ABSTRACT

Title: PASSING IT FORWARD: INTERVENING AND MODERATING MECHANISMS IN THE SUPPORTIVE LEADERSHIP CASCADING PROCESS

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Using survey data collected from enlisted soldiers and non-commissioned officers (NCOs) nested in platoons in the U.S. Army, my dissertation examines intervening and moderating mechanisms in the cascading process of supportive leadership. Typically cascading studies focus on influence processes occurring in dyadic settings, neglect to consider boundary conditions, and utilize a group mean approach to analyzing the phenomenon. In my study, however, I find support for a conditional indirect effect of cascading supportive leadership at the group level, such that supportive leadership by groups of upper-level leaders (officers) promotes social cohesion for groups of lower-level leaders (NCOs) under high levels of combat exposure. In turn, lower-level social cohesion is positively linked with supportive leadership by groups of leaders at lower organizational levels. In addition, analyses using within-unit standard deviations of the substantive measures (i.e., strength) indicate that combat exposure strength moderates the relationship between upper-level supportive leadership strength and lower-level social cohesion strength, such that the positive relationship is stronger when combat exposure strength is higher (i.e., when within-unit standard deviation in combat exposure is lower).

PASSING IT FORWARD: INTERVENING AND MODERATING MECHANISMS IN THE SUPPORTIVE LEADERSHIP CASCADING PROCESS

by

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Table of Contents

List of Tables...……..……...……..……....v

List of Figures..……..……...……...……..……...….vi

Chapter 1: Introduction……...1

Chapter 2: Literature Review……....10

Section 1:
Supportive Leadership Conceptualizations……..…….……..10
Cascading Supportive Leadership……..……..…….…….……13

Section 2:
Social Learning Theory……...……15

Section 3:
Group-Level Cascading Leadership.……..…….……17
Cohesion……...……...…….……18

Section 4:
Contingent Leadership……. …….……...……20
Boundary Conditions in Cascading Leadership…….…….……22
Boundary Conditions to Supportive Leadership-Cohesion Link……...…23

Section 5:
Stress and Cohesion Research...……...……...…24
Conservation of Resources Theory...……...……...…25
Job Demands-Resources Model……...……...……25

Chapter 3: Theory and Hypotheses……..…….……28

Chapter 4: Research Methodology……...…….36

Chapter 5: Results…..……...……..……..43

Chapter 6: Discussion……...……...……..……...48

Tables and Figures…….....……..……...59

Appendices…….....……...……..72

References…….....……...……...76

List of Tables

Table 1. *Reporting Sources of Variables*

Table 2. *Platoon Level Aggregation Statistics (Hypothesized Model)*

Table 3. *Within-Source Confirmatory Factor Analyses*

Table 4. *Correlations and Descriptive Statistics - University Sample (All Levels)*

Table 5. *Correlations and Descriptive Statistics - University Sample (Lower Leaders)*

Table 6. *Correlations and Descriptive Statistics - University Sample (Employees)*

Table 7. *Platoon Level Descriptive Statistics and Correlations*

Table 8. *Platoon Level Mediation Regression Analyses*

Table 9. *Platoon Level Mediated Moderation Regression Analyses*

Table 10. *Platoon Level Second-Order Moderation Analyses*

Table 11. *Platoon-Level Mediation Regression Analyses with SDs*

Table 12. *Platoon-Level Mediated Moderation Regression Analyses with SDs*

List of Figures

Figure 1. Hypothesized theoretical model

Figure 2. Summary of findings

Figure 3. Upper-level supportive leadership x combat exposure on social cohesion

Figure 4. Summary of strength findings (Using SDs)

Figure 5. Upper-level supportive leadership strength x lower-level combat exposure strength on lower-level social cohesion strength (Using SDs)

Chapter 1: Introduction

Scholars and practitioners alike have long asserted that supervisors in an organizational hierarchy act as "linking pins" to connect senior managers and front-line employees (Argyris, 1964). Linking pins are formally conceptualized as those individuals who have membership in multiple organizational groups at different hierarchical levels, thereby positioning them to serve as concomitant *recipients* of influence (i.e., as followers) from senior leaders and as *sources* of influence (i.e., as leaders themselves) for their direct reports (Likert, 1961). Through this dual membership, linking pins determine organizational effectiveness and the quality of employee work experience by facilitating information flow and resource provision and enhancing cooperation amongst personnel (Graen, Cashman, Ginsburg & Schiemann, 1977). Given these important roles, a small but growing body of literature has examined how the attitudes and behaviors of linking pins towards employees are determined by the attitudes and behaviors of senior (or upper) level leaders towards linking pins – a process which is referred to interchangeably as "cascading leadership," "diffusion of leadership," "falling dominoes" and "trickle-down effects" (e.g., Bass, Waldman, Avolio, & Bebb, 1987; Bowers, 1963; Mayer, Bardes, Hoobler, Wayne, & Marinova, 2008; Mayer, Kuenzi, Greenbaum, Bardes, & Salvador, 2009; Stordeur, Vandenberghe, & D'hoore, 2000).

