# EXPLORING THE ROLE OF LEADERSHIP IN UNDERSTANDING SUBORDINATE TRAIT-BEHAVIOR RELATIONSHIPS

by

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# Exploring the Role of Leadership in Understanding Subordinate Trait-Behavior Relationships

A Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at George Mason University

by

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**ABSTRACT** 

EXPLORING THE ROLE OF LEADERSHIP IN UNDERSTANDING

SUBORDINATE TRAIT-BEHAVIOR RELATIONSHIPS

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George Mason University, 2013

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The current study sought to: 1) examine the role of leadership behaviors as antecedents to

subordinate Situational Strength (SS) perceptions, and 2) understand the effects of

leadership behaviors on subordinate personality-behavior relationships. Specifically, the

study proposed and tested a model that examines the moderating effect of leadership

behaviors on subordinate personality-behavior relationships that are themselves fully

mediated through subordinate SS perceptions. A sample of 976 U.S. Army Soldiers and

478 supervisors was utilized to test these relationships. Findings indicated that leader

behaviors were notable antecedents to subordinate perceptions of SS. Additionally,

specific leadership behaviors (idealized influence, contingent reward, and management

by exception) were found to moderate subordinate personality-behavior relationships

consistent with SS theory. No support was found for the complete mediated-moderation

model originally proposed. Potential explanations for the observed relationships and

implications for future research are discussed.

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#### INTRODUCTION

The behaviors of leaders have been implicated as critical factors in the success of their organizations (Lieberson & O'Connor, 1972; Day & Lord, 1986; Barrick, Day, et al., 1991; Yukl, 2008) as well as in the performance of their subordinates (e.g., Szilagyi, 1980). What remains unexplored is the effect of these behaviors on the *predictability* of subordinate performance via subordinate personality traits. Specifically, the current study explores the possibility of leadership behavior as a *moderator* of subordinate traitbehavior relationships. Additionally, the role of situational strength as an explanatory mechanism through which leadership moderates subordinate trait-behavior relationships is explored. Examinations along these lines will provide a valuable and novel perspective on how leadership may influence subordinate behavior through the work contexts the leader establishes.

Primary studies, meta-analyses, and second-order meta-analyses provide ample evidence that self-reported personality assessments are among the most powerful predictors of behavior in work settings (Hough & Dilchert, 2010). Contemporary research efforts are oriented, though not exclusively, towards new developments in assessment and scoring methods (e.g., fully ipsative forced-choice scales) along with examinations of other-report methods (e.g., self- vs. peer-report). In addition, other lines of research are geared towards examining variables that moderate the validity of

personality constructs, such as: predictor-criterion relevance (Hough & Furnham, 2003), research setting (Lievens, Dilchert, & Ones, 2005), item transparency (Johnson, 2004), and situational strength (Mischel, 1973). The current research focuses on the last of these approaches.

Situational Strength (SS) is defined as "implicit or explicit cues provided by external entities regarding the desirability of potential behaviors" (Meyer, Dalal, & Hermida, 2010, p. 122). A primary tenet of SS is that the situation will either permit (in "weak" situations) or restrict (in "strong" situations) variance in behaviors. Effectively, the strength of a situation moderates observed correlations between personality and behavior – where the predictability of behavior via personality is higher in weak situations and lower in strong situations. Numerous examinations, utilizing ad hoc conceptualizations of SS, have been shown to moderate the validity of trait-behavior relationships (e.g., Barrick & Mount, 1993; Smithikrai, 2008; Bowles, Babcock, & McGinn, 2005; Meyer, Dalal, & Bonaccio, 2009). In the most recent advancement in SS research, Meyer et al. (in press) developed and validated a measure of SS at work based on a synthesized conceptualization of the construct (Meyer et al., 2010). However, the creation of a measure of SS presents only a beginning for further systematic examinations into the nomological network of this construct as little is known regarding contextual antecedents to such perceptions.

The current research argues that one contextual stimulus that may have an effect on SS perceptions is the behavior (or set of behaviors) exhibited by one's leader. It is believed that leaders may contribute to the adequacy of their subordinates' performance

by: 1) clarifying what is expected of them regarding their performance, 2) providing explanations on how to meet such expectations, 3) clearly identifying the criteria for effective performance, 4) providing feedback, and 5) allocating rewards based on meeting desired objectives (Bass, 2008). Collectively, these behaviors may implicitly or explicitly signal to subordinates what behaviors are appropriate or inappropriate, which in effect will shape the subordinates' perceptions of the SS within their jobs. The current research examines transactional/transformational leadership, initiating structure/consideration behaviors, and leader member exchange (LMX) quality as antecedents to SS perceptions. Further, the current paper proposes a model that examines the moderating effect of leadership on subordinate trait-behavior relationships as fully mediated through subordinate SS perceptions.

Towards these ends, I will review the literature describing the structure and nature of SS. In exploring the role of leadership as an antecedent to SS perceptions I will provide theoretical rationale for the proposed relationships. Finally, I will discuss the role of leadership as a moderator of trait-behavior relationships, as fully mediated through SS perceptions (see Figure 1). Formal hypotheses and methods will be presented followed by a summary of the results and a discussion of the findings, implications of the study, and future directions.

## What is Situational Strength?

Mischel (1973) began laying the foundation for subsequent thought in this area by arguing that situations are strong to the degree in which they: 1) lead all persons to perceive the situation the same way, 2) create uniform expectancies regarding the most

appropriate behavioral response to a situation, 3) provide adequate incentives for the performance of that response, and 4) instill the skills necessary for the execution of the response. He further argued that individual differences are most likely to directly affect behavior "when the situation is ambiguously structured so that subjects are uncertain about how to categorize it and have no clear expectations about the behaviors most likely to be appropriate" (p. 276). Effectively, he helped to lay the foundation for the general idea underlying what is now typically referred to as "situational strength."

A growing body of literature supports the notion of the moderating role of SS on trait-behavior validities (Meyer, Dalal, & Bonaccio, 2009; Smithikrai, 2008; Barrick & Mount, 1993; Bowles, Babcock, & McGinn, 2005). Thus far, SS has been operationalized in an ad hoc manner utilizing factors such as constraints and consequences (Meyer et al., 2009), perceived norms (Smithikrai, 2008), autonomy (Barrick & Mount, 1993), and structural ambiguity (Bowles, Babcock, & McGinn, 2005), among others. This has been a major issue for this body of literature as it has failed to establish a common theoretical foundation on which to 1) define and 2) measure the construct of SS (Meyer et al., 2010).

In response to this lack of a common framework, theorists have begun to work towards establishing a framework upon which to base future examinations of SS (see Meyer et al., 2010). These authors propose that SS is composed of four primary facets: 1) clarity, 2) consistency, 3) constraints, and 4) consequences. Clarity is defined as "the extent to which cues regarding work-related responsibilities or requirements are available and easy to understand" (Meyer et al., 2010, p 125). Consistency is defined as "the extent to which cues regarding work-related responsibilities or requirements are compatible with

each other" (Meyer et al., 2010, p 126). Constraints are defined as "the extent to which an individual's freedom of decision and action is limited by forces outside his or her control" (Meyer et al., 2010, p 126). Consequences are defined as "the extent to which decisions or actions have important positive or negative implications for any relevant person or entity" (Meyer et al., 2010, p 127). Global Situational Strength represents a composite of the four facets identified above.

In the most recent advancement in SS research, Meyer et al. (in press) validated a measure of Situational Strength at Work (SSW) based on the framework presented above. The research findings suggested that their developed measure of SSW demonstrates adequate psychometric qualities. Specifically, their analysis of the SSW measure: 1) uncovered the intended four-facet structure, 2) yielded high scale reliabilities, 3) yielded strong evidence of convergent and discriminant validity, 4) demonstrated moderating effects of SS on the prediction of organizationally relevant behaviors (i.e., counterproductive work behaviors - CWBs and organizational citizenship behaviors - OCBs), and 5) produced patterns (in the variances of the subjects' responses to situational vignettes) that were consistent with the conceptualizations of "strong" (low variance) and "weak" (high variance) situations. This research effort marks the first systematic method by which to measure SS.

It is important to note that SS can be conceptualized at both the facet and global construct level. The appropriate level of granularity at which to conceptualize SS depends on the purpose of the study. Similar to the use of criteria (Schmidt & Kaplan, 1971), facet based conceptualizations are most appropriate when attempting to understand the specific

psychological mechanisms through which SS operates, whereas composites (e.g., global SS) are best suited for assessing the net practical effect on a relationship of interest (Meyer et al., 2010). As such, the current research will utilize both the facet and global conceptualizations of SS in the formal hypotheses while grounding theoretical rationale at the facet level.

In the following sections, I present leadership behaviors and conceptualizations as antecedents to SS perceptions. These include a leader's transactional/transformational and initiating structure/consideration behaviors in addition to LMX. Hypothesized relationships will be discussed.

## Leadership as an Antecedent to Perceptions of SS

To establish a theoretical relationship between leadership and SS perceptions, understanding what aspects of the work environment have been shown to influence one's perceptions of the workplace is important. The existing body of literature suggests that individuals interpret workplace situations in psychological terms. That is, individuals assign psychological meaning to environmental characteristics and events (James et al., 1978). Effectively, the focus of such research (e.g., Lindell & Brandt, 2000; Colquitt, Noe, & Jackson, 2002) is geared towards the assessment of "interpretive, abstract, generalized, and inferential constructs such as ambiguity, autonomy, challenge, conflict, equity, friendliness, influence, support, trust and interpersonal warmth" (James & Sells, 1981, p. 275).

SS perceptions are based on an individual's interpretation of abstract inferential constructs such as clarity, consistency, constraints, and consequences of one's job. In

fact, all four facets that compose SS (Meyer et al., 2010) are subsumed under proposed factors of work context perceptions (James & James, 1989). In theorizing contextual influences on SS perceptions, the literature suggests that the characteristics that are most influential are those that "have relatively direct and immediate ties to individuals' experiences in the environment" (James & Sells, 1981, p. 279) – or proximal stimuli. Proximal stimuli are to be differentiated from more distal characteristics (e.g., organizational size) which are considered to be more remote from the individual's experience. These environmental characteristics are not limited to specific isolated stimuli but also encompass more complex stimulus patterns as well as the contexts in which these patterns are experienced. Proximal stimuli and contexts that appear to be of most interest to organizational researchers are those associated with job roles, immediate levels of leadership, work-group relationships, and reward dynamics (e.g., pay) (James & Sells, 1981). In effect, this literature suggests that in understanding SS perceptions at work, the effect of leadership is necessary to consider (through not sufficient for a full understanding of SS antecedents). The following sections explore this possibility.

## Leadership Behaviors

Early theorists have regarded leadership as a critical organizational factor in the formation and maintenance of workplace perceptions and the current body of literature strongly supports this notion (see Kozlowski & Doherty, 1989; Barling, Loughlin, & Kelloway, 2002; Lindell & Brandt, 2000; Zohar & Luria, 2005). Additionally, in a recent meta-analysis, Nahrgang, Morgeson, and Hoffman (2011) found a corrected correlation (r<sub>c</sub>) of .69 between leadership behaviors and perceived importance of safety to the

organization. These studies collectively underscore the non-trivial role of leadership in influencing subordinate perceptions of their work environment and subsequent behaviors.

In exploring the role of leadership on perceptions of SS, it is important to understand how the two constructs relate to each other. SS at work deals specifically with the perceived clarity, consistency, constraints, and consequences of the job (Meyer et al., 2010). As such, these perceptions are geared more towards being task/job oriented. Considering the breadth of perceptions captured by SS at work, the conceptualizations of leadership that would seemingly be most relevant are those that are directed towards the task and/or perceptions of the work to be done (e.g., initiating structure and transactional leadership) as opposed to those that are oriented towards socio-emotional aspects (e.g., LMX, transformational and consideration behaviors). While the current research does not negate the possible influence of LMX, transformational leadership, and consideration behaviors on SS perceptions, this influence is likely to be weaker than that of transactional leadership and initiating structure behaviors. A description of the constructs and their relationship to each other follows below.

#### **Initiating Structure and Consideration**

As a result of the influential Ohio State Leadership Studies (Shartle, 1950b), leadership researchers began to focus primarily on the behaviors as opposed to the traits of leaders (Bass, 2008). Results of numerous studies and factor analyses found that two primary behavioral factors consistently emerged from the analyses: initiating structure and consideration (Halpin & Winer, 1957; Fleishman, 1951, 1953c, 1956, 1973). The first factor, *initiating structure*, refers to the extent to which a leader initiates activity in

the group, organizes it, and defines the way work is to be done. Initiating structure includes leadership behaviors aimed at maintaining standards and meeting deadlines and deciding what will be done and how it should be done. Further, in initiating structure, the leader acts directively and defines and structures the roles of subordinates. Alternatively, a leader who has a low score on initiating structure would be characterized by being hesitant about taking initiative, not proactively providing suggestions, and allowing members to work autonomously (Bass, 2008).

The second factor, *consideration*, describes the extent to which a leader exhibits concern for other members of his or her group. As such, a considerate leader would express appreciation for good work, promote job satisfaction, and aim to strengthen the self-esteem of subordinates (Bass, 2008). Considerate leaders provide support oriented towards establishing relationships with their subordinates, consider the opinions of their subordinates, and consult with subordinates on important decisions. Alternatively, an inconsiderate leader behaves in such a way that does not show consideration for his or her subordinates' feelings, threatens his or her subordinates' security, and refuses to accept suggestions or explain his or her actions (Bass, 2008).

#### Transactional and Transformational Leadership

Transactional leadership is the exchange relationship between leaders and followers aimed at satisfying the self-interests of both the leader and follower.

Transactional leadership can be further broken down into contingent reward transactions (CR) and management by exception (MBE) (Bass, 1985). CR behaviors are considered to be constructive transactions where the leader assigns a task or obtains agreement from the

follower on what needs to be done and what is to be gained for satisfactorily executing the assignment (Bass, 1998). MBE is considered to be a corrective transaction. Here the leader monitors the deviances, mistakes, and errors in performance and takes corrective action accordingly. Such corrective actions may include negative feedback, disapproval, or disciplinary actions.

According to Burns (1978), transformational leaders promote relationships in which leaders and followers help each other to advance to a higher level of morale and motivation. Original conceptualizations of the theory identified three categories of transformational behaviors: idealized influence, individualized consideration, and intellectual stimulation. Idealized influence refers to behaviors geared towards arousing subordinate emotions in addition to fostering identification with the leader. Individualized consideration behaviors refer to behaviors geared towards showing support and providing encouragement and coaching to one's subordinates (Bass, 1985). Intellectual stimulation behaviors are oriented towards increasing follower awareness of problems and fostering the ability of subordinates to view problems from a new perspective. Finally, in a later revision to the theory (Bass & Avolio, 1990a), inspirational motivation behaviors were added and identified as behaviors that communicate an appealing vision, model appropriate behavior, and the use of symbolism to focus subordinate effort.

## Leader Member Exchange (LMX)

Based on the notion that leaders of a group tend to differentiate subordinates as either part of the *in-group* or *out-group*, LMX suggests that a leader establishes different relations with his or her subordinates (Liden, Sparrowe, & Wayne, 1997). Specifically, it

is suggested that a leader is likely to evaluate members of inner circles (i.e., in-group) less critically (Duarte, Goodson, & Klich, 1994), initiate more exchanges with in-group members (Kim & Organ, 1982), and establish closer relationships with key members identified as part of the in-group. Alternatively, those subordinates that are not part of the in-group are seen as dissimilar by their leaders (Townsend & Jones, 2000). In effect, those individuals experience a different workplace context than their counterparts.

Specifically, individuals who are identified as part of the out-group are dealt with (by the leader) in more of a formal authoritative role (Graen, 1976), experience more distanced relationships (Hollander, 1978), and are likely to experience fewer exchanges with his or her leader (Kim & Organ, 1982). A large body of research has demonstrated that such a differentiation among group members results in differing attitudes and performance levels among subordinates in favor of the in-group (Mayfield, 1998; Vecchio, 1982; Rosse & Kraut, 1983; Vecchio & Gobdel, 1984; Mael, 1986).

### How are they related?

Conceptually, transactional/transformational leadership and initiating structure/consideration represent corresponding approaches to similar sets of behaviors. For example, transformational leadership behaviors overlap conceptually with consideration behaviors as both encompass socio-emotional aspects of leadership (Bass, 2008). On the other hand, initiating structure and transactional leadership behaviors correspond with each other through their emphasis on instrumental or task related aspects of leadership (Bass, 1987). LMX is conceptually related to these constructs in that lower levels of LMX are characterized by more instrumental and task related behaviors where

as high degrees of LMX are characterized by more socio-emotional leadership behaviors (Howell & Hall-Merenda, 1999). Though I have provided a conceptual case for the relationship among these leadership constructs, empirical evidence suggests that these relationships are much more complicated. Further detailed discussion on this topic can be found in Appendix A.

## **Leadership Behaviors and Situational Strength Perceptions**

The sections below provide a brief discussion and the hypotheses associated with the theoretical relationships between leadership behaviors and SS facets. A more detailed discussion can be found in Appendix B.

#### **Initiating Structure**

As initiating structure deals with the extent to which a leader clearly articulates the roles of unit members, initiates actions within the unit, and organizes and defines the unit's tasks (Fleishman, 1973), it is easy to see how such behaviors may influence SS perceptions. For example, a leader who initiates an inadequate degree of structure is likely to foster an environment that is characterized by ambiguity (low clarity) and inconsistency (low consistency). Further, behaviors providing structure are also likely to increase the constraints perceived by the subordinate. In considering perceived consequences, it is plausible that the structure imposed by the leader is likely to reinforce certain behaviors and punish others. Because initiating structure is likely to increase perceptions of all four SS facets, it is also likely to increase global SS.

Hypothesis 1: Perceived initiating structure behaviors will be positively related to individual perceptions of (a) clarity, (b) consistency, (c) constraints, (d) consequences, and (e) global situational strength.

