5		Team members effectively monitor the flight system, each other's individual task responsibilities, and any communication generated within the MTS. They also effectively monitor the external environment, location of enemy targets/threats, friendly and neutral forces, air and ground battles, etc.; keeping in mind the overall MTS mission. Teams understand their individual roles and task responsibilities within this changing environment.
Very much skill	4		
Adequate skill	3		Team members monitor the flight system, and their own individual task responsibilities. They may be some communication generated within the MTS, but they do not attend to it. They also monitor the external environment, location of enemy targets/threats, friendly and neutral forces, air and ground battles, etc. Teams understand their individual roles and task responsibilities within this changing environment.
Some skill	2		
Hardly any skill	1		Team members have no idea how to monitor the flight system, each other's individual task responsibilities, and any communication generated within the MTS. They also fail to monitor the external environment, location of enemy targets/threats, friendly and neutral forces, air and ground battles, etc. Team members have no idea what their individual roles and task responsibilities are within this changing environment.

TEAM MONITORING AND BACKUP BEHAVIOR

Definition: Assisting team members to perform their tasks. Assistance may occur by (a) providing a teammate verbal feedback or coaching, (b) by assisting a teammate in carrying out actions. This dimension includes the provision of feedback and task related support and the seeking of help from teammates when necessary.

Examples:
- Keeping an eye on other teammates to determine if and when they need help
- Helping teammates with their assigned roles by telling them what to do

and/or how to do it

Complete skill	5	All team members monitor each other in enacting the appropriate role and task requirements to successfully complete the overall mission.
Very much skill	4	
Adequate skill	3	Team members are more concerned with monitoring whether they themselves are enacting the appropriate role and task requirements to successfully complete the overall mission. Little, if any attentional resources are expended on what other team members are doing.
Some skill	2	
Hardly any skill	1	Team members fail to monitor each other in enacting the appropriate role and task requirements. They really don't even pay attention to what they are doing themselves.

COORDINATION ACTIVITIES

Definition: Orchestrating the sequence and timing of interdependent actions.

Examples: - Organizing how and when team members (and teams) will synchronize actions that require the contribution of both pilot and weapons specialist
- Organizing how and when team members (and teams) will synchronize actions that require the efforts of more than one team in multi-team situations

Complete skill	5		Maintaining smooth coordination and synchronization of interdependent actions between individual roles and flight teams in accordance with the overall mission.
Very much skill	4		
Adequate skill	3		Maintaining a minimum level of coordination and synchronization of interdependent actions between individual roles in accordance with the overall mission. Team members are not very considered coordinating the MTS.
Some skill	2		
Hardly any skill	1		Complete lack of coordination and synchronization of interdependent actions between individual roles and flight teams. The flight mission is very disorganized and no one knows what is going on.

CONFLICT MANAGEMENT

Definition: Establishing conditions to prevent, control, or guide team conflict before it occurs. Working through task and interpersonal disagreements among team members.

Examples: - Making statements or offering opinions about task related issues, the way the team functions together, or personal issues that are likely to affect subsequent team conflict

- Attempting to work through conflict when conflict with the team (or between teams) arises

Complete skill	5		All team members are considerate of differences; they establish a pleasant and cooperative working environment while encouraging team members to present ideas and suggestions regarding the overall mission. Team members are able to constructively discuss problems. If conflict does occur, team members are able to manage and contain the disagreements effectively.
Very much skill	4		
Adequate skill	3		Team members are sometimes considerate of differences; they establish a fair working environment between flight teams. Team members are able to discuss some problems and resolve most types of conflict. Some team members may just "stay out" of any disagreements which arise.
Some skill	2		
Hardly any skill	1		Team members are inconsiderate of differences; they establish an unpleasant and uncooperative working environment regarding the overall mission. Team members argue about problems in a destructive manner and often experience much conflict. They are completely unwilling to discuss the issue at hand and have no clue how to resolve the disagreement.

MOTIVATING AND CONFIDENCE BUILDING

Definition: Generating and preserving a sense of collective confidence, motivation, and task based cohesion with regard to mission accomplishment.

Examples: - Motivating each other
- Influencing the level of task cohesion of team members with respect to
the mission at hand

Complete skill	5		All team members exhibit a strong sense of collective efficacy as well as self efficacy. This attitude creates a positive attitude about the overall mission, and members seek to motivate one another through reinforcement and praise.
Very much skill	4		
Adequate skill	3		Team members exhibit a strong sense of self efficacy, but not much collective. This self-centered attitude allows one to accomplish his/her own task successfully, but there is not much encouragement or motivation between team members.
Some skill	2		
Hardly any skill	1		Team members fail to exhibit any sense of efficacy. This attitude creates a negative attitude about the overall mission, since there is a complete lack of encouragement or motivation between team members.

AFFECT MANAGEMENT

Definition: Regulating member emotions during mission accomplishment, including (but not limited to) social cohesion, frustration, and excitement.

Examples: - Influencing the positive and negative emotions of other members

Complete skill	5		While carrying out the mission objectives, team members effectively extinguished negative emotions and enhanced positive emotions. They were able to regulate and maintain a solid sense of emotional stability within the larger team.
Very much skill	4		
Adequate skill	3		While carrying out the mission objectives, team members extinguished their own negative emotions and retain some positive emotions. They were able to regulate and maintain a moderate level of emotional stability within their flight team, but not so much the larger team..
Some skill	2		
Hardly any skill	1		While carrying out the mission objectives, team members failed to extinguish negative emotions and failed to enhance positive emotions. They were unable to regulate and maintain any sense of emotional stability within their flight team or the larger team.

APPENDIX B

Table 1

Variable Means, Standard deviations, and Correlation Coefficients of Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1.Leader Extraversion	(.88)																					
2.Leader Conscientiousness	-.09	(.82)																				
3.Leader Agreeableness	.17	.18	(.78)																			
4. Leader AIMTL	.40	.36	.08	(.89)																		
5. Leader SNMTL	.26	.20	.25	.35	(.74)																	
6. Leader NCMTL	-.15	.09	.03	.01	.11	(.79)																
7.Leader OTL Dominance	.19	-.11	.01	-.05	-.01	-.39	(.76)															
8. Leader OTL Developmental	.02	.06	-.06	.14	.10	.04	-.06	(.78)														
9. Leader OTL Shared	.20	-.02	.20	-.08	.16	-.12	-.05	-.26	(.87)													
10. Directive Leadership (TM)	.34	.10	.03	.02	.11	-.12	.06	.16	.02	(.88)												
11. Empowering Leadership (TM)	.09	.03	.17	.05	-.03	-.01	.03	-.02	.08	.45	(.85)											
12. Directive Leadership	.27	.10	.04	.10	.17	-.02	.09	-.16	.13	.42	-.04	(.91)										