Extant cascading studies have empirically documented the diffusion of a variety of positive and negative leadership practices across an organizational hierarchy. These range from *authoritarian* behaviors (or when a leader is dictatorial and aloof) to *democratic* practices (i.e., when a leader is objective and encourages group discussion) to *laissez-faire* actions (described as a non-participatory leader) (Lewin, Lippitt &White,

1969). Additionally, more recent work provides empirical support for the trickling down of *transformational* leadership (or the encouragement of follower self-development and satisfying followers' needs, Bass et al., 1987); *ethical* leadership (referring to normatively appropriate conduct), and *abusive* leadership (or the sustained display of hostile verbal and nonverbal behaviors) (Mayer et al., 2008, 2009). The practical appeal of these trickle-down studies may be attributed to how such research informs the popular wisdom that leadership begins at the "top" of an organization, by elucidating the reasons that lower-level leaders practice—hence diffuse—similar behaviors which they themselves observe or experience from their organization's upper management. Furthermore, the theoretical importance of cascading research is reflected by how it informs scholarly understanding of (1) influence processes occurring between leaders, rather than the traditional focus of most leadership studies on leader-employee relationships (cf. Day & Harrison, 2007); and (2) predictors of lower-level leader behaviors in organizational settings, as an under-explored area of conceptual inquiry given that more is known about outcomes associated with these actions (Beatty & Lee, 1992; Waldman & Yammarino, 2006).

Notably, the underlying theoretical premise in cascading research of how influence "falls forward" (rather than upward) is conceptually consistent with defining features of leadership as well as top-down processes in organizations. In their review of leadership research, Hollander and Offermann (1990) describe that power is seen as a feature of leadership such that individuals in leadership and high-status positions have "power over" others, referring to explicit or implicit dominance. Following this, upper-level leaders who occupy senior positions in their organization's hierarchy are likely to

exert power over (thus influence) their lower-level leader subordinates, rather than vice versa. Furthermore, organizational theories are implicitly or explicitly top-down in explaining how contextual factors constrain and influence lower-level phenomena (Klein & Kozlowski, 2000) – for example, the effects of a group on its members who are embedded in the group (Hackman, 1992). Consistent with this, the likelihood that leadership will cascade down in a work setting may be attributed to the embedded nature of organizational hierarchies, such that social processes originating in upper-level leaders are likely to influence the attitudes and behaviors of lower-level leaders who are embedded under their upper-level leaders.

To date, a limited number of cascading studies (Bowers, 1963; Graen et al., 1977; Shanock & Eisenberger, 2006) have specifically examined *supportive leadership*, or a leader's display of concern for subordinates' welfare and creating a friendly and psychologically supportive work environment (House, 1996). Supportive actions include a leader being approachable, considerate and sensitive towards subordinates' needs, and promoting harmonious working relations amongst group members (Greene & Schriesheim, 1980; House, 1971). Consistent with the description above, cascading supportive leadership research is theoretically meaningful given that it provides conceptual insights into what the antecedents may be that encourage lower-level leaders to engage in nurturing practices towards front-line employees. Further, the practical importance of understanding how supportive leader practices "fall" across a hierarchy is underscored by the positive effects of such behaviors on a variety of employee outcomes relevant to organizational effectiveness including: job satisfaction (Mathieu, 1990; Yukl, 1999); organizational citizenship behaviors (defined as those discretionary behaviors

which foster the effective functioning of the organization – for example, when a coworker assists others with heavy workloads or calls attention to errors, see Podsakoff, MacKenzie, Paine, & Bacharach, 2000); safety climate (or employees' perceptions of policies, procedures, and practices relating to safety in the workplace, cf. Neal & Griffin, 2002); and personal accomplishment and self-efficacy (referring to individuals' beliefs in their capabilities to organize and execute courses of action, see Choi, Price & Vinokur, 2003).