### **Transactional Leadership**

Transactional leadership highlights an exchange relationship between the leader and the subordinate aimed at satisfying each party's own self-interest (Burns, 1978). The effect of transactional leadership behaviors on SS can be understood in considering the facets of transactional leadership: CR and MBE. For example, CR leadership behaviors are behaviors that emphasize clarifying role and task requirements in addition to providing subordinates with material or psychological rewards contingent on the fulfillment of the task (Bass, 1998). Psychological rewards may include praise, approval, and positive feedback. Material rewards encompass things such as a pay increase or an award. As such, a leader who displays a high degree of CR behaviors is likely to increase perceptions of clarity and constraints. A leader's MBE transactional behaviors refer to corrective behaviors. If the leader engages in passive MBE, corrective actions are only taken when the problem/mistake comes to his or her attention. Alternatively, if the leader engages in active MBE, he or she constantly monitors performance to *prevent* mistakes from happening. As such, a leader who engages in more MBE behaviors is likely to increase perceptions of consequences by constantly monitoring performance and bad behavior to prevent mistakes from being made by subordinates. The current study focuses on the active form of MBE. Because transactional leadership is likely to increase perceptions of all four SS facets, it is also likely to increase global SS.

Hypothesis 2: Perceived transactional leadership behaviors will be positively related to individual perceptions of (a) clarity, (b) consistency, (c) constraints, (d) consequences, and (e) global situational strength.

#### **Transformational Leadership**

Transformational leadership refers to a leadership style that is directed towards establishing closer relationships with subordinates as well as positive change in subordinate behaviors by appealing to the subordinate's self-worth. In effect, there are higher degrees of trust and openness (House & Shamir, 1993) which result in richer verbal communication. These behaviors foster more opportunities for sharing and clarifying perceptions (Kozlowski & Doherty, 1989) as well as the provision of more clearly articulated task cues (Kirkpatrick & Locke, 1996). In addition, transformational leaders are expected to behave more consistently across situations in terms of their leadership practices (Burns, 1978) – which in turn may increase the consistency in perceptions of the tasks.

However, transformational leadership behaviors are not likely to be positively correlated with all facets of SS. For example, intellectual stimulation behaviors also promote divergent thinking in followers (Bass, 1985) which may reduce perceptions of constraints. Similarly, individualized consideration behaviors emphasizing personal growth, encouragement, and coaching may negatively influence perceptions of consequences via the acceptance and perhaps even promotion of mistakes as a way of facilitating subordinate development (Bass, 1985).

A subordinate's perceptions of SS are therefore likely to be influenced by his or her leader's transformational behaviors, though the nature of that relationship depends on which facet of SS is being considered. As such, the effect of transformational leadership on global SS is unclear and no formal hypothesis will be presented for global SS.

Hypothesis 3: Perceived transformational leadership behaviors will be positively related to individual perceptions of (a) clarity and (b) consistency.

Hypothesis 4: Perceived transformational leadership behaviors will be negatively related to individual perceptions of (a) constraints and (b) consequences.

## **Leader Member Exchange Quality**

Leader member exchange theory assumes that a leader's subordinates are likely to experience disparate work contexts as a function of their identification with the leader as part of the *in-group* or the *out-group*. Subordinates that are part of the in-group are likely to perceive more clarity regarding the work tasks whereas those with low quality exchanges are likely to experience less clarity. Additionally, in-group members are likely to be afforded higher degrees of latitude, autonomy, and discretion in how they are to complete their work tasks (Schriesheim, Neider, & Scandura,1998; Aryee, Tan, & Budhwar 2002) whereas out-group members are likely to experience lower degrees of autonomy and experience fewer opportunities to communicate with the leader (i.e., higher constraints and lower clarity).

Because of higher degrees of exchange and their proximity to the leader, in-group members are likely to perceive more consistency in the work tasks resulting from constant communications with the leader as compared to individuals in the out-group. Further, subordinates within the in-group may be evaluated less heavily and receive more social support from the leader resulting in lower perceptions of consequences for bad performance as compared to members of the out-group. Alternatively, members of the

out-group are dealt with more transactionally, so mistakes are less accepted and are likely to be met with negative evaluations.

A subordinate's perceptions of SS are therefore likely to be influenced by the quality of exchange with their leader, though the nature of that relationship depends on which facet of SS is being considered. As such, the effect of LMX on global SS is unclear and no formal hypothesis will be presented for global SS.

Hypothesis 5: LMX behaviors will be positively related to individual perceptions of (a) clarity and (b) consistency.

Hypothesis 6: LMX behaviors will be negatively related to individual perceptions of (a) constraints and (b) consequences.

#### **Consideration Behaviors**

Consideration behaviors of a leader are geared towards showing acceptance and concern for the needs and feelings of one's subordinate (Yukl, 2006). It can be argued that consideration behaviors facilitate the communication of task goals and details through more open and trusted lines of communication between the leader and his or her subordinates. Effectively, with stronger relational ties, the clarity of a given job may be increased as consideration behaviors support the development of communication and promote a subordinate's likelihood to ask questions. However, the relationship between consideration behaviors and perceptions of SS will be examined in an explanatory fashion with no formal hypotheses presented.

### Leadership as a Moderator of Trait-Behavior Relationships

The primary focus of the current research is to examine how leadership behaviors may moderate subordinate trait-behavior relationships while incorporating SS as an explanatory mechanism of this relationship.

Within the current research, behavior is conceptualized as overall job performance as well as counterproductive work behaviors (CWBs). Job performance in the current research will be measured as a composite of various performance factors (Campbell, McHenry, & Wise, 1990) including: effort, physical fitness and bearing, personal discipline, commitment and adjustment, support for peers, and peer leadership. Though job performance is recognized to be multidimensional, this does not preclude the use of a single index to assess an individual's level of performance (Schmidt & Kaplan, 1971). CWB will be measured as a dichotomously keyed outcome representing whether or not an individual has one or more reported CWBs (explained further in the methods section). CWBs were incorporated in the measurement of behavior as CWBs are considered a voluntary work behavior (Spector & Fox, 2002). These types of behaviors are considered to be more discretionary (as compared to task performance) and are subsequently more likely to be influenced by personality traits (Borman & Motowidlow, 1997). In regards to the personality traits to be considered, based on previous metaanalyses (Barrick & Mount, 1991; Berry, Ones, & Sacket, 2007) the most relevant trait in the prediction of both job performance and CWB is trait conscientiousness. Conscientiousness refers to an individual's tendency to show self-discipline, act dutifully, and aim for achievement (Costa & McCrae, 1992).

As previously noted, SS has received empirical support as a moderator of trait-behavior validities. Specifically, higher validities are observed when SS is said to be low and lower validities are observed when SS is said to be high (e.g., Barrick & Mount, 1993; Smithikrai, 2008; Bowles, Babcock, & McGinn, 2005; Meyer, Dalal, & Bonaccio, 2009). We would therefore expect the predictability of overall job performance and CWB via conscientiousness to be augmented in weak situations and attenuated in strong situations. However, we furthermore propose that situational strength is merely the proximal moderator of the conscientiousness-performance relationships, with the distal moderator being leadership.

Hypothesis 7: The moderating impact of leadership behaviors on conscientiousness-performance relationships will be mediated by situational strength, such that the validity of conscientiousness in predicting performance will be stronger when leadership scores are associated with weak rather than strong situations.

#### **METHOD**

## Sample

In order to test the hypotheses and proposed model, a total of 992 subordinates serving as enlisted Soldiers in the United States Army participated in the current research effort. Data were collected from a sample of U.S. Army Soldiers in a number of Military Occupational Specialties (MOS)--the Army term for occupations--including: Armor, Infantry, Medic, Transportation, Military Police, Signal Support, and Mechanics.

Because SS can and does differ across occupations (at least in the civilian world; Meyer et al., 2009), I use MOS as a control variable when examining the impact of leadership on SS. Performance ratings were provided by the subordinates' supervisors (N = 478) as part of a larger longitudinal validation project being conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences. Sixteen subordinates were removed from the final analyses due to complete non-response to the survey, resulting in a final subordinate sample size of 976.

### **Procedure**

Subordinate Soldiers participating in the study were asked to respond to a number of surveys as part of a longitudinal study being conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences. Subordinates were told that their

participation in the study was completely voluntary and that they may withdraw from the study at any time. Completion of the collective survey took approximately 60-90 minutes.

In addition, during the administration of the measures, supervisors were asked to respond to a number of performance rating scales regarding their Soldiers' in-unit performance. Completion of the performance ratings took 10-15 minutes, depending on how many Soldiers the supervisor was rating. Of the final subordinate sample, only 0.51% of the Soldiers were rated by more than one supervisor. In such cases, these scores were averaged across the multiple supervisor ratings. Additionally, only 28% of the supervisors rated more than one Soldier. To address any concerns of non-independence of raters, the ICC was calculated utilizing random coefficient modeling (RCM). An analysis of the data yielded an ICC = .096. This means that some of the variance in the individual level criterion is "explained" by contextual factors, and up to 10% of the variance in this individual level criterion may be accounted for by such factors (i.e., the rater/group membership). In addition to allowing an assessment of the percentage of variability in the criterion attributable to contextual factors (via the ICC), RCM allows for a test of the statistical significance of the *amount* of between-person variability. The between-person variability was not significant at the conventional Type I error rate (z = 1.799, p > 0.05).

#### **Materials**

## **Demographic Questionnaire**

Basic demographic information was collected on all participants. Specifically, Soldiers were asked to indicate their gender, ethnicity, age, length of experience, job title, and pay grade.

### **Personality**

Originally, conscientiousness was to be measured at the facet level using the Tailored Adaptive Personality Assessment Screen (TAPAS). However, due to the small sample size of Soldiers that possessed these scores at the time of our assessment (N = 121), an alternative measure of conscientiousness was used. Conscientiousness was measured with all 10 conscientiousness items from Costa and McCrae's (1992) Big Five Mini-markers measure. Soldiers were asked to indicate the degree to which they agreed that a particular phrase described them on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Some examples of the descriptions include: "Am always prepared," "Waste my time" (reverse scored), and "Pay attention to details."

### **Initiating Structure/Consideration**

Subordinates were asked to assess their supervisor's initiating structure and consideration behaviors with a 20-item Likert scale using the items from the Leader Behavior Description Questionnaire (LBDQ) XII (Stogdill, 1963). Responses indicate how frequently the supervisor engages in such behaviors, ranging from 1 (always) to 5 (never). A sample item for initiating structure includes: "Decides what will be done and

how it will be done." A sample item for consideration includes: "Is friendly and approachable."

#### Transactional/Transformational Leadership

Subordinates were asked to assess the frequency of their supervisor's transactional (CR & MBE) and transformational behaviors (idealized influence, individualized consideration, intellectual stimulation) with a 24-item Likert scale taken from the Multifactor Leadership Questionnaire (MLQ-5X Revised; Bass & Avolio, 1997), with response options ranging from 0 (not at all) to 4 (frequently, if not always). An example CR item includes: "Rewards us when we do what we are supposed to do." An example MBE item includes: "Directs attention toward failures to meet standards." An example of an idealized influence item is: "Instills pride in me for being associated with him/her." An example of an individualized consideration item is: "Spends time teaching and coaching." An example of an intellectual stimulation item is: "Re-examines assumptions to question whether they are appropriate."

### **Leader Member Exchange**

Leader member exchange was measured using a seven item scale (Scandura & Graen, 1984) designed to assess the quality of relationship between the subordinate and his or her leader. Respondents are asked to indicate the degree to which a set of statements characterizes the quality of their relationship with their leader using a scale ranging from 1 (to a very low extent) to 7 (to a very high extent). Example items include: "I feel that my manager understands my problems and needs" and "My manager has

enough confidence in me that he/she would defend and justify my decisions if I am not present."

#### Situational Strength

Situational strength facets were assessed using a shortened version of the 28-item SSW scale (Meyer et al., in press). The 20-item version of the SSW scale is composed of 5 items from each facet (selected on the basis of descending factor loadings) using a Likert response scale (Meyer et al., in press) in which the Soldiers were asked to indicate the degree to which they agree that particular characteristics are present on their job. Responses range from 1 (strongly disagree) to 7 (strongly agree). The 20 items are evenly distributed across the four facets of clarity, consistency, constraints, and consequences. Sample items are: "On this job, specific information about work-related responsibilities is provided" (Clarity); "On this job, different sources of work information are always consistent with each other" (Consistency); "On this job, an employee is prevented from making his/her own decisions" (Constraints); and "On this job, an employee's decisions have extremely important consequences for other people" (Consequences).

#### **Performance**

Job performance (Rotundo & Sackett, 2002) was operationalized via two constructs: Army Wide (AW) performance and counterproductive work behavior (CWB). AW performance is operationalized as a linear composite of multiple Army relevant performance dimensions. The number of performance dimensions within each MOS was dependent on the number of performance domains identified as critical to that specific

MOS by Army subject matter experts and ranges from 5 to 9. These performance dimensions include both AW performance dimensions (e.g., warrior task knowledge, effort and discipline) and MOS specific dimensions (e.g., area security – 11B Infantry Soldier; network security – 25U Signal Support Soldier). For comparisons across MOS, the AW performance composite was utilized (Knapp & Heffner, 2010).

The scales were completed by the supervisor(s) of the target Soldier. The scales range from 1 (low performance) to 7 (high performance) and include a "not observed" option for instances where the supervisor did not have an opportunity to observe a Soldier's performance. Each scale includes a list of behaviors associated with the performance dimension being considered, where raters provide one rating per dimension based on the behavioral description. The scales also include a 4-point "familiarity" rating in which the rater indicates his or her general opportunity to observe each Soldier being rated (i.e., none, limited, reasonable, or a lot of opportunity to observe). Supervisors indicating either "none" or "limited" amounts of familiarity (i.e., response values of "1" or "2") were excluded from analyses involving this criterion (see Knapp & Heffner, 2010).

CWBs were assessed using a number of "yes/no" items asking the Soldier if he/she has ever received an Article 15 or has ever been counseled for a disciplinary incident. An Article 15 is a nonjudicial punishment wherein a Soldier is punished for committing a punitive offense under the Uniform Code of Military Justice. Example CWB questions include: "Have you ever received an Article 15?" and "Have you ever been formally counseled about unsatisfactory performance?" Soldiers that respond "yes"

to receiving an Article 15 are subsequently asked to indicate how many they have received. Due to severe range restriction in scores, (71.1% of Soldiers in our sample reported no disciplinary incidents, 19% reported 1, 5.4% reported 2, and only 4.5% reported more than 2), the frequency of occurrence was then recoded into a dichotomous variable where "0" = no disciplinary incidents, and "1" = having one or more disciplinary incidents. Analysis of CWB was subsequently conducted using logistic regression.

The dichotimization of a continuous variable may raise concern for researchers as this practice may lead to a decrease in analytical power and in some cases create falsely significant results. However, the dichotimization of the frequency of disciplinary incidents into a dichotomous CWB variable was done because: 1) the distribution of disciplinary incidents was extremely skewed, and 2) the dichotimization of disciplinary incidents is conceptually consistent with the way the variable is conceptualized by the Army. Because the latent variable has an irregular distribution, a dichotomized indicator appears to be more like that of the latent variable than the continuous indicator. Additionally, for promotion purposes and qualification for reclassification into another "higher" MOS, whether or not a Soldier has recorded disciplinary incidents (yes or no) plays a big role in promotion boards in addition to reclassification requirements. Therefore, the dichotimization of disciplinary incidents into a dichotomous CWB variable seems justifiable statistically and conceptually. Researchers have also previously utilized dichotomous measures of CWB in the context of disciplinary incidents

(Dilchert, Ones, Davis, & Rostow, 2007), providing precedent for the use of a dichotomous CWB variable in the current study.

#### **Control Variables**

Both MOS and graduation year were utilized as covariates in *select* analyses. These control variables were selected because they theoretically served as notable antecedents to SS perceptions. MOS was selected because it seems plausible that certain jobs are inherently different form one another on SS. In fact, SS researchers (Meyer et al., 2009) suggest that SS does in fact differ as a function of occupation. For example, a Soldier in an infantry or medic related MOS may experience higher degrees of SS as compared to those Soldiers in human resources or supply support. Job experience was used as a covariate under the assumption that the degree of experience is positively correlated with SS. That is, more job experience is likely to positively increase perceptions of SS. Alternatively, Soldiers with less experience are likely to experience lower degrees of SS due to the new context and learning environment they are experiencing. Analysis of this relationship supports this assumption (r = .10, p < .01).

Since the sample consisted of a wide range of MOS and a range of experience (on the part of the Soldiers), MOS and job experience were important to account for when attempting to isolate the effect of leadership behaviors on SS perceptions. That is, the effect of MOS and job experience on SS perceptions needed to be accounted for in our attempt to understand the relationship between leadership behaviors and subordinate perceptions of SS.

#### **RESULTS**

The primary focus of the current research is to examine the role of perceived leadership behaviors as an indirect moderator of subordinate trait-behavior relationships through subordinate perceptions of SS. Table 1 presents descriptive statistics, intercorrelations, and reliabilities for the study variables. To analyze the proposed relationships, a series of hierarchical linear and logistic regressions were conducted to satisfy a set of predetermined conditions necessary to support the overall hypothesized model. **Condition 1** requires a significant predictive relationship between subordinates' conscientiousness scores and measures of performance (i.e., AW performance and CWB). Condition 2 requires a significant predictive relationship between subordinate perceptions of leadership behaviors and subordinate perceptions of SS. Condition 3 requires that subordinate perceptions of SS significantly moderate subordinate traitbehavior relationships, such that these relationships are stronger when SS is low rather than high. Condition 4 requires that perceived leadership behaviors significantly moderate subordinate trait-behavior relationships, such that these relationships are stronger at low rather than high levels of leader behavior. Condition 5 requires that there is a reduction in the weights obtained in Condition 4 (or drop in statistical significance) when controlling statistically for SS perceptions and their respective interactions with

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<sup>&</sup>lt;sup>1</sup> The word "predictive" is being used in a conceptual sense. Due to the cross sectional nature of the data, cause and effect cannot be determined.

subordinate conscientiousness scores. These conditions were examined separately rather than simultaneously as existing statistical methods commonly used to test mediated moderation do not account for the type of model sought to be tested in the current research (A. Hayes, personal communication, January 15, 2013).