(SME)																						
13. Empowering Leadership (SME)	-.03	.10	.01	.10	-.03	.02	.12	.15	-.11	.01	.41	-.48	(.93)									
14. Laissez-faire Leadership (SME)	-.22	-.05	-.07	-.12	-.04	-.05	.15	-.08	-.01	-.50	-.29	-.58	.05	(.93)								
15. Transition Processes (TM)	.22	.19	.21	.15	.10	-.13	.09	.21	-.11	.31	.22	-.14	.21	.06	(.78)							
16. Action Processes (TM)	.19	.10	.29	-.01	.10	-.15	.07	.02	.14	.48	.42	.03	.19	-.11	.60	(.90)						
17. Interpersonal Processes (TM)	.20	.06	.25	-.03	.05	-.18	.11	.13	.13	.46	.45	.03	.27	-.15	.50	.67	(.88)					
18. Transition Processes (SME)	.02	-.13	-.15	.03	.02	-.05	.04	-.05	-.10	.27	.41	-.06	.15	-.02	.28	.21	.24	(.77)				
19. Action Processes (SME)	.10	-.04	.06	.04	.04	-.20	-.03	-.01	-.07	.44	.51	.14	.13	-.29	.23	.30	.34	.48	(.87)			
20. Interpersonal Processes (SME)	-.07	.09	.04	.13	.09	-.12	.01	.08	-.13	.21	.45	-.12	.24	-.07	.24	.20	.39	.35	.59	(.89)		
21. Leadership Potential (SME)	.20	.01	.01	.13	.02	-.01	.09	.08	-.15	.49	.43	.29	.27	-.58	.11	.17	.23	.21	.34	.27	(.87)	
22. Leader Satisfaction (TM)	.24	.07	.22	-.01	.04	-.13	.11	.01	.03	.61	.49	.29	.16	-.38	.32	.51	.50	.25	.41	.34	.55	(.93)
Mean	3.53	3.63	3.93	3.53	3.68	3.66	2.41	4.14	3.12	3.69	3.55	3.01	2.94	1.92	3.62	3.80	3.90	2.47	2.84	2.80	3.44	3.78
Standard deviation	.67	.58	.46	.65	.45	.52	.72	.57	.64	.70	.56	1.22	1.11	1.14	.50	.40	.39	1.28	.87	.82	1.06	.50

Note: *N*=85. Coefficient alphas are listed parenthetically on the diagonal. Correlations above .20 are significant at $p < .05$; above .30 at $p < .01$
The ratings for Laissez-faire leadership and Leadership potential are those from SMEs and are used in all analyses. 'TM' refers to team member ratings. 'SME' refers to subject matter expert ratings.

Table 2

Hierarchical Moderated Regression Results Predicting AIMTL with Extraversion

Hypotheses 1-3	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)
Main effects						
Leader Extraversion	.42** (.43**)	.42** (.43**)	.39** (.40**)	.39** (.40**)	.42** (.43**)	.41** (.42**)
Leader OTL Dominance	-.12 (-.14)	-.14 (-.16)				
Leader OTL Developmental			.15 (.12)	.18 (.16)		
Leader OTL Shared					-.17 (-.17)	-.20 (-.20)
2-Way Interaction terms						
Extraversion X OTL Dominance		.06 (.05)				
Extraversion X OTL Developmental				-.19 (.10)		
Extraversion X OTL Shared						.12 (.08)
Total R^2	.18	.18	.18	.19	.19	.19
Adj. R^2	.16	.15	.16	.16	.17	.16
F-value	8.85**	5.89**	8.87**	6.21**	9.43**	6.49**

$N = 85$
$^*p < .05$
$^{**}p < .01$

Table 3

Hierarchical Moderated Regression Results Predicting AIMTL with Conscientiousness

Hypotheses 5 & 6	Model 1	Model 2	Model 3	Model 4
	B (*β*)	B (*β*)	B (*β*)	B (*β*)
Main effects				
Leader Conscientiousness	.41** (.36**)	.41** (.36**)	.41** (.36**)	.39** (.35**)
Leader OTL Dominance	-.01 (-.01)	.01 (.01)		
Leader OTL Shared			-.07 (-.07)	-.05 (-.05)
2-Way Interaction terms				
Conscientiousness X OTL Dominance		-.12 (-.07)		
Conscientiousness X OTL Shared				-.10 (-.05)
Total R^2	.13	.14	.14	.14
Adj. R^2	.11	.10	.12	.11
F-value	6.18**	4.23**	6.44**	4.32**

$N = 85$
$*p < .05$
$**p < .01$

Table 4

Hierarchical Moderated Regression Results Predicting NCMTL with Extraversion and Conscientiousness

Hypotheses 4 & 7	Model 1	Model 2	Model 3	Model 4
	B (β)	B (β)	B (β)	B (β)
Main effects				
Leader Extraversion	-.11 (-.14)	-.11 (-.13)		
Leader OTL Shared	-.07 (-.09)	-.05 (-.06)		
Leader Conscientiousness			.08 (.08)	.08 (.08)
Leader OTL Developmental			.04 (.04)	.07 (.03)
2-Way Interaction terms				
Extraversion X OTL Shared		-.06 (-.07)		
Conscientiousness X OTL Developmental				.25 (.14)
Total R^2	.03	.04	.01	.03
Adj. R^2	.01	.01	.00	.01
F-value	1.31	1.03	.56	.89

$N = 85$
$^{*}p < .05$
$^{**}p < .01$

Table 5

Hierarchical Moderated Regression Results Predicting SNMTL with Conscientiousness

Hypothesis 8	Model 1	Model 2	Model 3
	B (*β*)	B (*β*)	B (*β*)
Main effects			
Leader Conscientiousness	.22* (.25*)	.16 (.20)	.16 (.20)
Leader OTL Dominance		.03 (.01)	.01 (.01)
2-Way Interaction terms			
Conscientiousness X OTL Dominance			.05 (.04)
Total R^2	.04	.04	.04
Adj. R^2	.03	.02	.01
F-value	3.46*	1.79	1.17

$N = 85$
$^*p < .05$
$^{**}p < .01$

Table 6

Hierarchical Moderated Regression Results Predicting AIMTL with Agreeableness

Hypotheses 9-11	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)
Main effects						
Leader Agreeableness	.10 (.08)	.09 (.07)	.12 (.09)	.14 (.10)	.14 (.10)	.14 (.10)
Leader OTL Dominance	-.07 (-.05)	-.07 (-.08)				
Leader OTL Developmental			.17 (.15)	.20 (.17)		
Leader OTL Shared					-.10 (.-10)	-.10 (-.10)
2-Way Interaction terms						
Agreeable X OTL Dominance		.17 (.09)				
Agreeable X OTL Developmental				-.21 (-.10)		
Agreeable X OTL Shared						-.02 (-.01)
Total R^2	.02	.02	.03	.04	.02	.02
Adj. R^2	.01	.01	.01	.01	.01	.01
F-value	.25	.49	1.18	1.01	.63	.77

$N = 85$
$^{*}p < .05$
$^{**}p < .01$

Table 7a

MTL Predicting Team Member Ratings of Leadership Behaviors

Hypotheses 12-14	Empowering (TM)	Directive (TM)
	B (β)	B (β)
AIMTL	-.05 (-.06)	-.01 (-.02)
SNMTL	.20 (.14)	.18 (.12)
NCMTL	-.10 (-.08)	-.18 (-.14)
Total R^2	.03	.03
Adj. R^2	.01	.01
F-value	1.38	.96

$N = 85$
$^{*}p < .05$
$^{**}p < .01$

Table 7b

MTL Predicting Subject Matter Expert Ratings of Leadership Behaviors

Hypotheses 12-15	Directive (SME)	Empowering (SME)	Laissez-faire (SME)
	B (β)	B (β)	B (β)
AIMTL	-.02 (-.01)	.14 (.08)	-.21
SNMTL	.37 (.18)	-.16 (-.06)	.05
NCMTL	-.09 (-.04)	.06 (.03)	-.11 (-.06)
Total R^2	.03	.01	.02
Adj. R^2	.01	.00	.00
F-value	.84	.33	.44

$N = 85$
$^*p < .05$
$^{**}p < .01$

Table 8a

Team Member Ratings of Leadership Behaviors Predicting Team Processes

Hypotheses 16 & 17	Transition (TM)	Action (TM)	Interpersonal (TM)	Transition (SME)	Action (SME)	Interpersonal (SME)
	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)
Directive (TM)	.14 (.11)	.20** (.16**)	.18** (.15**)	.15 (.11)	.27** (.19**)	.04 (.02)
Empowering (TM)	.21** (.17**)	.17* (.13*)	.20** (.17**)	.37** (.27**)	.50** (.38**)	.64** (.49**)
Total R^2	.15	.28	.28	.17	.32	.20
Adj. R^2	.13	.27	.27	.16	.30	.18
F-value	7.44**	16.26**	16.51**	8.77**	19.31**	10.28**