Despite progress in exploring the cascading leadership phenomenon and specifically, the trickling down of supportive leadership, however, two important conceptual gaps remain. First, extant work typically focuses on how leadership practices are transferred in a dyadic setting – that is, between an upper-level and a lower-level leader (for an exception, as later discussed, see Griffin & Mathieu, 1997). As a second limitation, most existing trickle down research neglects to consider boundary conditions that might weaken or enhance cascading processes.

The focus of prior cascading work on dyadic-level leader-to-leader relationships may be expanded due to (1) the prevalence in contemporary organizations of group-based structures (Cohen & Bailey, 1997), and (2) how influence processes across groups versus individuals are likely qualitatively different. Indeed as noted by scholars, shared or distributed leadership structures amongst multiple individuals have recently emerged in response to greater complexity and new challenges facing individuals, teams and organizations alike (cf. Day & Harrison, 2007; Kozlowski & Bell, 2003; LePine, Piccolo, Jackson, Mathieu, & Saul, 2008). Moreover, the possibility of leadership "catching fire" (Klein & House, 1995) from groups of upper-level to lower-level leaders is conceptually

aligned with a recent review of leadership research by Day and Harrison (2007) advocating for use of multi-level approaches to leadership phenomena. This "advanced conceptualization" offers a sophisticated understanding of leadership processes by going beyond a single-leader (or "leader-centric") focus to elucidate how leadership can take the form of group members "working together collectively to set direction, build commitment and create alignment" for organizational personnel (Day & Harrison, 2007, p. 361).

The additional importance of understanding group-level cascading processes is illustrated by how group- versus dyadic-level cascading effects are likely theoretically distinct. This difference is due to the pervasive impact of groups on the attitudes and behaviors of members, as attributed to the immediacy and salience of group-level stimuli for individuals, more so than any other aspect of the organizational environment (cf. Hackman, 1992). For example, cascading scholars note that exchanges amongst group members capture individuals' perceptions in organizational contexts of stimuli such as leadership and serve as conduits for individuals within an organizational subunit to exert mutual influence that then determines their behaviors (Griffin & Mathieu, 1997). In this regard, unlike at the dyadic-level in which one upper-level leader influences one lower-level leader, interactions amongst lower-level leaders as members of the same group may determine how, when and why influence is passed across an organizational hierarchy. Hence in addition to the focus of prior cascading work on influence processes at the dyadic level, conceptual examination of falling dominoes effects from groups of upper- to lower-level leaders is also warranted to add theoretical richness to understanding falling dominoes effects.

As a second limitation, cascading studies typically describe these processes without consideration of boundary conditions, which is an important research shortcoming given that universality of leader-to-leader relations across all situations is unlikely (termed a "closed-system model," see Smith, Moscow, Berger & Cooper, 1969). Consistent with this, Bass and colleagues (1987) noted that lower-level leader *susceptibilit*y to upper-level leaders' influence needs to be considered in cascading work to provide a more sophisticated and complete explanation of trickle-down effects. As an example boundary condition, management scholars have previously identified the conceptual importance of context to the transfer of practices within an organization, as well as organizational behavior phenomena in general (Johns, 2006; Szulanski, 1996).

Context is formally defined as stimuli and phenomena that surrounds and exists in the environment external to an individual, and which consists of constraints versus opportunities for behavior (Mowday & Sutton, 1993). The practical value of understanding contextual stimuli as a potential moderator in falling dominoes processes is evidenced by the demanding and stressful nature of today's work settings in which organizations must operate to remain competitive. As examples, there is continuing occurrence of mergers, acquisitions and down-sizing initiatives, which typically evoke high levels of uncertainty and anxiety amongst organizational members (Huy, 1999; Schweiger & DeNisi, 1991). In circumstances which may be perceived as threatening or difficult to cope with by lower-level leaders, the care and concern associated with supportive practices by upper-level leaders are likely especially important for promoting positive lower-level leader outcomes, including to buttress the "falling" of supportive behaviors by lower-level leaders themselves.

Purpose of Study

Accordingly, the purpose of my dissertation study is two-fold: (1) to address how and why supportive practices cascade from groups of upper-level to groups of lower-level leaders; and (2) to consider when these latter processes are stronger versus weaker, with regard to contextual stimuli experienced by groups of lower-level leaders.