## **Condition 1**

To satisfy Condition 1, Pearson product-moment correlations were assessed for AW performance ratings ( $\alpha$  = .95) whereas point-biserial correlations were assessed for the dichotomous outcome of CWB. These analyses yielded significant correlations between conscientiousness and both AW performance (r = .05, p <.01) and CWB ( $r_{pb}$  = -.33, p <.01). It is likely that the correlation between conscientiousness and AW performance is only significant due to the large sample size. As such, though it is statistically significant, this relationship is not practically significant. These findings are summarized in Table 1. Collectively, these results provide evidence satisfying Condition 1.

## **Condition 2**

Hierarchical multiple regression was utilized to test the hypothesized relationships between perceived leadership behaviors and subordinate perceptions of SS. For these analyses, SS facets were regressed onto the leadership constructs where subordinate MOS and graduation year (from basic training – a proxy for experience) were entered into Step 1 followed by the leadership constructs of interest entered simultaneously in Step 2. Additionally, correlational analyses were utilized to assess bivariate (as opposed to multivariate) SS-leadership relationships. Correlational analyses in conjunction with

hierarchical multiple regression (wherein the leadership constructs are entered simultaneously) allow for the examination of: 1) the overall relationship of the leadership construct with the SS facet (or composite) of interest, and 2) an evaluation of what each leadership construct adds to the prediction of SS that is different (i.e., unique) from the predictability afforded by all the other constructs (Tabachnick & Fidell, 2007).

Due to the occasionally high intercorrelations among the leadership constructs, a series of confirmatory factor analyses (CFAs) were conducted to examine the underlying factor structure of the leadership measures. Specifically, a 1-factor ("leadership"), 5factor (initiating structure, consideration, transformational, transactional, LMX), and 8factor solution (initiating structure, consideration, individualized consideration, intellectual stimulation, idealized influence, management by exception, contingent reward, LMX) were analyzed. The results of these analyses can be found in Appendix C. Comparing across models, the results suggest that the expected 8-factor solution best represents the underlying factor structure despite the occasionally high intercorrelations. Additionally, a set of CFAs were conducted to confirm the distinction between leadership and SS as separate constructs. Specifically a 1-factor (Leadership and SS composite), 2factor (Leadership, SS), 9-factor (consistency, clarity, constraints, consequences, consideration, initiating structure, consideration, transformational, transactional, LMX), 12-factor (consistency, clarity, constraints, consequences, initiating structure, consideration, individualized consideration, intellectual stimulation, idealized influence, management by exception, contingent reward, LMX) were analyzed. The results of these analyses can also be found in Appendix C. Comparing across models, the results suggest

that a two factor solution best represents the underlying factor structure (i.e., leadership is not the same thing as SS).

As shown in Table 2 through Table 6 initiating structure behaviors ( $\alpha$  = .93) were significant predictors of subordinate global perceptions of SS in addition to the facets of clarity, consistency, and consequences ( $\beta$  = .20, p < .001;  $\beta$  = .14, p < .001;  $\beta$  = .13, p < .01;  $\beta$  = .14, p < .01 respectively). Correlational analyses summarized in Table 1 indicate that initiating structure behaviors are significantly related to global perceptions of SS (r = .44, p < .01), clarity (r = .52, p < .01), consistency (r = .52, p < .01), constraints (r = -.16, p < .01), and consequences (r = .23, p < .01). Collectively, these findings satisfy Condition 2 and also provide support for hypotheses 1a, 1b, 1d, and 1e. Though significant, the relationship with the SS facet of constraints was in the opposite direction as originally hypothesized. Thus, hypothesis 1c is not supported.

Transactional leadership behaviors were assessed by the behavioral facets of CR ( $\alpha$  = .95) and MBE ( $\alpha$  = .88). As shown in Table 2 through Table 6, CR was only found to be significantly predictive of subordinate perceptions of clarity and consistency ( $\beta$  = .18, p <.01;  $\beta$  = .14, p <.05 respectively). MBE was found to be significantly predictive of subordinate global perceptions of SS as well as the facets of constraints and consequences ( $\beta$  = .19, p <.001;  $\beta$  = .24, p <.001;  $\beta$  = .23, p <.001 respectively). Correlational analyses summarized in Table 1 indicate that CR behaviors are significantly related to global perceptions of SS (r = .55, p <.01), clarity (r = .66, p <.01), consistency (r = .68, p <.01), constraints (r = -.20, p <.01), and consequences (r = .23, p <.01) – and MBE behaviors are significantly related to global perceptions of SS (r = .42, p <.01),

clarity (r = .33, p < .01), consistency (r = .35, p < .01), constraints (r = .13, p < .01), and consequences (r = .28, p < .01). Collectively, these findings satisfy Condition 2 while providing support for hypotheses 2a, 2b, 2c, 2d, and 2e.

Transformational leadership behaviors were assessed by the behavioral facets of idealized influence ( $\alpha = .95$ ), individualized consideration ( $\alpha = .87$ ), and intellectual stimulation ( $\alpha = .95$ ). As shown in Table 2 through Table 6, idealized influence behaviors were not found to be predictive of the global composite or any SS facet. Individualized consideration was also not found to be predictive of SS at the facet level or the global SS composite. Intellectual stimulation was found to be significantly predictive of subordinate global perceptions of SS in addition to the SS facets of clarity and consistency ( $\beta = .19$ , p <.01;  $\beta = .23$ , p < .001;  $\beta = .25$ , p < .001 respectively). Correlational analyses summarized in Table 1 indicate that idealized influence behaviors are significantly related to global perceptions of SS (r = .53, p < .01), clarity (r = .65, p < .01), consistency (r = .65, p < .01), constraints (r = -.22, p < .01), and consequences (r = .23, p < .01) – individualized consideration behaviors are significantly related to global perceptions of SS (r = .49, p<.01), clarity (r = .60, p < .01), consistency (r = .57, p < .01), constraints (r = -.18, p < .05), and consequences (r = .26, p < .01) – and intellectual stimulation behaviors are significantly related to global perceptions of SS (r = .56, p < .01), clarity (r = .65, p < .01), consistency (r = .66, p < .01), constraints (r = -.17, p < .01), and consequences (r = .29, p<.01). Collectively, these findings satisfy Condition 2 while providing support for hypotheses 3a, 3b, and 4a. However, analyses yielded a significant relationship with the

SS facet of consequences in the opposite direction as originally hypothesized. Thus, hypothesis 4b is disconfirmed.

As shown in Table 2 through Table 6, LMX behaviors ( $\alpha$  = .95) were found to be significantly predictive of subordinate global perceptions of SS as well as the facets of clarity and consistency ( $\beta$  = .15, p <.001;  $\beta$  = .15, p <.001;  $\beta$  = .13, p <.01 respectively). Correlational analyses summarized in Table 1 indicate that LMX behaviors are significantly related to global perceptions of SS (r = .42, p <.01), clarity (r = .54, p <.01), consistency (r = .55, p <.01), constraints (r = -.21, p <.01), and consequences (r = .16, p <.01). Collectively, these findings satisfy Condition 2 while providing support for hypotheses 5a, 5b, and 6a while disconfirming hypothesis 6b as the relationship is in the opposite direction to that originally hypothesized.

Though no formal hypotheses were formulated for the relationships between consideration behaviors and subordinate perceptions of SS, Table 2 through Table 6 show that consideration behaviors ( $\alpha$  = .79) were found to be significantly predictive of subordinate global perceptions of SS as well as the SS facets of constraints and consequences ( $\beta$  = -.11, p <.05;  $\beta$  = -.23, p <.001;  $\beta$  = -.16, p <.01 respectively). Correlational analyses summarized in Table 1 indicate that consideration behaviors are significantly related to global perceptions of SS (r = .37, p <.01), clarity (r = .56, p <.01), consistency (r = .55, p <.01), and constraints (r = -.32, p <.01).

# **Condition 3**

Moderated multiple regression and moderated logistic regression were utilized to assess the moderating role of SS on the conscientiousness-performance relationship.

Table 7 summarizes the results of the moderation analyses with AW Performance as the outcome of interest. For these analyses, AW performance was regressed onto the main effects of conscientiousness and SS (entered in Step 1) and the interaction between conscientiousness and SS (entered in Step 2). As seen in Table 7, there were no significant interactions between perceptions of SS and Soldier conscientiousness in predicting supervisor ratings of Soldier AW performance.

For analyses with CWB (i.e., disciplinary incidents) as the dependent variable, hierarchical logistic regressions were utilized. The variables were entered into this analysis as described above, except with CWB as the criterion variable. No significant interactions were found between perceptions of SS with Soldier conscientiousness in predicting the likelihood of Soldier CWB. The results for the logistic regressions are summarized in Table 8. Collectively, these analyses fail to satisfy Condition 3 as SS was not found to moderate subordinate trait-behavior relationships.

# **Condition 4**

Hierarchical multiple regression was utilized to assess the moderating effect of perceived leader behaviors on subordinate trait-behavior relationships. In these analyses, performance was regressed onto the main effects and interactions between a given SS facet and leadership behavior where MOS and graduation year (from basic training – a proxy for experience) were entered in Step 1, the main effects of leadership behavior and subordinate personality in Step 2, and the interaction term entered in Step 3. Table 9 summarizes these results. These analyses yielded only one significant interacting relationship. Specifically, MBE was found to significantly interact ( $\beta$  = .14, p < .05) with

conscientiousness in predicting ratings of subordinates' AW performance, such that the relationship was stronger (more positive) when MBE was high rather than low – the opposite of what would be expected on the basis of SS theory. A graphical depiction of this relationship can be found in Figure 2.

Table 10 through Table 17 summarizes the logistic regression analyses assessing the moderating effect of perceived leader behaviors on subordinate trait-CWB relationships. The variables were entered into the analyses as described above. The analyses yielded significant interactions between conscientiousness and idealized influence, CR, and MBE leadership behaviors ( $\beta$  = .26, .27, and .25, respectively, all p < .05), such that the relationships were stronger (more negative) when idealized influence, CR, and MBE leadership behaviors were low--as would be expected on the basis of SS theory. No other significant interactions were observed. Graphical depictions of these significant interactions can be found in Figure 3 through Figure 5. Collectively, these analyses reveal that Condition 4 is only satisfied for the performance dimension of CWB in conjunction with the leadership behaviors of idealized influence, CR, and MBE.

## **Condition 5**

The intent of Condition 5 is to identify the extent to which the conscientiousness-leadership interactions assessed as part of Condition 4 are in fact attributable to conscientiousness-SS interactions. Mathematically, if the effect of leader behaviors on subordinate trait-behavior relationships is explained (or mediated) by SS perceptions, one would observe previously significant interaction coefficients becoming weaker in magnitude and perhaps non-significant as well. For these analyses, MOS and graduation

year were entered in Step 1. The main effects of leadership behavior, subordinate personality, and global SS were entered in Step 2. The interaction of global SS with personality was entered in Step 3, and the interaction between leadership behavior and subordinate personality was entered in Step 4. As with previous analyses, hierarchical multiple regression was used when AW performance was the dependent variable and hierarchical logistic regression was used when CWB was the dependent variable.

Table 18 summarizes these analyses. While treating perceptions of SS and its interactions with conscientiousness as a covariate, MBE was still found to significantly interact ( $\beta$  = .15, p < .05) with conscientiousness in predicting ratings of subordinates' AW performance. Similar to the findings above, this interaction was such that the relationship between conscientiousness and performance was stronger when MBE was higher rather than lower --the opposite of what would be expected on the basis of SS theory. However, controlling for SS and the conscientiousness-SS interaction also yielded a number of additional significant interacting relationships. Specifically, a significant interaction for both idealized influence ( $\beta$  = -.14, p < .05) and CR ( $\beta$  = -.17, p < .05) with conscientiousness. In these cases, the interactions were consistent with theorizing based on SS. That is, the relationship between conscientiousness and AW performance was stronger when there was less of a given leadership behavior (i.e., weaker situations).

Table 19 through Table 26 summarize the hierarchical logistic regression analyses. The analyses maintained the previously significant interactions between conscientiousness with idealized influence, CR, and MBE leadership behaviors ( $\beta$  = .40, .43, and .34, respectively, all p < .05). Again, these relationships were such that the

relationships were stronger (more negative) when idealized influence, CR, and MBE leadership behaviors were low--as would be expected on the basis of SS theory. Controlling for SS and the conscientiousness-SS interaction yielded a number of additional significant interacting relationships. Specifically, significant interactions for initiating structure ( $\beta$  = .03, p < .05), individualized consideration ( $\beta$  = .38, p < .05), and intellectual stimulation ( $\beta$  = .41, p < .05) with conscientiousness were observed. Similar to the findings above, these interactions were such that stronger relationships were found when initiating structure, individualized consideration, and intellectual stimulation leadership behaviors were low—as expected based on SS theory. Collectively, these analyses fail to satisfy Condition 5 as the analyses still yielded significant interactions among the variables of interest while accounting for SS and its interaction with personality. As such, these analyses fail to provide support for Hypothesis 7. Intriguingly, however, these analyses also suggest that leadership, even (or rather especially) after controlling for SS, interacts with conscientiousness to influence AW performance and CWB--and that it usually does so in a manner consistent with SS theory.

### **DISCUSSION**

This research effort contributes to the literature by providing an initial examination of the contextual antecedents of SS perceptions. Collectively, the results suggest that subordinate perceptions of leadership behaviors are notable antecedents to subordinate perceptions of SS, even after controlling for occupation (i.e., MOS) and job experience (i.e., year of graduation). Comparing the bivariate correlations to the observed standardized regression coefficients, we see that leadership behaviors are linked to SS perceptions, with a majority of the correlations showing medium to large effect sizes. However, the intercorrelations among these variables results in a seemingly smaller impact of leadership behaviors on SS perceptions (despite their substantial correlation) when examining the observed standardized regression coefficients. It seems that, although leadership behaviors are highly correlated with subordinate perceptions of SS, a considerable amount of variance in SS perceptions accounted for is shared among the leadership behavioral constructs.

Although leadership behaviors may act as antecedents to SS perceptions, the regression results underscore the complexity of these relationships by showing that each behavioral facet influences perceptions in different ways. For example, while the results collectively suggest that transactional leadership behaviors lead to perceptions of stronger situations, an examination of the regression analysis at the facet level shows that CR and

MBE influence different aspects of SS. Transformational leadership facets also show this same differentiation in their impact on SS perceptions. This raises caution for the use of leadership behavior composites in conjunction with SS as a global construct in future research, especially if such research is aimed at understanding the mechanisms through which leadership behaviors influence subordinate behavior. Additionally, the standardized regression coefficients negate the notion that task oriented behaviors are more strongly related to SS perceptions at work than socio-emotional oriented behaviors as previously stated. Instead, the strength of the effect of leadership depends on which SS facet is being considered.

Interestingly, the bivariate correlations show a consistently *negative* relationship between leadership constructs and constraints (with the exception of MBE) and a consistently *positive* relationship between leadership constructs and consequences. It was originally hypothesized that the task vs. socio-emotional distinction among the leadership behaviors would yield a dissimilar pattern of relationships – where task oriented behaviors would show an "across the board" increase in strength perceptions and socio-emotional behaviors would increase clarity and consistency perceptions while decreasing perceptions of constraints and consequences. However, the results suggest that leadership behaviors *in general* show *the same* pattern of relationships with SS perceptions (i.e., increasing clarity and consistency perceptions while decreasing perceptions of constraints and increasing perceptions of consequences). These findings question the notion that the task vs. socio-emotional orientation of a behavioral construct is a valuable distinction on which to base future hypotheses between leadership behaviors and subordinate

perceptions of SS. In the end, leadership behaviors show a similar pattern of effects on SS perceptions despite their behavioral orientation.

# Leadership Behavior as a Distal Moderator of Trait-Performance Relationships

No evidence from the analyses supports the notion that leadership behavior acts as a distal moderator of subordinate trait-behavior relationships—that is, moderating trait-behavior relationships *through* its effect on subordinate perceptions of SS. In fact, perceptions of SS were not found to moderate the subordinate trait-behavior relationship as expected and as supported by previous research (Meyer et al., 2009; Meyer et al., in press). In other words, no support was found for the original mediated moderation model.

Yet, some support was found for a simpler moderation model in which SS plays no role (or acts merely as a control variable) while leadership moderates trait-behavior relationships. Interestingly, however, the shapes of these leadership x trait interactions were consistent with what would be expected on the basis of SS theory with an exception for MBE. One possible explanation for this counterintuitive relationship is that MBE behaviors may prime subordinates to behave in a specific way. That is, as MBE behaviors deal with monitoring performance in order to prevent mistakes, conscientious individuals are likely to respond to those types of behavior by being more vigilant and focused on their task. In essence, based on trait activation theory, MBE behaviors make conscientiousness more relevant to the situation and more likely to manifest in behavior (Tett & Burnett, 2003).

Consistent with SS theory, in contexts where subordinates perceived less of a given leadership behavior (which could be conceptualized as a *weaker* situation), the observed conscientiousness-behavior relationship was stronger. Thus, even though SS was not shown to moderate observed trait-behavior relationships, select leadership behaviors did – and in a way *consistent* with the SS hypothesis. Unfortunately, a failure to replicate the moderating effects of SS on trait-behavior relationships (Condition 3) combined with the failure to demonstrate that the conscientiousness-leadership interactions were in fact attributable to conscientiousness-SS interactions (Condition 5) make SS an unlikely explanation for the observed interactions. In fact, tests of Condition 5 suggest that, when partialing out the variance in the outcome explained by SS and its interaction with subordinate personality, the moderating impact of leadership becomes stronger rather than weaker (albeit in a direction consistent with SS theory). In essence, in this particular study, the analyses suggest that SS may have acted as a suppressor variable (Cohen, Cohen, West, & Aiken 2003).