$N = 85$
*$p < .05$
**$p < .01$

Table 8b

Subject Matter Expert Ratings of Leadership Behaviors Predicting Team Processes

Hypothesis 16-18	Transition (TM)	Action (TM)	Interpersonal (TM)	Transition (SME)	Action (SME)	Interpersonal (SME)
	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)
Directive (SME)	.06 (.03)	.03 (.02)	.15* (.13*)	.29* (.22*)	.27* (.20*)	-.03 (-.01)
Empowering (SME)	.13 (.10)	.15* (.13*)	.20** (.17**)	.43** (.34**)	.31** (.23**)	.26* (.20*)
Laissez-faire (SME)	-.01 (-.02)	-.03 (-.01)	.03 (.01)	-.05 (-.02)	-.08 (-.06)	-.17 (-.11)
Total R^2	.05	.09	.17	.17	.10	.05
Adj. R^2	.02	.05	.14	.14	.08	.03
F-value	1.54	2.60*	5.30**	5.42**	4.39**	2.13

$N = 85$
*$p < .05$
**$p < .01$

Table 9

Sobel Tests for Mediation Hypotheses 19a – 19c

Team Member Ratings of Leadership Behaviors & Subject Matter Expert Ratings of Team Processes

Sobel Test Results	Critical Ratio *Z*-score
Hypothesis 19a	
AIMTL→Directive→Transition	.31
AIMTL→Empowering→Transition	.47
AIMTL→Directive→Action	.83
AIMTL→Empowering→Action	.42
AIMTL→Directive→Interpersonal	.39
AIMTL→Empowering→Interpersonal	.51
Hypothesis 19b	
SNMTL→Directive→Transition	.78
SNMTL→Empowering→Transition	.68
SNMTL→Directive→Action	1.02
SNMTL→Empowering→Action	.30
SNMTL→Directive→Interpersonal	.84
SNMTL→Empowering→Interpersonal	.55
Hypothesis 19c	
NCMTL→Directive→Transition	-1.41
NCMTL→Empowering→Transition	-.53
NCMTL→Directive→Action	-1.24
NCMTL→Empowering→Action	-.66
NCMTL→Directive→Interpersonal	-1.13
NCMTL→Empowering→Interpersonal	-.23

Note: $N = 85$, Sobel tests at $\alpha = .05, \pm 1.96$ for comparison.

An example Sobel Test calculation: AIMTL→Directive Leadership→Transition Processes

Path (*a*) = .035 (*SE* = .11), Path (*b*) = .292 (*SE* = .11) where the product (*ab*) = .011

The standard error of the indirect effect (*Sab*) is computed using the equation below.

$\sqrt{[(.29)^2 * (.11)^2 + (.03)^2 * (.11)^2]} = .03207$. (ab)/(*S*ab) = .01/.03207 = .31, ns where $\alpha = .05, \pm 1.96$.

Table 10a

Mediation Results for AIMTL, Team Members Ratings of Leadership Behaviors and Subject Matter Expert Ratings of Team Processes

Hypothesis 19a	Transition	Transition	Transition	Action	Action	Action	Interpersonal	Interpersonal	Interpersonal
	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)
Main effects									
AIMTL	.03 (.02)	.03 (.02)	.02 (.01)	.03 (.02)	.01 (.01)	.02 (.01)	.13 (.08)	.09 (.06)	.13 (.08)
Indirect effects									
Directive		.13 (.20)			.54** (.39**)			.33** (.20**)	
Empowering			.56** (.37**)			.45** (.33**)			.37** (.26**)
Total R^2	.01	.02	.13	.00	.20	.20	.01	.12	.15
Adj. R^2	.00	.01	.11	.00	.18	.19	.00	.09	.13
F-value	.41	1.10	6.10**	.06	9.92**	10.52**	.70	5.31**	7.46**

$N = 85$
$*p < .05$
$**p < .01$

Table 10b

Mediation Results for SNMTL, Team Members Ratings of Leadership Behaviors and Subject Matter Expert Ratings of Team Processes

Hypothesis 19b	Transition	Transition	Transition	Action	Action	Action	Interpersonal	Interpersonal	Interpersonal
	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)	B (β)
Main effects									
SNMTL	.07 (.05)	.04 (.02)	.13 (.09)	.06 (.04)	.02 (.01)	.01 (.01)	.06 (.04)	-.02 (-.01)	.01 (.01)
Indirect effects									
Directive		.35** (.24**)			.49** (.34**)			.21 (.14)	
Empowering			.44** (.30**)			.45** (.30**)			.35** (.25**)
Total R^2	.01	.08	.12	.00	.20	.20	.00	.04	.12
Adj. R^2	.00	.06	.10	.00	.18	.18	.00	.02	.10
F-value	.40	3.43*	5.44**	.30	9.93**	10.50**	.29	1.89	5.48**

$N = 85$
$*p < .05$
$**p < .01$

Table 10c

Mediation Results for NCMTL, Team Members Ratings of Leadership Behaviors and Subject Matter Expert Ratings of Team Processes

Hypothesis 19c	Transition	Transition	Transition	Action	Action	Action	Interpersonal	Interpersonal	Interpersonal
	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)	B (*β*)
Main effects									
NCMTL	-.06 (-.03)	.07 (.04)	.06 (.03)	-.22* (-.20)	-.15 (-.10)	-.18 (-.12)	-.12 (-.08)	-.15 (-.11)	-.07 (-.04)
Indirect effects									
Directive		.28** (.21**)			.37** (.28**)			.37** (.28**)	
Empowering			.35** (.27**)			.37** (.29**)			.20 (.12)
Total R^2	.01	.08	.12	.07	.19	.18	.01	.19	.05
Adj. R^2	.00	.06	.10	.05	.17	.16	.00	.17	.03
F-value	.28	3.58*	5.58**	3.56*	9.41**	9.07**	1.13	9.41**	2.09**

$N = 85$
$*p < .05$
$**p < .01$

Table 11a

Leadership Behaviors Predicting Leadership Potential

Hypothesis 20	Model 1	Model 2
Leadership Potential	B (β)	B (β)
Directive (TM)	.57** (.37**)	
Empowering (TM)	.50** (.26**)	
Directive (SEM)		.49** (.59**)
Empowering (SME)		.56** (.68**)
Laissez-faire (SME)		-.26* (-.28**)
Total R^2	.30	.54
Adj. R^2	.28	.52
F-value	17.32**	31.16**

$N = 85$
$*p < .05$
$**p < .01$

Table11b

Leadership Behaviors Predicting Leader Satisfaction

Hypothesis 20	Model 1	Model 2
Leader Satisfaction	B (β)	B (β)
Directive (TM)	.35** (.44**)	
Empowering (TM)	.26** (.28**)	
Directive (SEM)		.29** (.60**)
Empowering (SME)		.29** (.47**)
Laissez-faire (SME)		.01 (.05)
Total R^2	.45	.32
Adj. R^2	.44	.30
F-value	33.89**	13.03**

$N = 85$
$*p < .05$
$**p < .01$

Table 12

Hierarchical Regression Results Predicting Leadership Potential with MTL and Big-Five Personality

Hypothesis 21	Model 1	Model 2
Personality	B (*β*)	B (*β*)
Extraversion	.31 (.20)	.28 (.18)
Conscientiousness	.06 (.03)	.01 (.01)
Agreeableness	-.07 (-.03)	-.04 (-.02)
MTL Factors		
AIMTL		.13 (.08)
SNMTL		-.14 (-.06
NCMTL		.06 (.03)
Total R^2	.03	.04
Adj. R^2	.00	.01
ΔR^2		.01
F-value	1.22	.90

$N = 85$
$^{*}p < .05$
$^{**}p < .01$

Table 13

Test for Indirect effects: Motivation to Lead, Leadership Behaviors and Leader Outcomes

Sobel Test Results **Hypothesis 21**	**Leadership Potential** Critical Ratio
AIMTL→Directive→Leadership Potential	.45
AIMTL→Empowering→Leadership Potential	.47
SNMTL→Directive→Leadership Potential	.36
SNMTL→Empowering→Leadership Potential	.55
NCMTL→Directive→Leadership Potential	.23
NCMTL→Empowering→Leadership Potential	.27

Note: $N = 85$, Sobel tests at $\alpha = .05, \pm 1.96$ for comparison.