Following this, I first propose that social cohesion in groups of lower-level leaders mediates the relationship between supportive leadership practiced at upper and lower organizational levels, as attributed to theories of social learning (Bandura, 1977), group norms (Hackman, 1992), and cooperation (Deutsch, 1973). *Social* (or *interpersonal*) *cohesion* reflects member attraction to a particular group because of satisfactory relationships and friendships with other members (Festinger, Schachter, & Back, 1950). I focus on social cohesion given that broadly, its proposed intervening role dovetails with a call by cascading scholars for examination of mediated pathways reflecting a sophisticated understanding of how falling dominoes processes operate, rather than only relying on "main effects" explanations (Bass et al., 1987; Bowers, 1963). Further, social cohesion is specifically relevant to cascading supportive leadership for three reasons. First, social cohesion shares a relational, interpersonal focus with nurturing leader practices, such that supportive leadership refers to a leader caring about his/her followers (Greene & Schriesheim, 1980; House, 1971) and in a similar vein, social cohesion is characterized by emotional bonds of friendship and caring and closeness amongst group members (cf. Chiocchio & Essiembre, 2009). Second, past empirical research on cohesion documents how it serves as a group-level conduit in transmitting the effects of leadership on various outcomes, including group performance and members'

well-being (cf. Bass, Avolio, Jung & Berson, 2003). Third, given the aforementioned influence role of groups in determining members' attitudes and behaviors through member exchanges (Hackman, 1992), it is likely that cohesion amongst lower-level leaders acts as an ambient stimulus in prompting their tendencies to act in supportive ways towards front-line employees.

The second purpose of my dissertation is to explore the potential moderating role of context in the cascading supportive leadership process—that is, to understand and explain *w*hen these processes are likely stronger versus weaker due stressful external stimuli experienced by groups of lower-level leaders, namely combat exposure. *Stress* at the group level is conceptualized as internal and external physical and psychosocial threats to the group (Griffith & Vaitkus, 1999). The practical importance of group-level stress research is evidenced by how "threats to interest and purposes of groups often occur, some so severe as to cause…loss to each of its members" (Staw, Sandelands, & Dutton 1981, p. 507). Further, it is theoretically important to understand the role of stressors in cascading leadership processes given that today's lower-level leaders operate in highly complex settings and are prone to experiencing difficult on-the-job demands associated with their positions which may be characterized as alarming and/or threatening and evoke anxiety and coping difficulties (Hambrick, Finkelstein & Mooney, 2005; Huy, 1999; Lovelace, Manz & Alves, 2007; Selye, 1978). By contrast, existing leadership-stress studies usually focus on how lower-level leaders can buffer the impact of workplace stressors on their employees' well-being, to the neglect of considering the effects of stress on leaders themselves (e.g., Liu, Oi-Ling, & Shi, 2010; Thomas & Lankau, 2009).

In the cascading context, given the aversive and depleting nature of combat exposure, supportive practices by upper-level leaders are likely especially impactful in promoting resource-filled outcomes - such as social cohesion - for groups of lower-level leaders. Stated another way and following theories of stress (e.g., Hobfoll & Walfisch, 1984), groups of lower-level leaders who are threatened and "worn down" as a result of combat exposure are probably more receptive to the positive, relational benefits provided through nurturing behaviors from their superiors. Thus as I later delineate, combat exposure likely enhances the positive relationship between supportive practices by upper-level leaders and social cohesion in groups of lower-level leaders (Hobfoll & Walfisch, 1984; House, 1996), thereby strengthening the overall cascading of supportive leadership across a hierarchy.

In summary, my dissertation promises to make much-needed contributions to the leadership and stress literatures by examining mediating and moderating mechanisms in the cascading of supportive leadership across hierarchical levels. My research proceeds as follows: Chapter 2 provides a literature review and background to my study. Chapter 3 describes the theory and hypotheses guiding my research model, which is illustrated by Figure 1. Chapter 4 then details the methodology of my research, followed by results of my analyses provided in Chapter 5. Finally, I conclude with a discussion of my findings in Chapter 6.

Insert Figure 1 about here

Chapter 2: Literature Review

In this chapter and as the five sections below indicate, I review existing literature for the constructs and relationships guiding my study. In Section 1, I review prior conceptualizations of supportive leadership and existing cascading supportive leadership research. In Section 2, I discuss social learning theory, as it plays a major explanatory role for trickle-down effects in extant cascading work, and is also relevant to my own theorizing as I later explicate. In Section 3, I review group-level cascading research and examine the development of cohesion in the management literature over the last several decades. In Section 4, I discuss prior contingent leadership theories as a framework to my research, and I also highlight the limited cascading work which has examined boundary conditions to these processes. Finally, in Section 5, I explain prior cohesion and stress studies, and in doing so, I review theories of occupational stress (conservation of resources and the job demands-resources model).