# **Alternative Explanation**

One possible explanation for the observed interactions is that subordinate personality may be acting as a "substitute for leadership" (Kerr & Jermier, 1978). The substitutes for leadership model suggests that a number of situational variables may act to neutralize, enhance, or substitute the effects of a leader's behavior on his/her subordinates (Howell et al., 1986; Avolio, Walumbwa, & Weber, 2009). A *neutralizer* is assumed to be a variable that would serve to weaken or block leader influence on subordinate outcomes. An *enhancer* is a variable that is assumed to strengthen leader influence on

subordinate outcomes. A *substitute* is a variable that makes leadership unnecessary or reduces the extent to which subordinates rely on their leader. The literature has broadly categorized possible substitutes into characteristics of the subordinate (e.g., Kerr & Jermier, 1978; Howell et al., 1986), the task (e.g., Kerr & Jermier, 1978; Den Hartog & Koopman, 2001), and the organization (e.g., Howell & Dorfman, 1981; Villa, Howell, Dorfman, & Daniel, 2003). Notably, researchers have acknowledged that the only proper way to assess substitutes for leadership is to examine whether or not such variables moderate relationships between leader behaviors and subordinate outcomes (Podsakoff, MacKenzie, & Bommer, 1996). For example, Schriesheim (1980) found that group cohesion moderated the relationship between leader consideration behaviors and subordinate satisfaction such that consideration behaviors were less predictive of subordinate satisfaction in high cohesion groups as compared to low cohesion groups. Unfortunately, the existing body of literature largely supports the main effects of substitutes of leadership but does not provide convincing evidence that substitutes actually *moderate* leader behavior and subordinate criterion variable relationships as suggested by theory (Podsakoff et al., 1996). However, the lack of consistent evidence in the extant literature does not negate the possibility that substitutes to leadership exist and that they moderate leader-behavior subordinate-outcome relationships as hypothesized.

Of particular relevance to the current study, early researchers have identified a number of subordinate attributes that may act as substitutes, including: 1) ability, experience, training, and knowledge, 2) need for independence, 3) "professional" orientation, and 4) indifference toward organizational rewards (Kerr & Jermier, 1978). In

line with notions put forth by the Path-Goal theory (House, 1971), these researchers suggest that within contexts where both goals and paths to goals are clear, "attempts by the leader to clarify paths and goals will be both redundant and seen by subordinates as imposing unnecessary, close control" (Kerr & Jermier, 1978, p. 376). For example, a subordinate with a high degree of ability and experience may find a leader's initiating structure behaviors as micromanaging which may negate the impact of such behaviors while possibly reducing subordinate satisfaction. Additionally, a subordinate's indifference towards organizational rewards will negate the impact of a leader's motivating behaviors based on the attainment of these rewards (Podsakoff, & MacKenzie, 1995).

As a possible alternative for the observed interactions, the current study suggests that subordinate personality can (and should) be incorporated among subordinate attribute constructs hypothesized to act as substitutes for leadership. Specifically, as one of the strongest predictors of both job performance and CWB (Barrick & Mount, 1991; Berry, Ones, & Sacket, 2007), a subordinate's degree of conscientiousness may act as a *substitute* (not an enhancer or neutralizer) for leadership (Howell et al., 1986). The current results do not support the notion that conscientiousness enhances the effect of leadership on subordinate behavior nor do the results suggest that conscientiousness *blocks* a leader's influence. As such, conceptualizing conscientiousness as a *substitute* best explains the observed interactions.

For example, MBE behaviors (active) are oriented towards monitoring performance to prevent subordinates from making mistakes. High degrees of conscientiousness may act as a substitute for MBE as conscientious individuals are characterized as being thorough, careful, and vigilant. Such characteristics may negate the need for close supervision via MBE behaviors and may possibly be perceived as micromanaging by highly conscientious individuals. Contingent reward behaviors are meant to motivate high performance in subordinates through the articulation of psychological and material rewards to be obtained in exchange for good performance. High degrees of conscientiousness may act as a substitute for CR behaviors as conscientious individuals are already highly motivated towards task accomplishment. As such, these motivating behaviors are redundant since the highly conscientious subordinate is already internally motivated towards high performance.

Initiating structure behaviors are geared towards establishing a structure for how and when tasks are to be completed. Individuals who are high in conscientiousness are characterized as being organized, neat, and systematic. With a high degree of conscientiousness, the provision of structure on how to complete a task may not be necessary since a conscientious person is likely to establish their own structure for task completion. Alternatively, subordinates low in conscientiousness are *more* likely to be influenced by the same leadership behaviors as they are less oriented towards accomplishing their tasks and may require the provision of more structure (from their leaders) in their work contexts.

Idealized influence behaviors are geared towards providing subordinates with a role model for high ethical behavior. A high degree of conscientiousness is characterized by self-discipline and impulse control. As such, particularly in the case of committing CWBs, idealized influence behaviors may be substituted by an individual's high degree of conscientiousness as these types of individuals are less likely to commit CWBs. In fact, the literature already suggests that conscientiousness is the strongest predictor of CWBs such that high degrees of conscientiousness are negatively associated with CWBs (Berry, Ones, & Sacket, 2007). Individualized consideration and inspirational motivation are both conceptualized to influence subordinate performance by increasing the subordinate's identification with the organization and their job duties (Bass, 1985; Burns, 1978). For example, individualized consideration, through the leader showing support and promoting open lines of communication, develops intrinsic motivation within the subordinate towards their tasks. As noted above, highly conscientious individuals are already intrinsically motivated towards high performance as highly conscientious individuals are achievement oriented, self directed, and persistent.

#### LIMITATIONS AND FUTURE DIRECTIONS

Although there were a number of novel and interesting findings in the current study, there were several limitations that should be addressed in this area for future research. First, the cross-sectional design of the data collection precludes the ability to make causal inferences among the variables of interest. Future studies in this area should utilize a longitudinal design. Notably, the current study did try to address this shortcoming, but the small sample size when using TAPAS scores to assess conscientiousness did not allow us to do so. Additionally, although the current study does have the advantage of two sources of ratings (i.e., self and supervisor report), the majority of measures were only completed by subordinate Soldiers. Outcome measures of subordinate AW performance were also obtained from single source ratings. This is a weakness of this study as supervisors may not possess enough familiarity with the subordinate to accurately rate their performance. However, to ameliorate this issue, the use of familiarity ratings were utilized and subordinate ratings when the leader reported a low degree of familiarity were eliminated from analyses.

Previous work on SS has operationalized the construct in an ad hoc manner. This study was the first to systematically assess SS in the work context. However, future examinations of the SS in the military should consider the inclusion of additional situational facets. It is possible that SS was not shown to moderate trait-behavior

relationships, as in previous research, because of the current measure's inability to capture "military-context-specific" facets. For example, psycho-social distance is a strong situational aspect of the military context. Psycho-social distance, in essence, refers to social distance between organizational members. The U.S. Army's Warrior's Ethos states "I will never leave a fallen comrade" (Department of Army, 2006), and there are a number of accounts where Soldiers have risked their own lives for the sake of other Soldiers. This type of situational press on behavior does not exist in typical organizations. Thus, it is plausible that there is a different psychological situation that influences Soldier behavior (that is fostered within the military) that aspects of clarity, consistency, constraints, and consequences do not capture.

Alternatively, it is possible that SS was not shown to moderate trait-behavior relationships because the military context in general is a strong situation. Consequently, SS scores are restricted in range, which may have attenuated the effects of SS in this military sample. Researchers have often suggested that the military context creates a "strong" situational influence and socialization process (e.g., Hannah & Sowden, 2012). These strong normative and informational effects impart substantial effects on the behavior of the Soldiers. However, a comparison of the means and standard deviations of the SS facets from the current military sample to those found in a range of civilian jobs (see Meyer et al., in press) negates this notion. This comparison suggests that the military context is no different from the civilian context in terms of the range of SS perceptions found in the workplace. This lack of difference justifies the examination of SS as a valid construct in military settings. However, future examinations should consider the notion

that SS (as it exists within a military context) may be better represented at a higher level of reference (e.g., military life) rather than just at the job level. Though an individual Soldier may experience varying degrees of SS within his or her job, the constraints of military life may be more influential on his or her behavior.

Psycho-social distance may also explain the moderating effect of leader behaviors on subordinate trait-behavior relationships over SS perceptions. Typical leadership scholars have suggested that leaders should maintain an adequate degree of social distance from their followers (e.g., distance from emotional concerns) in order to remain effective (Martin & Sims, 1956). However, in military contexts, researchers have noted that social distance between leader and follower is reduced wherein the relationships become more informal as contexts become more extreme (Little, 1964; Stouffer et al., 1965). Mack and Konetzni (1982) note that "...the successful commander officer...must learn to become as one with his ward room and crew; yet at the same time, he must remain above and apart" (p. 3). This psycho-social closeness between the leader and subordinate may lead the subordinate's behavior to be influenced more by their leader than their perception of the work situation *as a whole*. In effect, while the situation may have multiple stimuli, leadership behaviors *in the military* may be the strongest stimulus.

In summary, leadership behaviors are notable antecedents to SS perceptions though more work needs to be done to further clarify the complexity of these relationships. While situational strength did not moderate trait-behavior relationships as expected, leadership behaviors showed interesting interactions with conscientiousness in

predicting performance consistent with SS theory. Future research should examine these relationships with consideration towards additional SS facets and substitutes for leadership.

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Table 1. Descriptive Statistics, Intercorrelations, and Reliabilities of all Variables of Interest

|                                      |       |       | 1     | 2     | 3     | 4     | 5      | 6      | 7     | 8      | 9     | 10    | 11    | 12    | 13  | 14    | 15     | 16 |
|--------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|-------|--------|-------|-------|-------|-------|-----|-------|--------|----|
|                                      | Mean  | SD    |       |       |       |       |        |        |       |        |       |       |       |       |     |       |        |    |
| 1. Structure                         | 39.16 | 7.98  | 1     | .93   |       |       |        |        |       |        |       |       |       |       |     |       |        |    |
| 2. Consideration                     | 34.56 | 6.90  | .64** | 1     | .79   |       |        |        |       |        |       |       |       |       |     |       |        |    |
| 3. Leader Member Exchange            | 34.29 | 10.11 | .49** | .64** | 1     | .95   |        |        |       |        |       |       |       |       |     |       |        |    |
| 4. Idealized Influence               | 3.56  | 1.00  | .64** | .68** | .70** | 1     | .95    |        |       |        |       |       |       |       |     |       |        |    |
| 5. Individualized Consideration      | 3.19  | 1.10  | .55** | .64** | .60** | .76** | 1      | .97    |       |        |       |       |       |       |     |       |        |    |
| 5. Intellectual Stimulation          | 3.34  | 1.10  | .65** | .71** | .65** | .19** | .84**  | 1      | .95   |        |       |       |       |       |     |       |        |    |
| 7. Contingent Reward                 | 3.51  | 1.11  | .56** | .67** | .66** | .88** | .80**  | .54**  | 1     | .95    |       |       |       |       |     |       |        |    |
| Management by Exception              | 3.31  | 1.00  | .28** | .21** | .24** | .40** | .30**  | .37**  | .42** | 1      | .88   |       |       |       |     |       |        |    |
| 9. SS Facet Clarity                  | 4.74  | 1.55  | .52** | .56** | .54** | .65** | .60**  | .65**  | .66** | .33**  | 1     | .96   |       |       |     |       |        |    |
| 10. SS Facet Consistency             | 4.54  | 1.49  | .52** | .55** | .55** | .65** | .57**  | .66**  | .68** | .35**  | .58** | 1     | .95   |       |     |       |        |    |
| 11. SS Facet Constraints             | 4.09  | 1.44  | 16**  | 32**- | .21** | 22**  | 18** - | 17** - | .20** | .13* - | 28* - | .19** | 1     | .95   |     |       |        |    |
| 12. SS Facet Consequences            | 4.35  | 1.13  | .23** | .10   | .16** | .23** | .26**  | .29**  | .23** | .28**  | .31** | .30** | .34** | 1     | .84 |       |        |    |
| 13. SS Global Composite              | 4.43  | 0.90  | .44** | .37** | .42** | .53** | .49**  | .56**  | .55** | .42**  | .75** | .79** | .32** | .71** | · 1 | .87   |        |    |
| 14. Trait Conscientiousness          | 4.01  | 0.66  | .21** | .18** | .20** | .16** | .15**  | .20**  | .14*  | .06    | .15** | .10 - | .16*  | .05   | .06 | 1     | .90    |    |
| 15. Counterproductive Work Behaviors | 0.29  | 0.45  | 01    | 03 -  | .06   | 04    | 01     | 04 -   | .07   | .07    | .05 - | .04   | .02   | 01 -  | .06 | 33**  | 1      |    |
| 16. Army Wide Performance Ratings    | 5.18  | 1.16  | .00   | .04   | .07   | .11*  | 02     | 07     | .09 - | .03    | .07   | .08   | .11   | 04    | .01 | .15** | - 33** | 1  |

*Note.* Correlations with counterproductive work behavior represent point-biserial correlations. Correlations with AW performace were filtered to include only those ratings wherein the superior reported a sufficient (i.e., a response of 3 or 4 on the familiarity rating scale) degree of familiarity with the subordinate.

<sup>\*\*</sup>p < .01

<sup>\*</sup>p < .05

Table 2. Hierarchical Multiple Regression – Situational Strength Facet of Clarity Regressed onto Leadership Constructs.

|                              | Situational Strength Facet Clarity |              |         |  |  |  |  |
|------------------------------|------------------------------------|--------------|---------|--|--|--|--|
| Predictor Variable(s)        | R <sup>2</sup>                     | $\Delta R^2$ | β       |  |  |  |  |
| Step 1                       | .05***                             | .05***       |         |  |  |  |  |
| Control Variables            |                                    |              |         |  |  |  |  |
| Step 2                       | .51***                             | .47***       |         |  |  |  |  |
| Structure                    |                                    |              | .14 *** |  |  |  |  |
| Consideration                |                                    |              | .03     |  |  |  |  |
| LMX                          |                                    |              | .15 *** |  |  |  |  |
| Idealized Influence          |                                    |              | .07     |  |  |  |  |
| Individualized Consideration |                                    |              | .02     |  |  |  |  |
| Intellectual Stimulation     |                                    |              | .23 *** |  |  |  |  |
| Contingent Reward            |                                    |              | .18 **  |  |  |  |  |
| Management by Exception      |                                    |              | .02     |  |  |  |  |
| Total R <sup>2</sup>         | .56***                             |              |         |  |  |  |  |

<sup>\*\*</sup>*p*<.01, \*\*\**p*<.001.

Table 3. Hierarchical Multiple Regression - Situational Strength Facet of Consistency Regressed onto Leadership Constructs

|                              | Situational Strength Facet Consistency |              |         |  |  |  |  |
|------------------------------|--|--------------|---------|--|--|--|--|
| Predictor Variable(s)        | R <sup>2</sup>                         | $\Delta R^2$ | β       |  |  |  |  |
| Step 1                       | .04**                                  | .04**        |         |  |  |  |  |
| Control Variables            |  |              |         |  |  |  |  |
| Step 2                       | .49***                                 | .45***       |         |  |  |  |  |
| Structure                    |  |              | .13 **  |  |  |  |  |
| Consideration                |  |              | .05     |  |  |  |  |
| LMX                          |  |              | .13 **  |  |  |  |  |
| Idealized Influence          |  |              | .06     |  |  |  |  |
| Individualized Consideration |  |              | .05     |  |  |  |  |
| Intellectual Stimulation     |  |              | .25 *** |  |  |  |  |
| Contingent Reward            |  |              | .14 *   |  |  |  |  |
| Management by Exception      |  |              | .04     |  |  |  |  |
| Total R <sup>2</sup>         | .53***                                 |              |         |  |  |  |  |

<sup>\*</sup>*p* < .05, \*\**p*< .01, \*\*\**p*< .001.

Table 4. Hierarchical Multiple Regression - Situational Strength Facet of Constraints Regressed onto Leadership Constructs

Situational Strength Facet Constraints  $R^2$  $\Delta R^2$ β Predictor Variable(s) Step 1 .01 .01 Control Variables Step 2 .13\*\*\* .12\*\*\* Structure .09 -.23 \*\*\* Consideration .03 **LMX** Idealized Influence -.06 Individualized Consideration -.03 Intellectual Stimulation -.05 -.07 Contingent Reward .24 \*\*\* Management by Exception .14\*\*\* Total R<sup>2</sup>

<sup>\*\*\*</sup>*p*< .001.

 $Table\ 5.\ Hierarchical\ Multiple\ Regression\ -\ Situational\ Strength\ Facet\ of\ Consequences\ Regressed\ onto\ Leadership\ Constructs$ 

|                              | Situational Strength Facet Consequences |              |         |  |  |  |
|------------------------------|---|--------------|---------|--|--|--|
| Predictor Variable(s)        | R <sup>2</sup>                          | $\Delta R^2$ | β       |  |  |  |
| Step 1                       | .01                                     | .01          |         |  |  |  |
| Control Variables            |   |              |         |  |  |  |
| Step 2                       | .13***                                  | .12***       |         |  |  |  |
| Structure                    |   |              | .14 **  |  |  |  |
| Consideration                |   |              | 16 **   |  |  |  |
| LMX                          |   |              | .06     |  |  |  |
| Idealized Influence          |   |              | .13     |  |  |  |
| Individualized Consideration |   |              | 02      |  |  |  |
| Intellectual Stimulation     |   |              | .03     |  |  |  |
| Contingent Reward            |   |              | 04      |  |  |  |
| Management by Exception      |   |              | .23 *** |  |  |  |
| Total R <sup>2</sup>         | .14***                                  |              |         |  |  |  |

<sup>\*\*</sup>*p*<.01, \*\*\**p*<.001.

 $\label{thm:constructs} \textbf{Table 6. Hierarchical Multiple Regression - Situational Strength Global Composite Regressed onto Leadership Constructs}$ 

|                              | Situational Strength Global Composite |              |         |  |  |  |
|------------------------------|---------------------------------------|--------------|---------|--|--|--|
| Predictor Variable(s)        | R <sup>2</sup>                        | $\Delta R^2$ | β       |  |  |  |
| Step 1                       | .03**                                 | .03**        |         |  |  |  |
| Control Variables            |                                       |              |         |  |  |  |
| Step 2                       | .38***                                | .35***       |         |  |  |  |
| Structure                    |                                       |              | .20 *** |  |  |  |
| Consideration                |                                       |              | 11 *    |  |  |  |
| LMX                          |                                       |              | .15 *** |  |  |  |
| Idealized Influence          |                                       |              | .07     |  |  |  |
| Individualized Consideration |                                       |              | .01     |  |  |  |
| Intellectual Stimulation     |                                       |              | .19 **  |  |  |  |
| Contingent Reward            |                                       |              | .09     |  |  |  |
| Management by Exception      |                                       |              | .19 *** |  |  |  |
| Total R <sup>2</sup>         | .41***                                |              |         |  |  |  |

<sup>\*</sup>*p* <.05, \*\**p* < .01, \*\*\**p* < .001.