An example Sobel Test calculation: AIMTL→Directive Leadership→Leadership Potential

Path (*a*) = .05 (*SE* = .11), Path (*b*) = .292 (*SE* = .105) where the product (*ab*) = .0146

The standard error of the indirect effect (*Sab*) is computed by using the equation below.

$\sqrt{[(.292)^2 * (.11)^2 + (.05)^2 * (.105)^2]} = .032546$. (ab)/(*S*ab) = .0146/.032546 = .45, ns where $\alpha = .05, \pm 1.96$.

Table 14

Standardized Factor Loadings for Motivation to Lead

MTL Items	SNMTL	AIMTL	NCMTL
MTL27r			**.574**
MTL26r			**.647**
MTL25			**.568**
MTL24			**.588**
MTL23r			**.578**
MTL22			**.411**
MTL21r			**.856**
MTL20r			**.811**
MTL19r			**.783**
MTL18r	**.382**		
MTL17	**.485**		
MTL16	**.712**		
MTL15	**.432**		
MTL14	**.701**		
MTL13	**.688**		
MTL12	**.823**		
MTL11	**.832**		
MTL10	**.710**		
MTL9		**.452**	
MTL8		**.694**	
MTL7r		**.728**	
MTL6		**.756**	
MTL5r		**.732**	
MTL4		**.749**	
MTL3r		**.699**	

MTL Items	SNMTL	AIMTL	NCMTL
MTL2r		**.595**	
MTL1		**.875**	

N = 85

Table 15

Standardized Factor Loadings for Orientation toward Leadership

OTL Item	Shared	Developmental	Dominance
OTL15	**.750**		
OTL14	**.646**		
OTL12	**.669**		
OTL9	**.693**		
OTL8	**.656**		
OTL7	**.726**		
OTL3	**.616**		
OTL2	**.614**		
OTL16			**.593**
OTL10			**.489**
OTL4			**.973**
OTL1			**.569**
OTL11		**.517**	
OTL6		**.847**	
OTL13r		**.381**	
OTL5		**.950**	

N = 85

Table 16

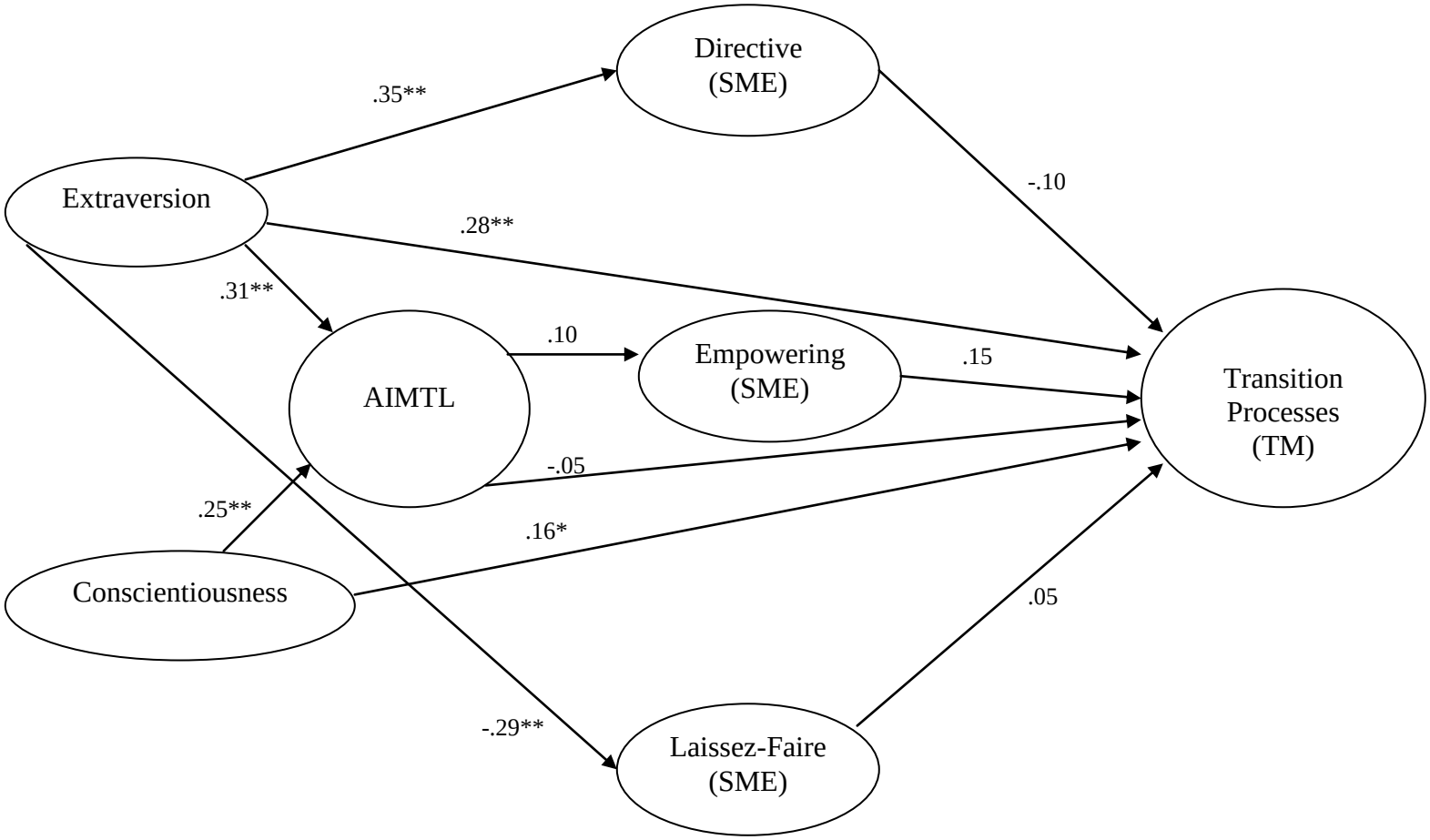
Standardized Factor Loadings for Team Processes as Rated by Team Members

Team Process Items	Action	Transition	Interpersonal
Interpersonal24			**.698**
Interpersonal23			**.681**
Interpersonal22			**.785**
Interpersonal21			**.720**
Interpersonal20			**.751**
Interpersonal19			**.723**
Interpersonal18			**.661**
Interpersonal17			**.606**
Interpersonal16			**.595**
Action15	**.723**		
Action14	**.773**		
Action13	**.750**		
Action12	**.647**		
Action11	**.622**		
Action10	**.550**		
Action9	**.540**		
Action8	**.635**		
Action7	**.670**		
Action6	**.542**		
Action5	**.525**		
Action4	**.592**		
Transition3		**.787**	
Transition2		**.726**	
Transition1		**.716**	