Section 1: Prior Supportive Leadership and Supportive Leadership Cascading Studies

Past supportive leadership conceptualizations. Supportive leader behaviors have long been of conceptual interest to management scholars, both in terms of similarity to related leadership constructs and inclusion in leadership theories. As examples, supportive leadership is (1) theoretically similar to the consideration dimension of the 1950s Ohio State Leadership Studies (Fleishman, 1953; Halpin & Winer, 1957); (2) discussed in path goal theory (House, 1971); (3) subsumed by the conceptualization of transformational leadership (cf. Bass, 1985); and (4) conceptually similar to perceptions of supervisor support (or PSS, Kottke & Sharafinski, 1988). In the paragraphs that follow, I explain these examples in detail.

First, in the 1950s, Ohio State scholars identified two dimensions of leader behaviors to facilitate employee goal accomplishments in work settings: consideration (i.e., people-orientation) and initiating structure (i.e., task-orientation). *Consideration* shares a relational focus to supportive leadership in that it is defined as the degree to which a leader shows concern and respect for followers, looks out for their welfare, and expresses appreciation and support. Conversely, *initiating structure* refers to the degree to which a leader defines and organizes his role and the roles of followers, is oriented toward goal attainment, and establishes well-defined patterns and channels of communication (Fleishman, 1953). In recent meta-analytic work comparing outcomes of both leadership orientations, consideration more strongly related to employee motivation, employee perceptions of leader effectiveness, and employee satisfaction with one's leader and job; while initiating structure more strongly related to performance of both the leader and group (Judge, Piccolo & Ilies, 2004). Based on these relationships, the authors concluded from their work that consideration and initiating structure are important constructs to explore in leadership research.

Second, following the initial Ohio State Leadership Studies, scholars later decoupled leader behaviors into four distinct sets (directive, participative, achievement oriented and supportive) as part of *path-goal theory* (House, 1971; House & Mitchell, 1974). *Directive* behaviors refers to letting subordinates specifically know what they are expected to do and clarifying policies, rules, and procedures; *participative* behaviors include the encouragement of subordinate influence in decision-making; and *achievement oriented* behaviors refer to encouraging performance excellence in subordinates and promoting their self-confidence) (House, 1971; House & Mitchell, 1974). *Supportive*

leadership, as defined in the Introduction, refers to a leader's display of concern for subordinates' welfare and creating a friendly and psychologically supportive work environment. According to the tenets of path goal theory, leaders encourage and support followers by making a clear path towards goal attainment, removing obstacles, and increasing rewards towards the goal in different ways. The variation in a leader's behaviors depends on the situation, including the follower's capability and motivation, as well as the difficulty of the job and other contextual factors experienced by followers (cf. House, 1971). As an example pertaining to my own research, path goal theory specifies that in high stress situations, supportive leadership serves as a source of stress reduction and alleviation for subordinates by exerting a compensatory effect in enhancing leader-subordinate relations and lowering employee anxiety (House, 1971).

As a third example of the development of supportive leadership in the management literature, scholars have theorized that the individualized consideration dimension of transformational leadership subsumes supportive and *developmental* leadership together (Yukl, 1999). *Individualized consideration* formally refers to when a leader attends and listens to follower needs and concerns (hence is supportive), as well as acts as a mentor or coach (hence is developmental). Importantly though, supportive and development leadership have been empirically distinguished and linked with different outcomes, such that developmental leadership has stronger relationships than supportive leadership to follower job satisfaction and affective commitment to the organization (Rafferty & Griffin, 2006). Empirical studies also suggest that supportive leadership is not associated with motivation or performance—outcomes typically linked with transformational leadership—but *is* positively associated with employee job satisfaction

and safety climate, amongst other criterion (Mathieu, 1990; Neal & Griffin, 2002). Following this, supportive leadership may be regarded as conceptually similar to individualized consideration yet its stand-alone value in management research is evident given that prior scholarly work has established its discriminant validity.