Table 7. Summary of Moderated Multiple Regression Analyses with Army Wide Performance Ratings Regressed on Conscientiousness, Situational Strength, and their Interactions

|                                      | Arm   | y Wide Pe    | rformance Ratings |
|--------------------------------------|-------|--------------|-------------------|
| Predictor Variable(s)                | $R^2$ | $\Delta R^2$ | β                 |
| Clarity X Conscientiousness          |       |              |                   |
| Step 1                               | .03*  | .03*         |                   |
| Clarity                              |       |              | .05               |
| Conscientiousness                    |       |              | .15 *             |
| Step 2                               | .03   | .00          |                   |
| Clarity X Conscientiousness          |       |              | .01               |
| Consistency X Conscientiousness      |       |              |                   |
| Step 1                               | .03*  | .03*         |                   |
| Consistency                          |       |              | .07               |
| Conscientiousness                    |       |              | .15 *             |
| Step 2                               | .03   | .00          |                   |
| Consistency X Conscientiousness      |       |              | 02                |
| Constraints X Conscientiousness      |       |              |                   |
| Step 1                               | .03** | .03**        |                   |
| Constraints                          |       |              | 08                |
| Conscientiousness                    |       |              | .15 **            |
| Step 2                               | .04   | .01          |                   |
| Constraints X Conscientiousness      |       |              | .07               |
| Consequences X Conscientiousness     |       |              |                   |
| Step 1                               | .02*  | .02*         |                   |
| Consequences                         |       |              | 05                |
| Conscientiousness                    |       |              | .15 **            |
| Step 2                               | .03   | .01          |                   |
| Consequences X Conscientiousness     |       |              | .08               |
| Global Composite X Conscientiousness |       |              |                   |
| Step 1                               | .02*  | .02*         |                   |
| Global Composite                     |       |              | .00               |
| Conscientiousness                    |       |              | .15 **            |
| Step 2                               | .03   | .01          |                   |
| Global X Conscientiousness           |       |              | .06               |

*Note.*  $R^2$ s are raw  $R^2$ s.  $\Delta R^2$ s are based on unadjusted values. All  $\beta$ s are standardized. \*p<.05, \*\*p<.01.

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Table 8. Summary of Moderated Logistic Regression Analyses with Counterproductive Work Behaviors Regressed on Conscientiousness, Situational Strength, and their Interactions

|                                 | Step         | 1       | Ster         | 2       |
|---------------------------------|--------------|---------|--------------|---------|
| Predictor Variable(s)           | В            | Exp(β)  | В            | Exp(β)  |
| Conscientiousness X Clarity     |              | -       |              |         |
| Conscientiousness               | 75 ***       | .48 *** | 75 ***       | .48 *** |
| Clarity                         | 02           | .98     | 02           | .98     |
| Conscientiousness X Clarity     |              |         | .00          | 1.00    |
| Model X <sup>2</sup> (df)       | 38.94(2) *** |         | 38.94(3) *** |         |
| Model $\Delta X^2$ (df)         |              |         | 0.00(1)      |         |
| Conscientiousness X Consistency |              |         |              |         |
| Conscientiousness               | 74 ***       | .48 *** | 73 ***       | .48 *** |
| Consistency                     | 04           | .96     | 04           | .96     |
| Consientiousness X Consistency  |              |         | .03          | 1.03    |
| Model X <sup>2</sup> (df)       | 39.03(2) *** |         | 39.18(3) *** |         |
| Model $\Delta X^2$ (df)         |              |         | 0.15(1)      |         |
| Conscientiousness X Constraints |              |         |              |         |
| Conscientiousness               | 73 ***       | .48 *** | 72 ***       | .49 *** |
| Constraints                     | .07          | 1.07    | .07          | 1.07    |
| Conscientiousness X Constraints |              |         | 09           | .91     |
| Model X <sup>2</sup> (df)       | 38.59(2) *** |         | 39.94(3) *** |         |
| Model $\Delta X^2$ (df)         |              |         | 1.35(1)      |         |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship.  $B = log \ odds$ ;  $Exp(\beta) = odds \ ratio$ .

(Continued on Next Page)

<sup>\*\*\*</sup> p< .001

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**Table 8. (Continued)**Summary of Moderated Logistic Regression Analyses with Counterproductive Work Behaviors Regressed on Conscientiousness, Situational Strength, and their Interactions

|                                      | Step         | 1       | Ster         | 2        |
|--------------------------------------|--------------|---------|--------------|----------|
| Predictor Variable(s)                | В            | Exp(β)  | В            | Exp(β)   |
| Conscientiousness X Consequences     |              |         |              |          |
| Conscientiousness                    | 76 ***       | .47 *** | 76 ***       | .47 ***  |
| Consequences                         | 95           | 1.05    | .03          | 1.03     |
| Conscientiousness X Consequences     |              |         | 12           | .89      |
| Model X <sup>2</sup> (df)            | 38.74(2) *** |         | 40.05(3) *** |          |
| Model $\Delta X^2$ (df)              |              |         | 1.31(1)      |          |
| Conscientiousness X Global Composite | _            |         |              |          |
| Conscientiousness                    | 76 ***       | .47 *** | 76 ***       | 1.01 *** |
| Global Composite                     | .02          | 1.02    | .01          | .04      |
| Conscientiousness X Global Composite |              |         | 06           | .04      |
| Model X <sup>2</sup> (df)            | 38.41(2) *** |         | 38.69(3) *** |          |
| Model $\Delta X^2$ (df)              |              |         | .28(1)       |          |

*Note.* An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship.  $B = \log \operatorname{odds}$ ;  $\operatorname{Exp}(\beta) = \operatorname{odds}$  ratio.

<sup>\*\*\*</sup> p< .001

Table 9. Summary of Moderated Multiple Regression Analyses with Army Wide Performance Ratings Regressed on Conscientiousness, Leadership Behavior, and their Interactions

|  | Army           | Wide Perfor  | mance Ratings |
|--|----------------|--------------|---------------|
| Predictor Variable(s)                      | R <sup>2</sup> | $\Delta R^2$ | β             |
| Initiating Strucutre X Conscientiousness   |                |              |               |
| Step 1                                     | .05            | .05          |               |
| Control Variables                          |                |              |               |
| Step 2                                     | .08            | .03 *        |               |
| Initiating Structure                       |                |              | .00           |
| Conscientiousness                          |                |              | .16 **        |
| Step 3                                     | .08            | .00          |               |
| Initiating Structure X Conscientiousness   |                |              | .06           |
| Consideration X Conscientiousness          |                |              |               |
| Step 1                                     | .05            | .05          |               |
| Control Variables                          |                |              |               |
| Step 2                                     | .08            | .03 *        |               |
| Consideration                              |                |              | .04           |
| Conscientiousness                          |                |              | .15 **        |
| Step 3                                     | .08            | .00          |               |
| Consideration X Conscientiousness          |                |              | 06            |
| Leader Member Exchange X Conscientiousness |                |              |               |
| Step 1                                     | .05            | .05          |               |
| Control Variables                          |                |              |               |
| Step 2                                     | .08            | .03 *        |               |
| Leader Member Exchange                     |                |              | .06           |
| Conscientiousness                          |                |              | .15 *         |
| Step 3                                     | .00            | .00          |               |
| Leader Member Exchange X Conscientiousness |                |              | 04            |
| Idealized Influence X Conscientiousness    |                |              |               |
| Step 1                                     | .05            | .05          |               |
| Control Variables                          |                |              |               |
| Step 2                                     | .08            | .03 **       |               |
| Idealized Influence                        |                |              | .09           |
|  |                |              | .14 *         |
| Conscientiousness                          |                |              |               |
| Conscientiousness Step 3                   | .09            | .01          |               |

*Note.* R<sup>2</sup>s are raw R<sup>2</sup>s. All  $\beta$ s are standardized. Control variables include MOS and experience. \*p < .05, \*\*p < .01.

(Continued on Next Page)

**Table 9.** (Continued)
Summary table of Hierarchical Moderated Multiple Regressions with Army Wide Performance Ratings Regressed on Conscientiousness, Leadership Behavior, and their Interactions

|  | Army Wide Performance Ratings |              |              |  |
|--|-------------------------------|--------------|--------------|--|
| redictor Variable(s)                             | R 2                           | $\Delta R^2$ | β            |  |
| ndividualized Consideration X Conscientiousness  |                               |              | ·            |  |
| Step 1   | .07                           | .07 *        |              |  |
| Control Variables                                |                               |              |              |  |
| Step 2   | .09                           | .02          |              |  |
| Individualized Consideration                     |                               |              | 02           |  |
| Conscientiousness                                |                               |              | .12 *        |  |
| Step 3   | .09                           | .00          |              |  |
| Individualized Consideration X Conscientiousness |                               |              | 02           |  |
| ntellectual Stimulation X Conscientiousness      |                               |              |              |  |
| Step 1   | .07                           | .07 *        |              |  |
| Control Variables                                |                               |              |              |  |
| Step 2   | .09                           | .02 *        |              |  |
| Intellectual Stimulation                         |                               |              | 07           |  |
| Conscientiousness                                |                               |              | .16 *        |  |
| Step 3   | .09                           | .00          |              |  |
| Intellectual Stimulation X Conscientiousness     |                               |              | 06           |  |
| Contingent Reward X Conscientiousness            |                               |              |              |  |
| Step 1   | .05                           | .05          |              |  |
| Control Variables                                |                               |              |              |  |
| Step 2   | .08                           | .03 *        |              |  |
| Contingent Reward                                |                               |              | .07          |  |
| Conscientiousness                                |                               |              | .10 *        |  |
| Step 3   | .09                           | .01          |              |  |
| Contingent Reward X Conscientiousness            |                               |              | 08           |  |
| Ianagement by Exception X Conscientiousness      |                               |              |              |  |
| Step 1   | .05                           | .05          |              |  |
| Step 1   |                               |              |              |  |
| Control Variables                                |                               |              |              |  |
| 1  | .08                           | .03 *        |              |  |
| Control Variables                                | .08                           | .03 *        | 03           |  |
| Control Variables Step 2                         | .08                           | .03 *        | 03<br>.16 ** |  |
| Control Variables Step 2 Management by Exception | .08                           | .03 *        |              |  |

Note. R²s are raw R²s. All  $\beta$ s are standardized. Control variables include MOS and experience. \*p<.05, \*\*p<.01.

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Table 10. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Initiating Structure, and their Interactions

|  | Step        | 1      | Step          | Step 2  |               |         |
|--|-------------|--------|---------------|---------|---------------|---------|
| edictor Variable(s)                      | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β)  |
| nitiating Structure X Conscientiousness  |             |        |               |         |               |         |
| D1                                       | .23         | 1.26   | .11           | 1.12    | .11           | 1.12    |
| D2                                       | .67         | 1.95   | .69           | 1.99    | .68           | 1.97    |
| D3                                       | 08          | .93    | 06            | .95     | 12            | .89     |
| D4                                       | .25         | 1.28   | .34           | 1.41    | .37           | 1.45    |
| D5                                       | .07         | 1.07   | .20           | 1.22    | .20           | 1.21    |
| D6                                       | .23         | 1.25   | .21           | 1.24    | .19           | 1.21    |
| D7                                       | -1.74       | .18    | -1.84 *       | .16 *   | -1.78         | .17     |
| D8                                       | .16         | 1.18   | .07           | 1.07    | .06           | 1.06    |
| Grad Year                                | 24 **       | .79 ** | 21 **         | .81 **  | 22 **         | .81 **  |
| Initiating Structure                     |             |        | 77 ***        | .47 *** | .02           | 1.02    |
| Conscientiousness                        |             |        | .02           | 1.01    | 76 ***        | .47 *** |
| Initiating Structure X Conscientiousness |             |        |               |         | .02           | 1.02    |
| Model X <sup>2</sup> (df)                | 22.27(9) ** |        | 58.21(11) *** |         | 60.35(12) *** |         |
| Model $\Delta X^2$ (df)                  |             |        | 35.93(2) ***  |         | 2.14(1)       |         |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship. B = log odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

\*p < .05, \*\*p < .01; \*\*\* p < .001

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Table 11. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Consideration, and their Interactions

| Predictor Variable(s)             | Step        | 1      | Step          | 2       | Step 3        |        |
|-----------------------------------|-------------|--------|---------------|---------|---------------|--------|
|                                   | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β) |
| Consideration X Conscientiousness |             |        |               |         |               |        |
| D1                                | .23         | 1.26   | .13           | 1.14    | .13           | 1.14   |
| D2                                | .67         | 1.95   | .73 *         | 2.07 *  | .73 *         | 2.07 * |
| D3                                | 08          | .93    | 01            | .99     | 01            | .99    |
| D4                                | .25         | 1.28   | .32           | 1.37    | .32           | 1.37   |
| D5                                | .07         | 1.07   | .21           | 1.24    | .21           | 1.24   |
| D6                                | .23         | 1.25   | .15           | 1.16    | .15           | 1.16   |
| D7                                | -1.74       | .18    | -1.83 *       | .16 *   | -1.83 *       | .16 *  |
| D8                                | .16         | 1.18   | .04           | 1.04    | .04           | 1.04   |
| Grad Year                         | 24 **       | .79 ** | 21 **         | .81 **  | 21 **         | .81 ** |
| Consideration                     |             |        | .01           | 1.01    | .01           | 1.00   |
| Conscientiousness                 |             |        | 74 ***        | .48 *** | 74            | .48    |
| Consideration X Conscientiousness |             |        |               |         | .00           | 1.00   |
| Model X <sup>2</sup> (df)         | 22.27(9) ** |        | 56.52(11) *** |         | 56.52(12) *** |        |
| Model $\Delta X^2$ (df)           |             |        | 34.25(2) ***  |         | 00.00(1)      |        |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship. B = log odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

\*p < .05, \*\*p < .01; \*\*\*\* p < .001

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Table 12. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Leader Member Exchange, and their Interactions

|  | Step        | 1      | Step          | 2       |               | Step 3  |  |
|--|-------------|--------|---------------|---------|---------------|---------|--|
| edictor Variable(s)                        | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β)  |  |
| ader Member Exchange X Conscientiousness   |             |        |               |         |               |         |  |
| D1   | .23         | 1.26   | .12           | 1.13    | .12           | 1.13    |  |
| D2   | .67         | 1.95   | .75 *         | 2.11 *  | .76 *         | 2.14 *  |  |
| D3   | 08          | .93    | .00           | 1.00    | 03            | .97     |  |
| D4   | .25         | 1.28   | .31           | 1.36    | .31           | 1.37    |  |
| D5   | .07         | 1.07   | .20           | 1.23    | .18           | 1.20    |  |
| D6   | .23         | 1.25   | .12           | 1.13    | .09           | 1.10    |  |
| D7   | -1.74       | .18    | -1.81         | .16     | -1.77         | .17     |  |
| D8   | .16         | 1.18   | .43           | 1.04    | .05           | 1.05    |  |
| Grad Year                                  | 24 **       | .79 ** | 21 **         | .81 **  | 20 **         | .82 **  |  |
| Leader Member Exchange                     |             |        | .00           | 1.00    | .00           | .99     |  |
| Conscientiousness                          |             |        | 72 ***        | .49 *** | 70 ***        | .49 *** |  |
| Leader Member Exchange X Conscientiousness |             |        |               |         | .01           | .37     |  |
| Model X <sup>2</sup> (df)                  |             |        |               |         |               |         |  |
| Model $\Delta X^2$ (df)                    | 22.27(9) ** |        | 56.41(11) *** |         | 57.68(12) *** |         |  |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship. B = log odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

\*p < .05, \*\*p < .01; \*\*\*\* p < .001

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Table 13. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Idealized Influence, and their Interactions

|   | Step        | 1      | Step          | 2       |               | Step 3  |  |
|---|-------------|--------|---------------|---------|---------------|---------|--|
| Predictor Variable(s)                   | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β)  |  |
| dealized Influence X Conscientiousness  |             |        |               |         |               |         |  |
| D1                                      | .23         | 1.26   | .12           | 1.12    | .12           | 1.13    |  |
| D2                                      | .67         | 1.95   | .75 *         | 2.13 *  | .76 *         | 2.14 *  |  |
| D3                                      | 08          | .93    | .01           | 1.01    | 06            | .94     |  |
| D4                                      | .25         | 1.28   | .31           | 1.36    | .34           | 1.40    |  |
| D5                                      | .07         | 1.07   | .20           | 1.23    | .18           | 1.19    |  |
| D6                                      | .23         | 1.25   | .11           | 1.12    | .07           | 1.08    |  |
| D7                                      | -1.74       | .18    | -1.80         | .165    | 1.73          | .18     |  |
| D8                                      | .16         | 1.18   | .04           | 1.04    | .04           | 1.04    |  |
| Grad Year                               | 24 **       | .79 ** | 20 **         | .82 **  | 20 **         | .82 **  |  |
| Idealized Influence                     |             |        | 05            | .95     | 04            | .96     |  |
| Conscientiousness                       |             |        | 71 ***        | .49 *** | 71 ***        | .49 *** |  |
| Idealized Influence X Conscientiousness |             |        |               |         | .26 *         | 1.30 *  |  |
| Model X <sup>2</sup> (df)               | 22.27(9) ** |        | 56.62(11) *** |         | 61.51(12) *** |         |  |
| Model $\Delta X^2$ (df)                 |             |        | 34.35(2) ***  |         | 4.89(1) *     |         |  |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship. B = log odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