N = 85

Figure 8

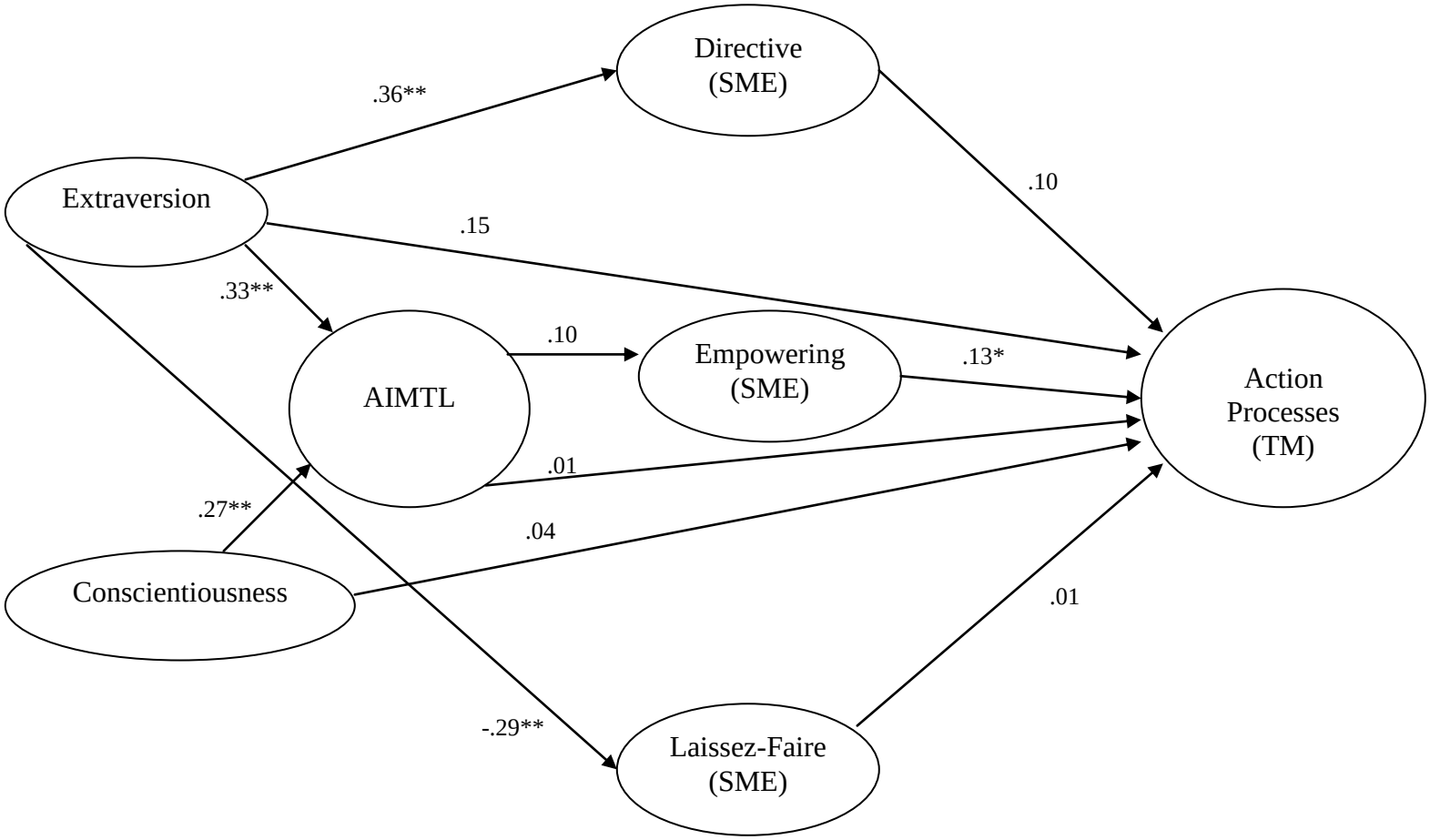
Structural Path Model Predicting Transition Processes.



*$p < .05$, **$p < .01$

Figure 9

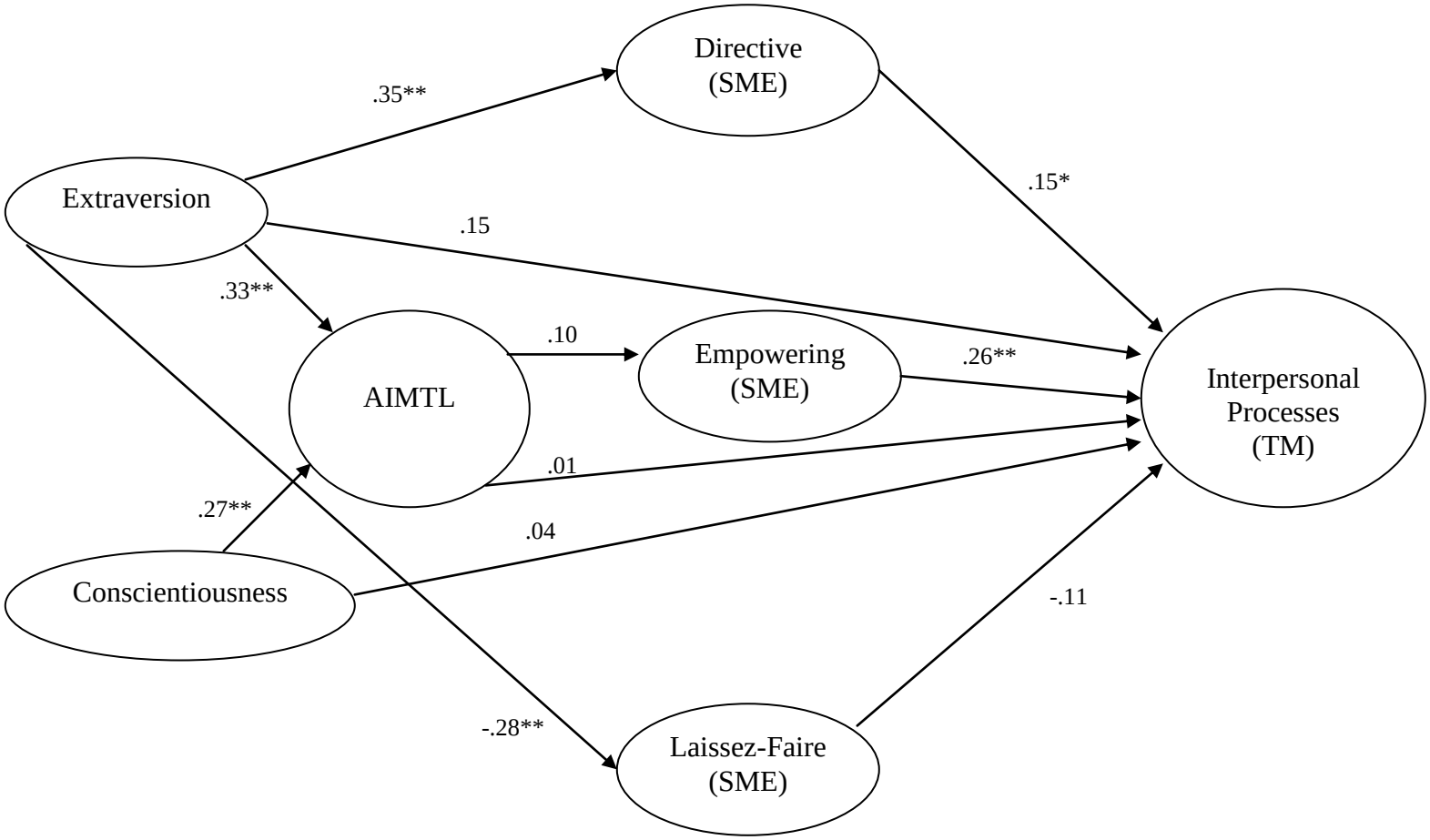
Structural Path Model Predicting Action Processes.