\*p < .05, \*\*p < .01; \*\*\* p < .001

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Table 14. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Individualized Consideration, and their Interactions

|  | Step        | 1      | Step          | 2       |               | Step 3  |  |  |
|--|-------------|--------|---------------|---------|---------------|---------|--|--|
| redictor Variable(s)                             | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β)  |  |  |
| ndividualized Consideration X Conscientiousness  |             |        |               |         |               |         |  |  |
| D1   | .22         | 1.26   | .12           | 1.12    | .12           | 1.12    |  |  |
| D2   | .65         | 1.95   | .69           | 1.99    | .68           | 1.97    |  |  |
| D3   | 07          | .93    | 07            | .93     | 03            | .97     |  |  |
| D4   | .25         | 1.28   | .24           | 1.26    | .31           | 1.37    |  |  |
| D5   | .06         | 1.07   | .04           | .99     | .18           | 1.20    |  |  |
| D6   | .22         | 1.25   | .22           | 1.25    | .09           | 1.10    |  |  |
| D7   | -1.74       | .18    | -1.73         | .17     | -1.77         | .15     |  |  |
| D8   | .15         | 1.18   | .14           | 1.17    | .05           | .99     |  |  |
| Grad Year  | 22 **       | .79 ** | 20 **         | .78 **  | 20 **         | .78 **  |  |  |
| Individualized Consideration                     |             |        | 04            | .95     | .00           | .99     |  |  |
| Conscientiousness                                |             |        | 71 ***        | .48 *** | 70 ***        | .21 *** |  |  |
| Individualized Consideration X Conscientiousness |             |        |               |         | .01           | .22     |  |  |
| Model X <sup>2</sup> (df)                        | 22.34(9) ** |        | 57.70(11) *** |         | 58.68(12) *** |         |  |  |
| Model $\Delta X^2$ (df)                          |             |        | 35.36(2) ***  |         | .98(1)        |         |  |  |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship. B = log odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

<sup>\*</sup>p <.05, \*\*p <.01; \*\*\* p <.001

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Table 15. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Intellectual Stimulation, and their Interactions

|  | Step        | 1      | Step          | 2       |               | Step 3  |  |
|--|-------------|--------|---------------|---------|---------------|---------|--|
| redictor Variable(s)                         | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β)  |  |
| tellectual Stimulation X Conscientiousness   |             |        |               |         |               |         |  |
| D1   | .23         | 1.26   | .09           | 1.09    | .10           | 1.13    |  |
| D2   | .67         | 1.95   | .66           | 1.96    | .74 *         | 2.14 *  |  |
| D3   | 08          | .93    | 10            | .90     | 02            | .97     |  |
| D4   | .25         | 1.28   | .27           | 1.29    | .33           | 1.37    |  |
| D5   | .07         | 1.07   | .07           | .97     | .18           | 1.20    |  |
| D6   | .23         | 1.25   | .25           | 1.28    | .07           | 1.10    |  |
| D7   | -1.74       | .18    | -1.70         | .14     | -1.76         | .17     |  |
| D8   | .16         | 1.18   | .11           | 1.14    | .05           | 1.05    |  |
| Grad Year                                    | 24 **       | .79 ** | 17 **         | .75 **  | 21 **         | .82 **  |  |
| Intellectual Stimulation                     |             |        | 01            | .92     | .01           | .99     |  |
| Conscientiousness                            |             |        | 70 ***        | .48 *** | 71 ***        | .49 *** |  |
| Intellectual Stimulation X Conscientiousness |             |        |               |         | .02           | .37     |  |
| Model X <sup>2</sup> (df)                    | 22.34(9) ** |        | 56.67(11) *** |         | 57.68(12) *** |         |  |
| Model $\Delta X^2$ (df)                      |             |        | 34.33(2) ***  |         | 1.01(1)       |         |  |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship. B = log odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

<sup>\*</sup>p <.05, \*\*p <.01; \*\*\* p <.001

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Table 16. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Contingent Reward, and their Interactions

|                                       | Step        | 1      | Step          | 2      |               | Step 3  |  |
|---------------------------------------|-------------|--------|---------------|--------|---------------|---------|--|
| edictor Variable(s)                   | В           | Exp(β) | В             | Exp(β) | В             | Exp(β)  |  |
| ontingent Reward X Conscientiousness  |             |        |               |        |               |         |  |
| D1                                    | .23         | 1.26   | .12           | 1.12   | .10           | 1.11    |  |
| D2                                    | .67         | 1.95   | .75 *         | 2.13 * | .76 *         | 2.11 *  |  |
| D3                                    | 08          | .93    | .01           | 1.01   | 03            | .97     |  |
| D4                                    | .25         | 1.28   | .31           | 1.36   | .32           | 1.37    |  |
| D5                                    | .07         | 1.07   | .20           | 1.22   | .19           | 1.21    |  |
| D6                                    | .22         | 1.25   | .11           | 1.12   | .06           | 1.06    |  |
| D7                                    | -1.74       | .18    | -1.80         | .17    | -1.71         | .18     |  |
| D8                                    | .16         | 1.18   | .04           | 1.04   | .07           | 1.07    |  |
| Grad Year                             | 25 **       | .78 ** | 21 **         | .81 ** | 21 **         | .811 ** |  |
| Contingent Reward                     |             |        | 05            | .96    | 05            | .95     |  |
| Conscientiousness                     |             |        | 71            | .49    | 71 ***        | .49 *** |  |
| Contingent Reward X Conscientiousness |             |        |               |        | .27 *         | 1.31 *  |  |
| Model X <sup>2</sup> (df)             | 22.66(9) ** |        | 56.52(11) *** |        | 62.20(12) *** |         |  |
| Model $\Delta X^2$ (df)               |             |        | 33.86(2) ***  |        | 5.68(1) *     |         |  |

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Table 17. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Management by Exception, and their Interactions

|   | Step        | 1      | Step          | 2       |               | Step 3  |  |
|---|-------------|--------|---------------|---------|---------------|---------|--|
| Predictor Variable(s)                       | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β)  |  |
| Management By Exception X Conscientiousness |             |        |               |         |               |         |  |
| D1  | .24         | 1.27   | .13           | 1.14    | .12           | 1.12    |  |
| D2  | .60         | 1.83   | .68           | 1.98    | .65           | 1.91    |  |
| D3  | 07          | .93    | 01            | .99     | 08            | .93     |  |
| D4  | .26         | 1.29   | .32           | 1.37    | .35           | 1.42    |  |
| D5  | .08         | 1.08   | .12           | 1.24    | .28           | 1.32    |  |
| D6  | .23         | 1.26   | .17           | 1.18    | .15           | 1.16    |  |
| D7  | -1.73       | .18    | -1.80         | .17     | -1.79         | .17     |  |
| D8  | .17         | 1.19   | .03           | 1.03    | .06           | 1.06    |  |
| Grad Year                                   | 24 **       | .79 ** | 22 **         | .81 **  | 22 **         | .80 **  |  |
| Management By Exception                     |             |        | .14           | 1.15    | .14           | 1.15    |  |
| Conscientiousness                           |             |        | 74 ***        | .48 *** | 78 ***        | .46 *** |  |
| Management By Exception X Conscientiousness |             |        |               |         | .25 *         | 1.28 *  |  |
| Model X <sup>2</sup> (df)                   | 21.77(9) ** |        | 58.28(11) *** |         | 62.36(12) *** |         |  |
| Model $\Delta X^2$ (df)                     |             |        | 36.52(2) ***  |         | 4.08(1) *     |         |  |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship. B = log odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

\*p < .05, \*\*p < .01; \*\*\* p < .001

Table 18. Summary of Moderated Multiple Regression Analyses with Army Wide Performance Ratings Regressed on Conscientiousness, Leadership Behaviors, Situational Strength, and their Interactions

|  | Army Wide Performance Ratings |              |        |  |  |
|--|-------------------------------|--------------|--------|--|--|
| Predictor Variable(s)                      | R <sup>2</sup>                | $\Delta R^2$ | β      |  |  |
| Initiating Strucutre X Conscientiousness   |                               |              |        |  |  |
| Step 1                                     | .05                           | .05          |        |  |  |
| Control Variables                          |                               |              |        |  |  |
| Step 2                                     | .08                           | .03 *        |        |  |  |
| Initiating Structure                       |                               |              | 01     |  |  |
| Conscientiousness                          |                               |              | .16 ** |  |  |
| Situational Strength Global Composite      |                               |              | .02    |  |  |
| Step 3                                     | .08                           | .00          |        |  |  |
| Global X Conscientiousness                 |                               |              | .05    |  |  |
| Step 4                                     | .08                           | .00          |        |  |  |
| Initiating Structure X Conscientiousness   |                               |              | 01     |  |  |
| Consideration X Conscientiousness          |                               |              |        |  |  |
| Step 1                                     | .05                           | .05          |        |  |  |
| Control Variables                          |                               |              |        |  |  |
| Step 2                                     | .08                           | .03 *        |        |  |  |
| Consideration                              |                               |              | .04    |  |  |
| Conscientiousness                          |                               |              | .15 ** |  |  |
| Situational Strength Global Composite      |                               |              | .01    |  |  |
| Step 3                                     | .08                           | .00          |        |  |  |
| Global X Conscientiousness                 |                               |              | .05    |  |  |
| Step 4                                     | .09                           | .01          |        |  |  |
| Consideration X Conscientiousness          |                               |              | 10     |  |  |
| Leader Member Exchange X Conscientiousness |                               |              |        |  |  |
| Step 1                                     | .02                           | .05          |        |  |  |
| Control Variables                          |                               |              |        |  |  |
| Step 2                                     | .08                           | .03 *        |        |  |  |
| Leader Member Exchange                     |                               |              | .06    |  |  |
| Conscientiousness                          |                               |              | .15 *  |  |  |
| Situational Strength Global Composite      |                               |              | 01     |  |  |
| Step 3                                     | .08                           | .00          | .01    |  |  |
| Global X Conscientiousness                 |                               |              | .05    |  |  |
| Step 4                                     | .09                           | .01          |        |  |  |
| Leader Member Exchange X Conscientiousness | .07                           | .01          | 09     |  |  |
| Idealized Influence X Conscientiousness    |                               |              |        |  |  |
| Step 1                                     | .02                           | .05          |        |  |  |
| Control Variables                          | .02                           | .00          |        |  |  |
| Step 2                                     | .08                           | .03 *        |        |  |  |
| Idealized Influence                        | .00                           | .03          | .11    |  |  |
| Conscientiousness                          |                               |              | .14 *  |  |  |
| Situational Strength Global Composite      |                               |              | 04     |  |  |
| Step 3                                     | .08                           | .00          | 0-     |  |  |
| Global X Conscientiousness                 | .00                           | .00          | .04    |  |  |
| Step 4                                     | .09                           | .01 *        | .04    |  |  |
| *  | .09                           | .01 *        | 14 *   |  |  |
| Idealized Influence X Conscientiousness    |                               |              | 14 *   |  |  |
|  |                               |              |        |  |  |

Note.  $R^2s$  are raw  $R^2s$ . All  $\beta s$  are standardized. Control variables include MOS and experience.

(Continued on Next Page)

<sup>\*</sup>*p* <.05, \*\**p* < .01.

Table 18. (Continued)

Summary of Moderated Multiple Regression Analyses with Army Wide Performance Ratings Regressed on Conscientiousness, Leadership Behaviors, Situational Strength, and their Interactions

|  | Army Wide Performance Ratings |              |        |  |
|--|-------------------------------|--------------|--------|--|
| redictor Variable(s)                             | $R^2$                         | $\Delta R^2$ | β      |  |
| ndividualized Consideration X Conscientiousness  |                               |              | · ·    |  |
| Step 1   | .07                           | .07 *        |        |  |
| Control Variables                                |                               |              |        |  |
| Step 2   | .09                           | .02          |        |  |
| Individualized Consideration                     | .07                           | .02          | 03     |  |
| Conscientiousness                                |                               |              | .15 *  |  |
| Situational Strength Global Composite            |                               |              | .02    |  |
| Step 3   | .09                           | .00          | .02    |  |
| Global X Conscientiousness                       | .07                           | .00          | .06    |  |
| Step 4   | .09                           | .00          | .00    |  |
| 1  | .09                           | .00          | 06     |  |
| Individualized Consideration X Conscientiousness |                               |              | 06     |  |
| ntellectual Stimulation X Conscientiousness      |                               |              |        |  |
| Step 1   | .07                           | .07 *        |        |  |
| Control Variables                                |                               |              |        |  |
| Step 2   | .10                           | .03          |        |  |
| Intellectual Stimulation                         |                               |              | 11     |  |
| Conscientiousness                                |                               |              | .16 *  |  |
| Situational Strength Global Composite            |                               |              | .07    |  |
| Step 3   | .11                           | .01          |        |  |
| Global X Conscientiousness                       | .11                           | .01          | .07    |  |
| Step 4   | .12                           | .01          | .07    |  |
| Intellectual Stimulation X Conscientiousness     | .12                           | .01          | 14     |  |
| Inchectual Statistation 14 Competitions          |                               |              |        |  |
| Contingent Reward X Conscientiousness            |                               |              |        |  |
| Step 1   | .05                           | .05          |        |  |
| Control Variables                                |                               |              |        |  |
| Step 2   | .08                           | .03 *        |        |  |
| Contingent Reward                                |                               |              | .09    |  |
| Conscientiousness                                |                               |              | .15 *  |  |
| Situational Strength Global Composite            |                               |              | 04     |  |
| Step 3   | .08                           | .00          |        |  |
| Global X Conscientiousness                       |                               |              | .06    |  |
| Step 4   | .10                           | .02 *        |        |  |
| Contingent Reward X Conscientiousness            |                               |              | 17 *   |  |
| Agnogament by Evacation V Conscientionance       |                               |              |        |  |
| Management by Exception X Conscientiousness      | 0.5                           | 0.5          |        |  |
| Step 1   | .05                           | .05          |        |  |
| Control Variables                                |                               |              |        |  |
| Step 2   | .08                           | .03 *        |        |  |
| Management by Exception                          |                               |              | 04     |  |
| Conscientiousness                                |                               |              | .16 ** |  |
| Situational Strength Global Composite            |                               |              | .04    |  |
| Step 3   | .08                           | .00          |        |  |
| Global X Conscientiousness                       |                               |              | .05    |  |
| Step 4   | .10                           | .02 *        |        |  |
| =  |                               |              | .15 *  |  |

*Note.*  $R^2$ s are raw  $R^2$ s. All  $\beta$ s are standardized. Control variables include MOS and experience. \*p < .05, \*\*p < .01.

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Table 19. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Initiating Structure, Situational Strength, and their Interactions

|   | Step        | 1      | Step 2        |         | Step 3        |        | Step 4        |         |
|---|-------------|--------|---------------|---------|---------------|--------|---------------|---------|
| Predictor Variable(s)                           | В           | Exp(β) | В             | Exp(β)  | В             | Exp(β) | В             | Exp(β)  |
| Initiating Structure X Conscientiousness        |             |        |               |         |               | -      |               |         |
| D1  | .23         | 1.26   | .11           | 1.12    | .11           | 1.12   | .10           | 1.11    |
| D2  | .67         | 1.95   | .69           | 1.99    | .69           | 1.99   | .68           | 1.97    |
| D3  | 08          | .93    | 057           | .94     | 04            | .96    | 12            | .89     |
| D4  | .25         | 1.28   | .34           | 1.41    | .33           | 1.39   | .36           | 1.43    |
| D5  | .07         | 1.07   | .20           | 1.22    | .18           | 1.20   | .16           | 1.17    |
| D6  | .23         | 1.25   | .21           | 1.24    | .24           | 1.27   | .24           | 1.27    |
| D7  | -1.74       | .18    | -1.84 **      | .16 **  | -1.86 *       | .16 *  | -1.81         | .17     |
| D8  | .16         | 1.18   | .07           | 1.07    | .09           | 1.09   | .10           | 1.1     |
| Grad Year                                       | 24 **       | .79 ** | 21            | .81     | 21 **         | .81 ** | 21 **         | .81 **  |
| Initiating Structure                            |             |        | .02           | 1.02    | .02           | 1.02   | .03 *         | 1.03 *  |
| Conscientiousness                               |             |        | 77 ***        | .47 *** | 77            | .46    | 77 ***        | .47 *** |
| Global Situational Strength                     |             |        | 01            | .99     | 03            | .97    | 08            | .73     |
| Conscientiousness X Global Situational Strength |             |        |               |         | 09            | .92    | 22            | .81     |
| Initiating Structure X Conscientiousness        |             |        |               |         |               |        | .033 *        | 1.03 *  |
| Model X <sup>2</sup> (df)                       | 22.27(9) ** |        | 58.21(12) *** |         | 58.70(13) *** |        | 62.77(14) *** |         |
| Model $\Delta X^2$ (df)                         |             |        | 35.94(3) ***  |         | .49(1)        |        | 4.07(1) *     |         |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship.  $\beta = \log \operatorname{odds}$ ;  $\operatorname{Exp}(\beta) = \operatorname{odds}$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

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Table 20. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Consideration, Situational Strength, and their Interactions

|   | Step        | Step 1 Step 2 |               |         | Step 3        |         | Step 4        |         |
|---|-------------|---------------|---------------|---------|---------------|---------|---------------|---------|
| Predictor Variable(s)                           | β           | Exp(β)        | β             | Exp(β)  | β             | Exp(β)  | β             | Exp(β)  |
| Consideration X Conscientiousness               |             |               |               |         |               |         |               |         |
| D1  | .23         | 1.26          | .12           | 1.13    | .12           | 1.13    | .12           | 1.13    |
| D2  | .67         | 1.95          | .72           | 2.05    | .72           | 2.05    | .72           | 2.05    |
| D3  | 08          | .93           | 01            | .99     | .00           | 1.00    | .00           | .99     |
| D4  | .25         | 1.28          | .31           | 1.37    | .31           | 1.36    | .30           | 1.35    |
| D5  | .07         | 1.07          | .22           | 1.24    | .21           | 1.23    | .21           | 1.23    |
| D6  | .23         | 1.25          | .16           | 1.17    | .18           | 1.20    | .18           | 1.19    |
| D7  | -1.74       | .18           | -1.83 *       | .16 *   | -1.86 **      | .16 **  | -1.85 *       | .16 *   |
| D8  | .16         | 1.18          | .05           | 1.05    | .07           | 1.07    | .07           | 1.07    |
| Grad Year                                       | 24 **       | .79 **        | 21 **         | .81 **  | 21            | .81     | 21 **         | .81 **  |
| Consideration                                   |             |               | .03           | 1.03    | .01           | 1.01    | .01           | 1.01    |
| Conscientiousness                               |             |               | 74 ***        | .48 *** | 75 ***        | .47 *** | 75 ***        | .48 *** |
| Global Situational Strength                     |             |               | .01           | 1.01    | .01           | 1.01    | .01           | 1.01    |
| Conscientiousness X Global Situational Strength |             |               |               |         | 08            | .93     | 09            | .91     |
| Consideration X Conscientiousness               |             |               |               |         |               |         | .01           | 1.01    |
| Model X <sup>2</sup> (df)                       | 22.27(9) ** |               | 56.63(12) *** |         | 57.01(13) *** |         | 57.11(14) *** |         |
| Model $\Delta X^2$ (df)                         |             |               | 34.36(3) ***  |         | .38(1)        |         | .1(1)         |         |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship.  $\beta = \log$  odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

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Table 21. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Leader Member Exchange, Situational Strength, and their Interactions

|   | Step 1      |        | Step 2        |         | Step 3        |         | Step 4        |         |
|---|-------------|--------|---------------|---------|---------------|---------|---------------|---------|
| Predictor Variable(s)                           | β           | Exp(β) | β             | Exp(β)  | β             | Exp(β)  | β             | Exp(β)  |
| Leader Member Exchange X Conscientiousness      |             |        |               |         |               |         |               |         |
| D1  | .23         | 1.26   | .11           | 1.12    | .11           | 1.12    | .10           | 1.10    |
| D2  | .67         | 1.95   | .73 *         | 2.07 *  | .73 *         | 2.07 *  | .76 *         | 2.13 *  |
| D3  | 08          | .93    | .00           | .99     | .01           | 1.01    | 02            | .98     |
| D4  | .25         | 1.28   | .31           | 1.36    | .30           | 1.35    | .29           | 1.34    |
| D5  | .07         | 1.07   | .21           | 1.23    | .20           | 1.22    | .15           | 1.17    |
| D6  | .23         | 1.25   | .13           | 1.14    | .15           | 1.16    | .14           | 1.14    |
| D7  | -1.74       | .18    | -1.80         | .17     | -1.83 *       | .16 *   | -1.79         | .17     |
| D8  | .16         | 1.18   | .06           | 1.06    | .08           | 1.08    | .12           | 1.13    |
| Grad Year                                       | 24 **       | .79 ** | 21 **         | .81 **  | 21 **         | .81 **  | 20 **         | .82 **  |
| Leader Member Exchange                          |             |        | 01            | .99     | 01            | .99     | 01            | .99     |
| Conscientiousness                               |             |        | 72 ***        | .49 *** | 72 ***        | .49 *** | 71 ***        | .49 *** |
| Global Situational Strength                     |             |        | .06           | 1.07    | .05           | 1.05    | .04           | 1.05    |
| Conscientiousness X Global Situational Strength |             |        |               |         | 07            | .93     | 19            | .83     |
| Leader Member Exchange X Conscientiousness      |             |        |               |         |               |         | .02           | 1.02    |
| Model X <sup>2</sup> (df)                       | 22.27(9) ** |        | 56.81(12) *** |         | 57.16(13) *** |         | 60.06(14) *** |         |
| Model $\Delta X^2$ (df)                         |             |        | 34.53(3) ***  |         | .35(1)        |         | 2.9(1)        |         |

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

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Table 22. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Idealized Influence, Situational Strength, and their Interactions

|   | Step 1      |        | Step 2        |         | Step 3        |         | Step 4        |         |
|---|-------------|--------|---------------|---------|---------------|---------|---------------|---------|
| Predictor Variable(s)                           | β           | Exp(β) | β             | Exp(β)  | β             | Exp(β)  | β             | Exp(β)  |
| Idealized Influence X Conscientiousness         |             |        |               |         |               |         |               |         |
| D1  | .23         | 1.26   | .10           | 1.11    | .10           | 1.11    | .10           | 1.11    |
| D2  | .67         | 1.95   | .73 *         | 2.08 *  | .73 *         | 2.08 *  | .75 *         | 2.11 *  |
| D3  | 08          | .93    | .01           | 1.01    | .03           | 1.03    | 06            | .95     |
| D4  | .25         | 1.28   | .30           | 1.36    | .30           | 1.34    | .31           | 1.37    |
| D5  | .07         | 1.07   | .22           | 1.24    | .21           | 1.23    | .15           | 1.16    |
| D6  | .23         | 1.25   | .12           | 1.13    | .14           | 1.15    | .14           | 1.15    |
| D7  | -1.74       | .18    | -1.79         | .17     | -1.81         | .163    | -1.76         | .17     |
| D8  | .16         | 1.18   | .05           | 1.05    | .07           | 1.07    | .11           | 1.12    |
| Grad Year                                       | 24 **       | .79 ** | 21 **         | .81 **  | 21 **         | .81 **  | 21 **         | .81 **  |
| Idealized Influence                             |             |        | 08            | .93     | 07            | .93     | 06            | .94     |
| Conscientiousness                               |             |        | 72 ***        | .49 *** | 73 ***        | .79 *** | 73 ***        | .48 *** |
| Global Situational Strength                     |             |        | .08           | 1.08    | .06           | 1.07    | .03           | 1.03    |
| Conscientiousness X Global Situational Strength |             |        |               |         | 06            | .94     | 27            | .76     |
| Idealized Influence X Conscientiousness         |             |        |               |         |               |         | .40 **        | 1.49 ** |
| Model X <sup>2</sup> (df)                       | 22.27(9) ** |        | 57.19(12) *** |         | 57.45(13) *** |         | 65.63(14) *** |         |
| Model $\Delta X^2$ (df)                         |             |        | 34.91(3) ***  |         | .26(1)        |         | 8.18(1) **    |         |

Note. An odds ratio greater than 1.0 indicates a positive relationship with having a reported counterproductive work behavior, an odds ratio of 1.0 indicates a null relationship, and an odds ratio less than 1.0 indicates a negative relationship.  $\beta = \log$  odds;  $Exp(\beta) = odds$  ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

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Table 23. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Individualized Consideration, Situational Strength, and their Interactions

|  | Step        | Step 1 |               | Step 2  |               | Step 3  |               | Step 4  |  |
|--|-------------|--------|---------------|---------|---------------|---------|---------------|---------|--|
| Predictor Variable(s)                            | β           | Exp(β) | β             | Exp(β)  | β             | Exp(β)  | β             | Exp(β)  |  |
| Individualized Consideration X Conscientiousness |             |        |               |         |               |         |               |         |  |
| D1   | .22         | 1.26   | .11           | 1.11    | .10           | 1.11    | .07           | 1.09    |  |
| D2   | .65         | 1.95   | .67           | 1.97    | .67           | 1.96    | .66           | 1.96    |  |
| D3   | 07          | .93    | 08            | .92     | .00           | .94     | .02           | .95     |  |
| D4   | .25         | 1.28   | .22           | 1.24    | .29           | 1.35    | .26           | 1.32    |  |
| D5   | .06         | 1.07   | .03           | .98     | .17           | 1.19    | .16           | 1.21    |  |
| D6   | .22         | 1.25   | .20           | 1.23    | .09           | 1.10    | .11           | 1.11    |  |
| D7   | -1.74       | .18    | -1.72         | .16     | -1.77         | .15     | -1.80         | .2      |  |
| D8   | .15         | 1.18   | .12           | 1.15    | .02           | .96     | .01           | .96     |  |
| Grad Year  | 22 **       | .79 ** | 17            | .85     | 11            | .84     | 17            | .84     |  |
| Individualized Consideration                     |             |        | .02           | 1.02    | .04           | 1.04    | .06           | 1.06    |  |
| Conscientiousness                                |             |        | 80 ***        | .45 *** | 81 ***        | .45 *** | 87 ***        | .42 *** |  |
| Global Situational Strength                      |             |        | 02            | .98     | 04            | .96     | 08            | .93     |  |
| Conscientiousness X Global Situational Strength  |             |        |               |         | 11            | .90     | 33            | .72     |  |
| Individualized Consideration X Conscientiousness |             |        |               |         |               |         | .38 *         | 1.46 *  |  |
| Model X <sup>2</sup> (df)                        | 22.34(9) ** |        | 48.74(12) *** |         | 49.30(13) *** |         | 56.06(14) *** |         |  |
| Model $\Delta X^2$ (df)                          |             |        | 26.40(3) ***  |         | .56(1)        |         | 6.73(1) **    |         |  |

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

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Table 24. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Intellectual Stimulation, Situational Strength, and their Interactions

|   | Step        | Step 1 Step 2 |               | Step 3  |               | Step 4  |               |         |
|---|-------------|---------------|---------------|---------|---------------|---------|---------------|---------|
| Predictor Variable(s)                           | β           | Exp(β)        | β             | Exp(β)  | β             | Exp(β)  | β             | Exp(β)  |
| Intellectual Stimulation X Conscientiousness    |             |               |               |         |               |         |               |         |
| D1  | .22         | 1.26          | .08           | 1.01    | .06           | .99     | .09           | 1.01    |
| D2  | .65         | 1.95          | .64           | 1.94    | .62           | 1.90    | .61           | 1.89    |
| D3  | 07          | .93           | 11            | .91     | 14            | .89     | 13            | .87     |
| D4  | .25         | 1.28          | .24           | 1.27    | .26           | 1.30    | .31           | 1.32    |
| D5  | .06         | 1.07          | .08           | .98     | .08           | .97     | .07           | .94     |
| D6  | .22         | 1.25          | .22           | 1.25    | .21           | 1.23    | .14           | 1.15    |
| D7  | -1.74       | .18           | -1.72         | .12     | -1.71         | .11     | -1.69         | .15     |
| D8  | .15         | 1.18          | .13           | 1.17    | .15           | 1.19    | .16           | 1.21    |
| Grad Year                                       | 22 **       | .79 **        | 18            | .80     | 17            | .85     | 16            | .83     |
| Intellectual Stimulation                        |             |               | 01            | .99     | 01            | .99     | .01           | 1.01    |
| Conscientiousness                               |             |               | 78 ***        | .46 *** | 79 ***        | .45 *** | 82 ***        | .44 *** |
| Global Situational Strength                     |             |               | .01           | 1.01    | 01            | .99     | 05            | .96     |
| Conscientiousness X Global Situational Strength |             |               |               |         | 10            | .91     | 12            | .70     |
| Intellectual Stimulation X Conscientiousness    |             |               |               |         |               |         | .41 *         | 1.51 *  |
| Model X <sup>2</sup> (df)                       | 22.34(9) ** |               | 47.77(12) *** |         | 48.23(13) *** |         | 55.39(14) *** |         |
| Model $\Delta X^2$ (df)                         |             |               | 25.43(3) ***  |         | .46(1)        |         | 7.16(1) **    |         |

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

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Table 25. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Contingent Reward, Situational Strength, and their Interactions

|   | Step        | Step 1 |               | Step 2  |               | Step 3  |               | Step 4     |  |
|---|-------------|--------|---------------|---------|---------------|---------|---------------|------------|--|
| Predictor Variable(s)                           | β           | Exp(β) | β             | Exp(β)  | β             | Exp(β)  | β             | Exp(\beta) |  |
| Contingent Reward X Conscientiousness           |             |        |               |         |               |         |               |            |  |
| D1  | .23         | 1.26   | .10           | 1.10    | .10           | 1.10    | .06           | 1.06       |  |
| D2  | .67         | 1.95   | .73 *         | 2.06 *  | .73 *         | 2.07 *  | .71           | 2.04       |  |
| D3  | 08          | .93    | .01           | 1.01    | .03           | 1.03    | .01           | 1.01       |  |
| D4  | .25         | 1.28   | .30           | 1.35    | .29           | 1.34    | .28           | 1.32       |  |
| D5  | .07         | 1.07   | .21           | 1.24    | .21           | 1.23    | .17           | 1.19       |  |
| D6  | .22         | 1.25   | .13           | 1.13    | .15           | 1.16    | .13           | 1.14       |  |
| D7  | -1.74       | .18    | -1.79         | .17     | -1.82         | .16     | -1.74         | .18        |  |
| D8  | .16         | 1.18   | .06           | 1.07    | .08           | 1.08    | .16           | 1.17       |  |
| Grad Year                                       | 25 **       | .78 ** | 22 **         | .81 **  | 22 **         | .81 **  | 22 **         | .81 **     |  |
| Contingent Reward                               |             |        | 08            | .82     | 07            | .93     | 08            | .93        |  |
| Conscientiousness                               |             |        | 923 ***       | .49 *** | 73 ***        | .48 *** | 74 ***        | .48 ***    |  |
| Global Situational Strength                     |             |        | .10           | 1.10    | .08           | 1.08    | .05           | 1.08       |  |
| Conscientiousness X Global Situational Strength |             |        |               |         | 08            | .93     | 07            | .73        |  |
| Contingent Reward X Conscientiousness           |             |        |               |         |               |         | .43 **        | 1.53 **    |  |
| Model X <sup>2</sup> (df)                       | 22.66(9) ** |        | 57.36(12) *** |         | 57.74(13) *** |         | 67.84(14) *** |            |  |
| Model $\Delta X^2$ (df)                         |             |        | 34.70(3) ***  |         | .38(1)        |         | 10.10(1) **   |            |  |

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

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Table 26. Moderated Logistic Regression Analysis with Counterproductive Work Behaviors Regressed on the Main Effects of Conscientiousness, Management by Exception, Situational Strength, and their Interactions

|   | Step       | Step 1 Step 2 |               | Step 3  |               | Step 4  |               |         |
|---|------------|---------------|---------------|---------|---------------|---------|---------------|---------|
| Predictor Variable(s)                           | β          | Exp(β)        | β             | Exp(β)  | β             | Exp(β)  | β             | Exp(β)  |
| Management By Exception X Conscientiousness     |            |               |               |         |               |         |               |         |
| D1  | .24        | 1.27          | .13           | 1.14    | .13           | 1.14    | .10           | 1.11    |
| D2  | .60        | 1.83          | .69           | 1.99    | .69           | 1.99    | .64           | 1.90    |
| D3  | 07         | .93           | 01            | .99     | .00           | 1.00    | 06            | .94     |
| D4  | .26        | 1.29          | .32           | 1.37    | .31           | 1.36    | .34           | 1.40    |
| D5  | .08        | 1.08          | .21           | 1.24    | .20           | 1.23    | .27           | 1.31    |
| D6  | .23        | 1.26          | .17           | 1.18    | .19           | 1.20    | .21           | 1.23    |
| D7  | -1.73      | .18           | -1.80         | .17     | -1.82 *       | .16 *   | -1.85 *       | .16 *   |
| D8  | .17        | 1.19          | .03           | 1.03    | .04           | 1.04    | .12           | 1.12    |
| Grad Year                                       | 24 **      | .79 **        | 22 **         | .81 **  | 21 **         | .81 **  | 22 **         | .81 **  |
| Management By Exception                         |            |               | .14           | 1.15    | .14           | 1.15    | .15           | 1.16    |
| Conscientiousness                               |            |               | 74 ***        | .48 *** | 74 ***        | .48 *** | 81 ***        | .45 *** |
| Global Situational Strength                     |            |               | 01            | .99     | 03            | .97     | 04            | .96     |
| Conscientiousness X Global Situational Strength |            |               |               |         | 07            | .92     | 22            | .81     |
| Management By Exception X Conscientiousness     |            |               |               |         |               |         | .34 *         | 1.41 *  |
| Model X <sup>2</sup> (df)                       | 21.77(9) * |               | 58.28(12) *** |         | 58.65(13) *** |         | 64.96(14) *** |         |
| Model $\Delta X^2$ (df)                         |            |               | 36.51(3) ***  |         | .37(1)        |         | 6.31(1) *     |         |

Note. An odds ratio greater than 1.0 indicates a positive relationship with have a reported counterproductive work behavior, and odds ratio of 1.0 indicates a null relationship, and an odss ratio less than 1.0 indicates a negative relationship.  $\beta = \log$  odds; Exp( $\beta$ ) = odds ratio. D1 = Infantry; D2 = Armor Crew; D3 = Military Police; D4 = Light-Wheel Mechanic, D5 = Medic; D6 = Motor Transport; D7 = Human Resource Specialist; D8 = Signal Support.

<sup>\*</sup>p < .05; \*\*p < 01; \*\*\* p < .001

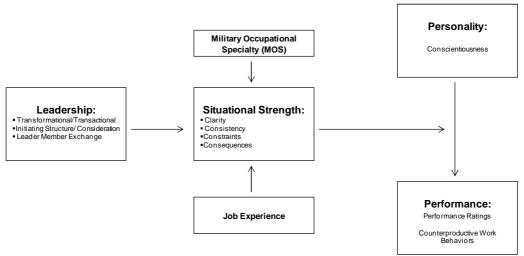


Figure 1. Proposed Model

*Note.* MOS and graduation year (a proxy for experience) were used as control variables.

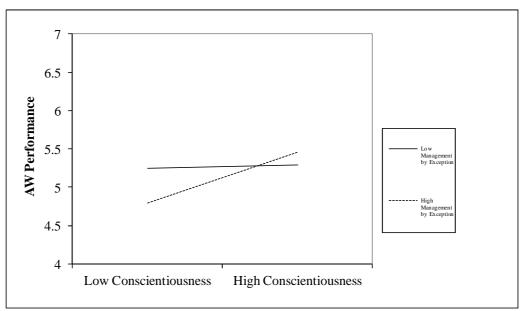


Figure 2. Management by Exception Interacts with Subordinate Personality in Predicting Army Wide Performance

*Note.* Management by exception is a facet of transactional leadership.