*$p < .05$, **$p < .01$

Figure 10

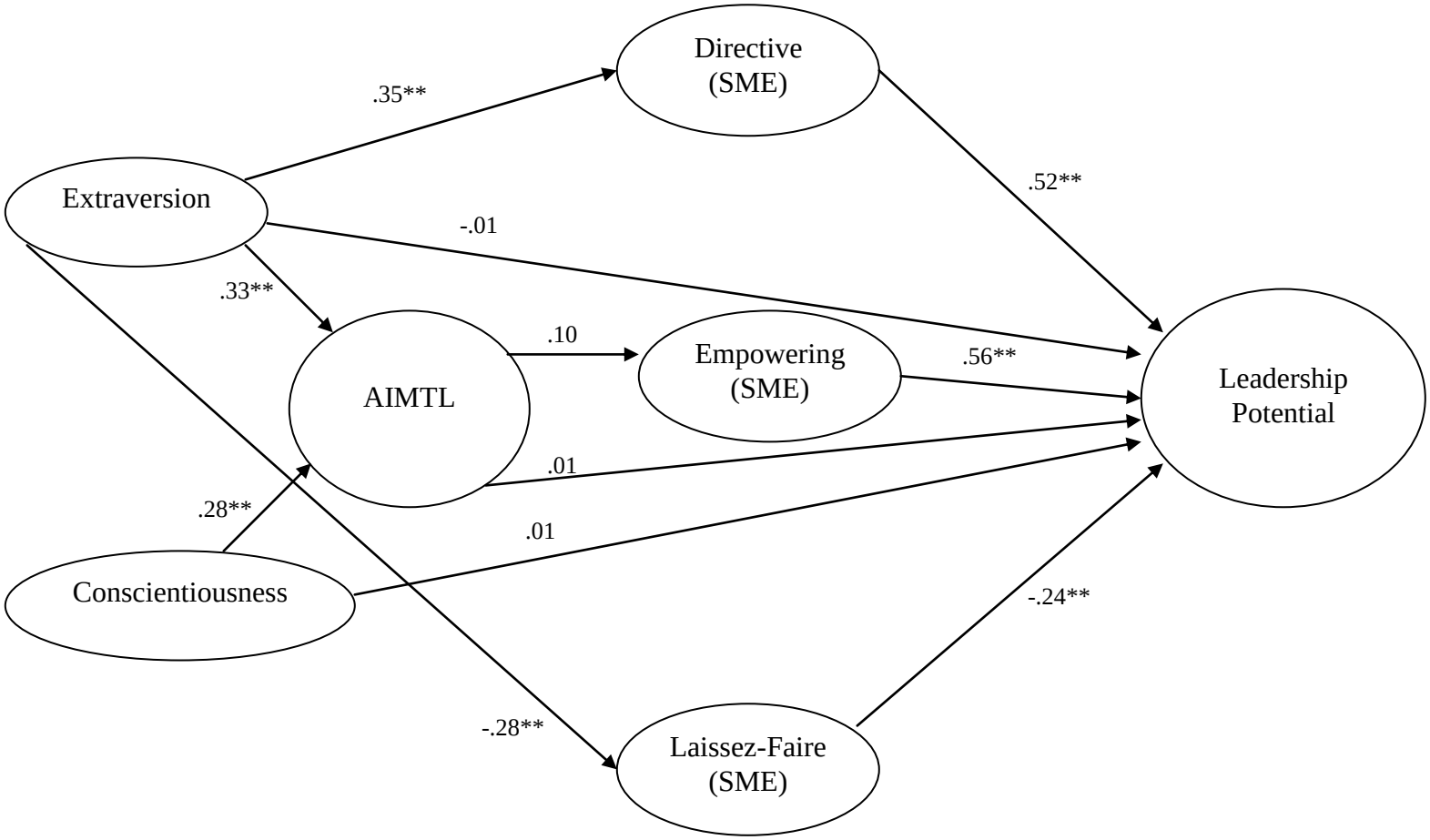
Structural Path Model Predicting Interpersonal Processes.



*$p < .05$, **$p < .01$

Figure 11

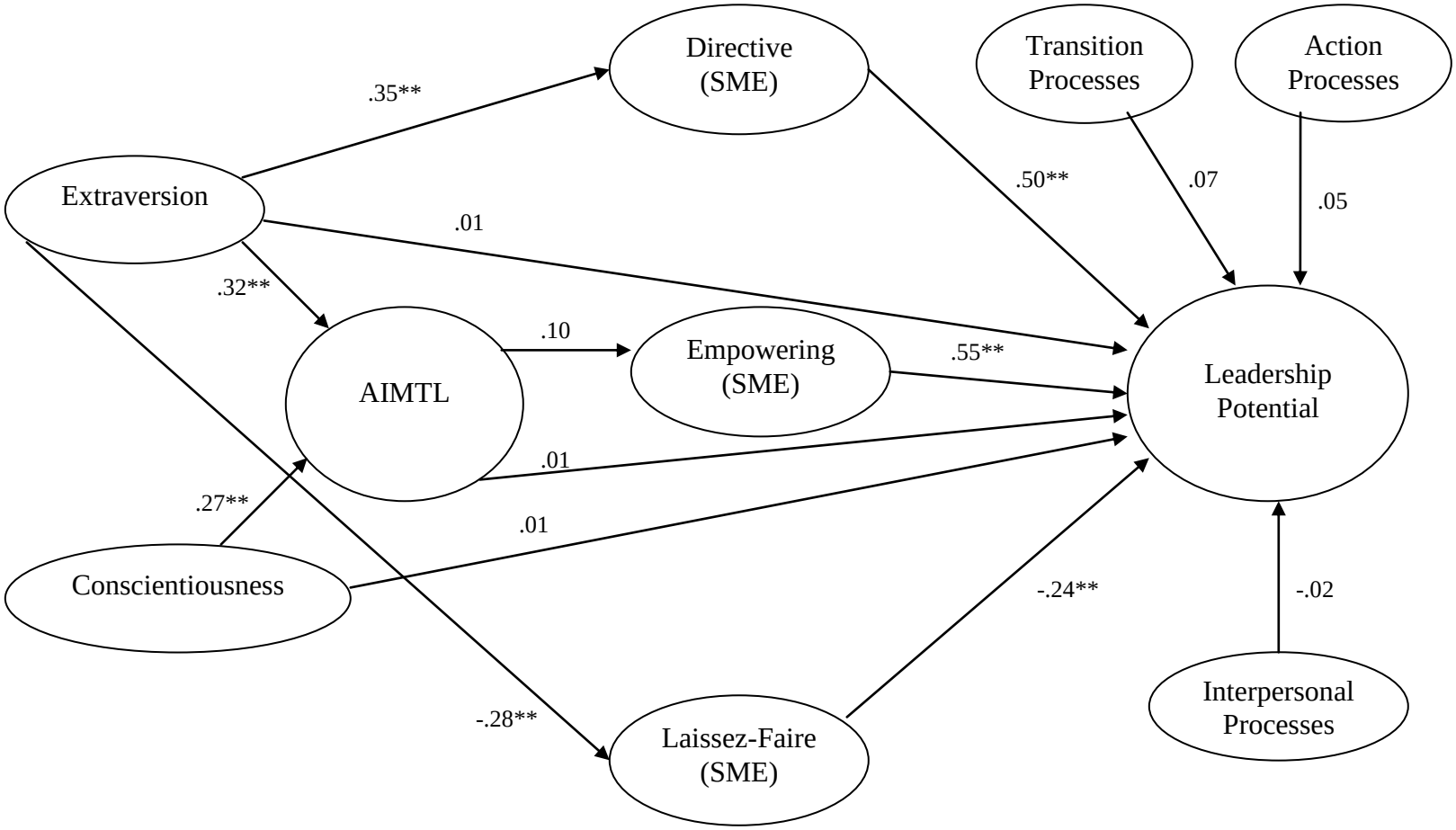
Structural Path Model Predicting Leadership Potential.



*$p < .05$, **$p < .01$

Figure 12

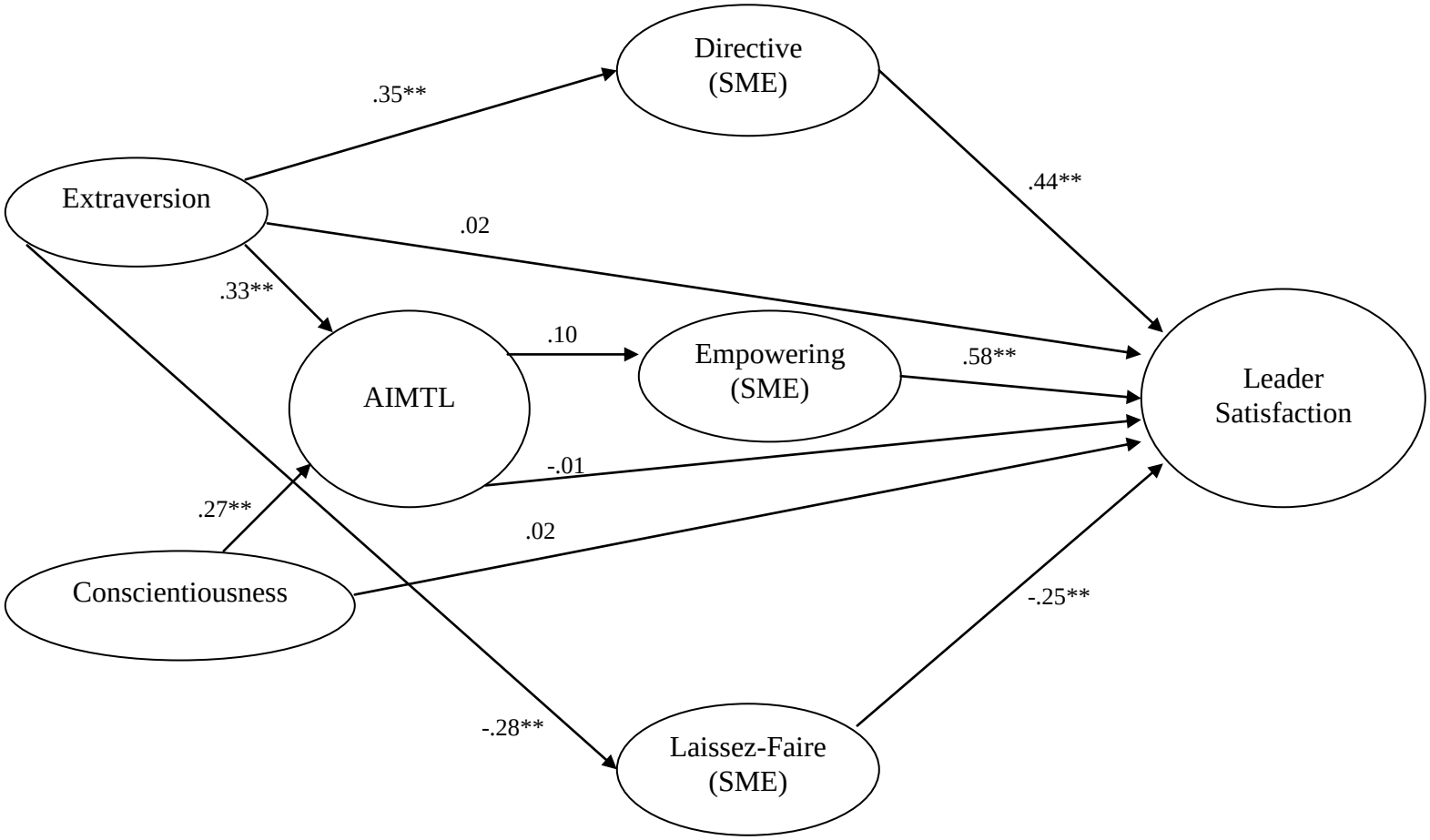
Structural Path Model Predicting Leadership Potential (Team Processes Controlled).



*$p < .05$, **$p < .01$

Figure 13

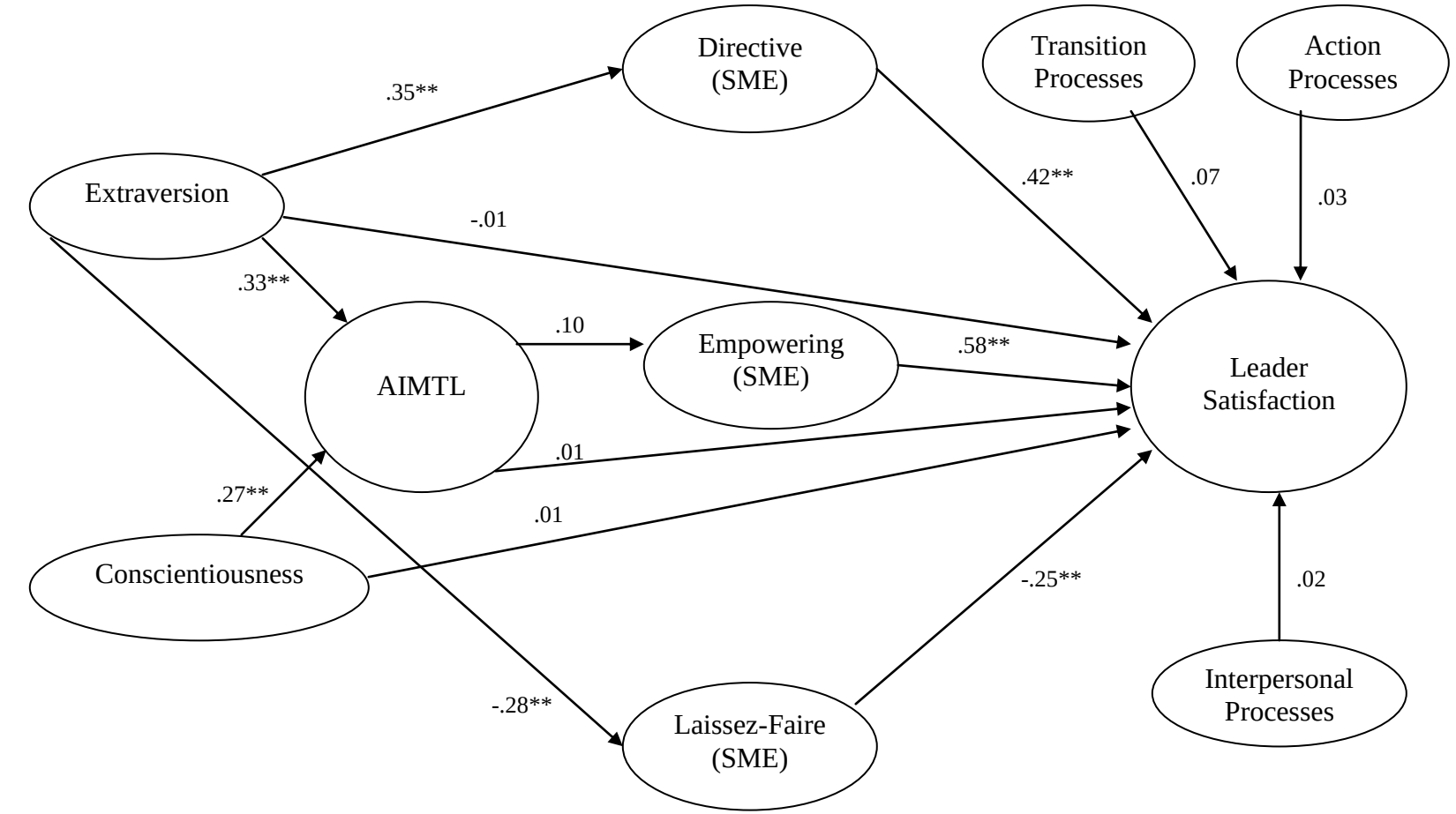
Structural Path Model Predicting Leader Satisfaction.