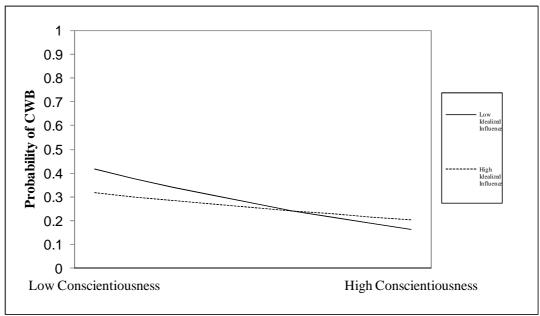


Figure 3. Idealized Influence Interacts with Subordinate Personality in Predicting Counterproductive Work Behaviors

*Note.* Idealized influence is a facet of transformational leadership.

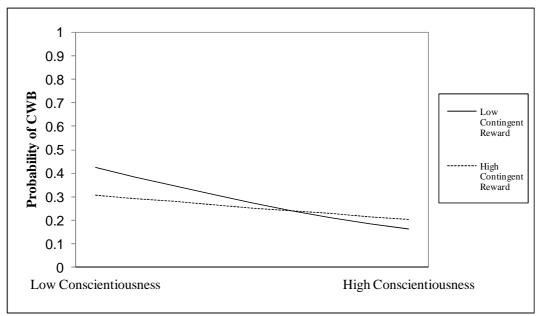


Figure 4. Contingent Reward Interacts with Subordinate Behavior in Predicting Counterproductive Work Behaviors

Note. Contingent Reward is a facet of transactional leadership.

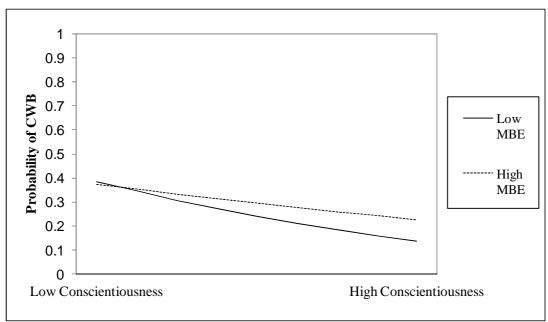


Figure 5. Management by Exception Interacts with Subordinate Personality in Predicting Counterproductive Work Behaviors

Note. Management by Exception is a facet of transactional leadership.

#### APPENDIX A

Conceptually, transactional/transformational leadership and initiating structure/consideration seem to represent corresponding approaches to similar sets of behaviors. For example, transformational leadership behaviors overlap conceptually with consideration behaviors as both refer to actions directed towards fostering strong relationships with one's subordinates through the expression of concern for the members of his or her group (Bass, 2008). On the other hand, initiating structure and transactional leadership behaviors correspond with each other (though less so) through their emphasis on aspects of the task, how the task should be completed, and what the consequences are for various levels of performance. Though the conceptual relationships between the constructs seem relatively straightforward, empirical studies demonstrate that these relationships are not as clear cut as they seem.

In a study of 294 MBAs with full-time jobs, Bass (1987) found that subordinate perceptions of their leader's initiating structure correlated .53, .55, and .59 with charisma, individualized consideration, and intellectual stimulation (aspects of transformational leadership) respectively, and .48 and .06, respectively, with CR and ME measures of transactional leadership. Additionally, subordinate perceptions of consideration were correlated .78, .78, and .65, respectively, with the aforementioned transformational leadership measures, and .64, and -.23, respectively, with the aforementioned

transactional leadership measures. This examination demonstrates that there is a particularly strong relationship between transformational leadership and consideration and less of a relationship between initiating structure and transactional leadership. That is, these results suggest that despite their conceptual similarities, initiating structure and transactional leadership are less related that one would assume—thereby justifying the decision to study them both.

Research by Miliffe, Piccolo, and Judge (2005) reported correlations between transformational leadership, on the one hand, and consideration and initiating structure, on the other hand, of .46, and .27 respectively. In addition, these authors found that the inclusion of transformational scales (the authors did not include transactional scales) accounted for a substantial amount of incremental variance in predicting outcomes of the rated effectiveness of leadership and satisfaction with leadership. These finding suggests that while the two conceptualizations overlap, they account for unique sources of variance. Similar results were also found by Seltzer and Bass (1990) in their study of 138 subordinates and 55 managers.

In considering how LMX relates to the aforementioned leadership behaviors, Kuhner and Lewis (1987) aligned the quality of LMX with corresponding characteristic leadership behaviors. Low LMX leaders are considered to operate on a more transactional and self-interested style. For moderate LMX leaders, leader-subordinate relations are geared towards focusing on mutually rewarding outcomes and the consideration of the leader's and subordinate's interest. Further, high LMX leaders are seen as transformational. In these exchange relationships, the interaction goes beyond the

self-interest of both parties. Empirical evidence largely supports this notion with a few exceptions (e.g., Howell & Hall-Merenda, 1999).

Research has demonstrated a positive correlation between LMX and both transformational and CR leadership but not MBE (Howell & Hall-Merenda, 1999). That is, LMX quality is positively correlated with transformational leadership and some aspects of transactional leadership. Further, Deluga and colleges have demonstrated that leader-subordinate relationships that were high in quality exchanges were characterized as more transformational, especially for charismatic and individually considerate leaders (Deluga, 1991; Deluga & Perry, 1991). Deluga (1992) found individualized consideration (a component of transformational leadership) to be significantly correlated with the quality of LMX. In an examination of 106 dyads, Schriesheim, Neider, and Scandura (1998) found that when a dyad was characterized by high exchange, there was a higher degree of delegation by the leader which demonstrates a higher degree of latitude for the subordinate in such exchanges (characteristic of transformational leadership). Finally, Aryee, Tan, and Budhwar (2002) found that in high exchange relationships, subordinates were more willing to initiate actions and perceived higher degrees of autonomy.

#### APPENDIX B

## **Leadership Behaviors and Situational Strength**

## **Initiating Structure**

As initiating structure deals with the extent to which a leader clearly articulates the roles of unit members, initiates actions within the unit, and organizes and defines the unit's tasks (Fleishman, 1973), it is easy to see how such behaviors may influence SS perceptions. For example, a leader who initiates an inadequate degree of structure is likely to foster an environment that is characterized by ambiguity (low clarity) and inconsistency (low consistency). Additionally, as a leader's initiating structure behaviors deal directly with organizing and defining an individual's tasks, a subordinate's perceptions of constraints are also likely to be influenced. That is, the structure that the leader imposes on a subordinate directly defines the constraints perceived by the individual. Finally, in considering consequences, it can be argued that the structure imposed by the leader is likely to encompass perceptions of the behaviors that are likely to be rewarded and those that are likely to be punished. It is less clear how the leader's initiating structure behaviors influence a subordinate's perceptions of external consequences of the job (i.e., welfare of external targets) – though it could be argued that such behaviors are likely to reinforce the importance of specific tasks within one's job to both internal and external stakeholders, thus increasing perceptions of consequences.

The combined effect of a leader's initiating structure behaviors increasing perceptions of SS at the facet level is likely to be reflected in SS at the global level. That is, increased initiating structure behaviors are likely to result in higher degrees of SS as such behaviors are broadly geared towards decreasing ambiguity and providing structure within the work context. Both facet and global conceptualizations of SS are utilized here. Such an approach will allow for an initial understanding of: 1) how initiating structure leadership behaviors are related to global SS perceptions, and 2) by which mechanisms (i.e., facets) leadership behaviors influence SS perceptions (e.g., do initiating structure behaviors exert an influence on SS perceptions through an emphasis on clarity?). As such, I hypothesize:

Hypothesis 1: Perceived initiating structure behaviors will be positively related to individual perceptions of (a) consistency, (b) clarity, (c) consequences, (d) constraints, and (e) global situational strength, such that higher initiating structure will result in higher perceptions of situational strength.

## **Transactional Leadership**

Transactional leadership highlights an exchange relationship between the leader and the subordinate aimed at satisfying each owns self-interest (Burns, 1978). The effect of transactional leadership behaviors on SS can be understood in considering the facets of transactional leadership: CR and ME. For example, CR leadership behaviors refer to leader behaviors that emphasize clarifying role and task requirements in addition to providing subordinates with material or psychological rewards contingent on the fulfillment of the task (Bass, 1998). As such, a leader who displays a high degree of CR behaviors is likely to decrease ambiguity (increase clarity) and increase perceptions of

constraints by emphasizing role and task requirements and how the work is to be done. In addition, because such behavior is likely to structure when and how tasks are to be executed, CR behaviors are likely to increase the perceived consistency of the work tasks. A leader's ME transactional behaviors refer to corrective behaviors when mistakes are made. As such, a leader who engages in more ME behaviors is likely to increase perceptions of consequences by responding to bad behavior and mistakes committed by subordinates. The combined effect of a leader's transactional leadership behaviors increasing SS at the facet level is likely to be reflected in SS at the global level. I hypothesize:

Hypothesis 2: Perceived transactional leadership behaviors will be positively related to individual perceptions of (a) consistency, (b) clarity, (c) consequences, (d) constraints, and (e) global situational strength, such that higher transactional leadership will result in higher perceptions of situational strength.

# **Transformational Leadership**

Transformational leadership refers to a leadership style that is directed towards positive change in subordinate behaviors by appealing to the subordinate's self-worth. Transformational leaders are not only concerned with performance, but are also focused on helping develop their followers (Burns, 1978). A transformational leader is likely to foster closer relationships with subordinates characterized by smaller power distance and higher degrees of individual consideration. In effect, there are higher degrees of trust and openness (House & Shamir, 1993) which result in richer verbal communication. Most relevant to aspects of SS, transformational leaders foster an environment in which there are more opportunities for sharing and clarifying perceptions (Kozlowski & Doherty,

1989) as well as the provision of more clearly articulated task cues (Kirkpatrick & Locke, 1996). In addition, transformational leaders are expected to behave more consistently across situations in terms of their leadership practices (Burns, 1978) – which in turn may increase the consistency in perceptions of the tasks. This greater consistency is assumed to be a function of transformational leaders acting on their own values and visions as logic for their actions, as opposed to external influences (e.g., organizational politics; Bass, 1990). In considering the facets of transformational behaviors, a leader engaging in intellectual stimulation behaviors is likely to increase a follower's awareness of task problems, which may increase one's perceptions of clarity. A lack of ambiguity regarding the tasks may also be reduced based on richer communication patterns established by transformational leaders. In addition, a leader engaged in inspirational motivation is characterized as modeling appropriate behavior to his or her subordinates. Such modeling may serve as a contextual cue to the subordinates regarding the most appropriate behaviors and responses to work situations.

It is important, however, to consider that such transformational leadership behaviors are not necessarily positively correlated with SS. For example, intellectual stimulation behaviors also promote divergent thinking in followers (Bass, 1985) in regards to solving task problems. Such behaviors, while helping clarify the task space, are also likely to decrease perceptions of constraints (because they allow for creative solutions). Similarly, when considering a leader's individualized consideration behaviors, a subordinate's perceptions of consequences may be negatively influenced. That is, transformational leadership emphasizes personal growth, encouragement, and coaching.

As such, a subordinate may perceive fewer negative consequences associated with his or her behavior as the transformational leader is likely to accept and even promote mistakes as a way of facilitating the development of the subordinate (Bass, 1985).

Collectively, a subordinate's perceptions of SS are likely to be influenced by his or her leader's transformational behaviors, though the nature of that relationship depends on which facet of SS is being considered. Specifically, more transformational leadership behaviors are likely to translate into clearer perceptions of the work environment and tasks (high clarity) as well as perceptions of consistency in the leader's goals and messages. However, more transformational leadership is also likely to foster divergent thinking and create an environment where mistakes are not always punished—and so to subordinate perceptions of lower constraints and fewer consequences. The effect of transformational leadership on global SS is thus unclear. As such, I will not present a formal hypothesis for global SS. With regard to the SS facets, I hypothesize:

Hypothesis 3: Perceived transformational leadership behaviors will be positively related to individual perceptions of (a) consistency and (b) clarity, such that higher transformational leadership will result in higher perceptions of these two facets of situational strength.

Hypothesis 4: Perceived transformational leadership behaviors will be negatively related to individual perceptions of (a) constraints and (b) consequences, such that higher transformational leadership behaviors will result in lower perceptions of these two facets of situational strength.

#### **Leader Member Exchange Quality**

Leader member exchange theory assumes that a leader's subordinates are likely to experience disparate work contexts as a function of their identification with the leader as

part of the *in-group* or the *out-group*. Individuals that are identified as part of the ingroup experience higher degrees of exchange with the leader and are afforded a greater degree of latitude in their behaviors. As a result of this high-quality exchange, subordinates that are part of the in-group are likely to perceive more clarity regarding the work tasks whereas those with low quality exchanges are likely to experience less clarity. This would result as a function of the higher degrees of exchange between the leader and his or her subordinate which would promote more opportunities to clarify work roles and expectations. In-group members are likely to be afforded higher degrees of latitude, autonomy, and discretion in how they are to complete their work tasks (Schriesheim, Neider, & Scandura,1998; Aryee, Tan, & Budhwar 2002) as a result of this relationship. Alternatively, subordinates that are identified as part of the out-group are likely to experience lower degrees of autonomy and experience fewer opportunities to communicate with the leader regarding work tasks and goals (i.e., higher constraints and lower clarity).

In regards to consistency and consequences, subordinates within the in-group and out-group are again likely to experience different perceptions. Specifically, because of their high degrees of exchange and proximity to the leader, in-group members are likely to perceive more consistency in the work tasks resulting from constant communications with the leader as compared to individuals in the out-group. Consequences of the job are also likely to be perceived differently since high-exchange relationships are characterized as transformational and low-exchange relationships as transactional (Kuhner & Lewis, 1987). Specifically, because subordinates within the in-group are evaluated less heavily

and receive more social support from the leader, their perceptions of the consequences of the job are likely to be lower as compared to members of the out-group. Here, members of the out-group are dealt with more transactionally, so mistakes are less accepted and are likely to be met with negative evaluations.

Collectively, a subordinate's perceptions of SS are likely to be influenced by his or her quality of relationship with their leader, though the nature of that relationship depends on which facet of SS is being considered. Specifically, high exchange relationships are likely to translate into clearer perceptions of the work environment and tasks (high clarity) as well as perceptions of consistency in the leader's goals and messages. Alternatively, high-exchange relationships are also likely to promote autonomy and create an environment where mistakes are not always punished--resulting in subordinate perceptions (in high-quality exchanges) of lower constraints and fewer consequences. The effect of LMX on global SS is thus unclear. As such, I will not present a formal hypothesis for global SS. With regard to the SS facets, I hypothesize:

Hypothesis 5: LMX behaviors will be positively related to individual perceptions of (a) consistency and (b) clarity, such that higher exchange relationships will result in higher perceptions of these two facets of situational strength.

Hypothesis 6: LMX behaviors will be negatively related to individual perceptions of (a) constraints and (b) consequences, such that higher exchange relationships will result in lower perceptions of these two facets of situational strength.

#### **Consideration Behaviors**

Consideration behaviors of a leader are geared towards showing acceptance and concern for the needs and feelings of one's subordinate (Yukl, 2006). The relationship between such behaviors and perceptions of SS is largely unclear as these behaviors are

oriented towards relational aspects of the job as opposed to the task aspects relevant to SS. However, it can be argued that consideration behaviors facilitate the communication of task goals and details through more open and trusted lines of communication between the leader and his or her subordinates. Effectively, with stronger relational ties, the clarity of a given job may be increased as consideration behaviors support the development of communication and promote a subordinate's likelihood to ask questions. However, the literature is scarce on theoretical support for such a relationship. Additionally, there is little support for the relationships between consideration and other facets of SS (i.e., constraints, consequences, consistency). As such, the relationship between consideration behaviors and perceptions of SS will be examined in an explanatory fashion with no formal hypotheses presented.

## **APPENDIX C**

Fit Statistics for the One-, Five-, and Eight-Factor Models of the Leadership Scales

| Factor Model  | X <sup>2</sup> | df   | X²/df | CFI  | RMSEA (90% CI)  | NNFI |
|---------------|----------------|------|-------|------|-----------------|------|
| One Factor    | 39835          | 1223 | 32.57 | 0.92 | 0.17 (.17; .17) | 0.92 |
| Five Factors  | 18686          | 1214 | 15.39 | 0.96 | 0.12 (.12; .12) | 0.96 |
| Eight Factors | 6648           | 1196 | 5.56  | 0.98 | 0.06 (.06; .06) | 0.98 |

Note. 1-Factor ("leadership"), 5-factor (initiating structure, consideration, transformational, transactional, LMX), 8-factor solution (initiating structure, consideration, individualized consideration, intellectual stimulation, idealized influence, management by exception, contingent reward, LMX).  $X^2$  = chi-squre statistic. df = degrees of freedom. CFI = comparative fit index. RMSEA = root mean square error of approximation. NNFI = non-normed fit index.

Fit Statistics for the Leadership and Situational Strength Underlying Factors

| Factor Model   | X <sup>2</sup> | df   | X²/df  | CFI  | RMSEA (90% CI) | NNFI |
|----------------|----------------|------|--------|------|----------------|------|
| One Factor     | 393868         | 2485 | 158.50 | 0.90 | 0.20 (.20;.20) | 0.90 |
| Two Factors    | 376185         | 2415 | 155.77 | 0.92 | 0.17 (.17;.17) | 0.91 |
| Nine Factors   | 376185         | 2415 | 155.77 | 0.97 | 0.09 (.08;.08) | 0.97 |
| Twelve Factors | 393868         | 2485 | 158.50 | 0.98 | 0.06 (.05;.05) | 0.98 |

Note. 1-Factor (leadership-situational strength composite), 2-factor (leadership and situational strength), SS & Five Factors (consistency, clarity, constraints, consequences, consideration, initiating structure, transformational, transactional, LMX), SS & Eight Factors (consistency, clarity, constraints, consequences, initiating structure, consideration, individualized consideration, intellectual stimulation, idealized influence, management by exception, contingent reward, LMX).  $X^2 = \text{chi-squre statistic.}$  df = degrees of freedom. CFI = comparative fit index. RMSEA = root mean square error of approximation. NNFI = non-normed fit index.

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## **CURRICULUM VITAE**

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