*$p < .05$, **$p < .01$

Figure 14

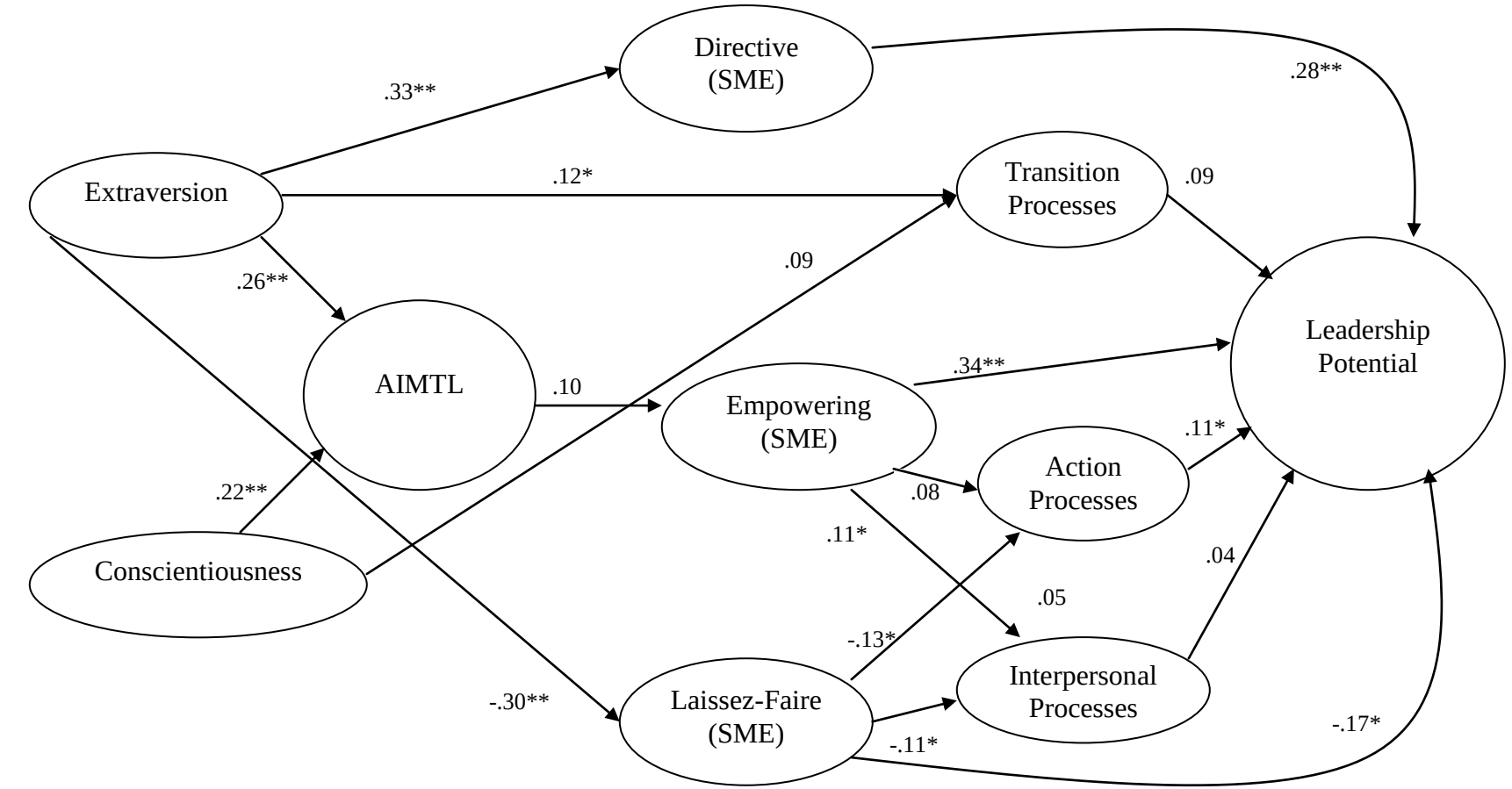
Structural Path Model Predicting Leader Satisfaction (Team Processes Controlled).



*$p < .05$, **$p < .01$

Figure 15

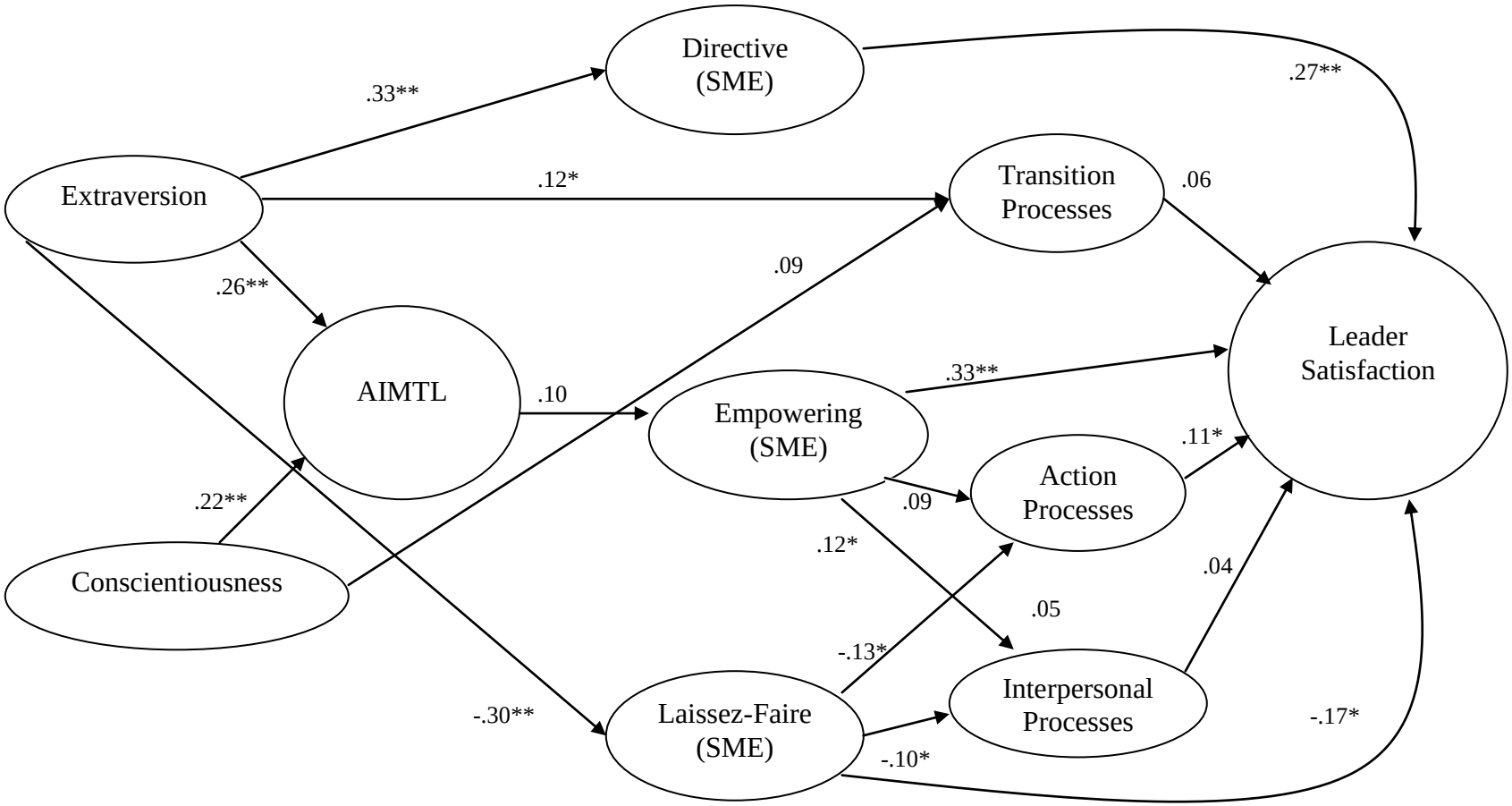
Team Leadership Potential Structural Model.



*$p < .05$, **$p < .01$

Figure 16

Team Leader Satisfaction Structural Model.



*$p < .05$, **$p < .01$

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