Finally, supportive leadership is conceptually similar to *perceived supervisor support* (PSS), or the degree to which employees perceive that their supervisors value their contributions and care about their well-being (Kottke & Sharafinski, 1988). Past empirical research has positively linked PSS to *perceptions of organizational support* (POS), or employees' global beliefs concerning the extent to which the organization values their contributions and cares about their well-being (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Further, PSS has been positively linked with higher levels of employee performance, job satisfaction and organizational commitment (Gagnon & Michael, 2004); and negatively linked with higher levels of executive illnesses (Kobasa & Pucetti, 1983) and employee turnover intentions (cf. Ng & Sorensen, 2008). These descriptions illustrate that PSS is conceptually related to supportive leadership yet notably, PSS has primarily been used in prior work to assess perceptions by front-line employees of their leader's supportive practices only. I thus expand PSS studies by using the associated eight-item measure (Eisenberger et al., 1986) to assess supportive practices enacted at upper *and* lower organizational levels in my research. Sample perceived supervisor support items from this measure include "My leader really cares about my well-being" and "My leader takes pride in my accomplishments at work."

Prior supportive leadership cascading studies. As referenced at this paper's onset, some research has specifically explored the falling dominoes effects of supportive leader

behaviors in different work settings. I next review these studies in detail, noting the contributions and limitations of each, which I build on with my dissertation.

As one example, Bowers (1963) demonstrated that in two plants of a company manufacturing packaging materials, lower-level leaders who were criticized by their superiors and experienced lowered self-esteem as a result, attempted to raise their status and power by passing forward similar unfavorable treatment to their subordinates. That is, lack of "hierarchical reward" – in the form of promotions, salary increases and expressions of approval and support from one's superior – prompted diffusion of leadership across levels as mediated by lower-level leader self-esteem. Similar to House's (1971) definition of supportive leadership, "support" in this research referred to a upper-level leader understanding a lower-level leader's needs, encouraging self-improvement in terms of promotions, providing praise for jobs well done, and showing warm and friendly concern for lower-level leader welfare (Bowers, 1963).

More recently, Shanock and Eisenberger (2006) used a sample of employees and supervisors from a chain of large discount electronics and appliance stores to empirically demonstrate that perceptions of organizational support (POS) by lower-level leaders (i.e., supervisors) were positively associated with front-line employee perceptions of supervisor support (PSS). The authors attributed their findings to organizational support theory and perceptions of felt obligation (Aselage & Eisenberger, 2003), such that lower-level leaders provided support to their subordinates as a means to reciprocate the favorable treatment they perceived themselves to have received from their organization (i.e., the positive support experienced by lower-level leaders created an obligation to care

about the organization's welfare and to help the organization reach its objectives) (Eisenberger et al., 1986).

Taken together, the findings from these two studies offer meaningful theoretical contributions to the cascading literature by suggesting that (1) leader-to-leader supportive relationships serve as the understructure for cascading supportive leadership processes in work settings, and (2) at times, trickle-down processes involve mechanisms beyond imitation and modeling effects (which I discuss in the subsequent section). However, this prior work is also not without three important conceptual limitations. First, the focus on dyadic-level exchanges and on an individual-level facilitative mechanism (i.e., lower-level leaders' self-esteem, Bowers, 1963) precludes us from understanding how and why cascading processes might operate in group-based settings. Second, from a practical perspective, the assessment of perceived *organizational* support by supervisors provides a more distal operationalization of leader supportive practices, rather than directly assessing perceived support provided by the supervisor's leader both as an agent of the organization and a more proximal stimulus for the supervisor (Shanock & Eisenberger, 2006). Third, the lack of consideration of boundary conditions in these studies narrows our theoretical understanding to how support cascades in a conceptual vacuum (i.e., in isolation of contextual factors which are likely present).

Section 2: Social Learning Theory

Cascading studies which typically attribute influence effects to imitation and modeling mechanisms do so by drawing on *social learning theory* (Bandura, 1977). This theory focuses on the processes through which positive and negative attitudes and behaviors of others are observed and learned in a social context. According to Bandura

(1977), *observational learning* is governed by four sub-processes of paying attention to a role model's behavior, remembering the behavior, integrating the behavior into one's own actions, and desiring to demonstrate what is learned. Trickle down research utilizing social learning theory usually adopts an "input-output" approach to explain that lower level leaders who see their upper-level leaders engage in certain behaviors view these actions as "input" – thus model, or employ, similar practices towards their own subordinates as "output" (e.g., Bass et al., 1987; Mayer et al., 2009).

Yet importantly, social learning theory also details that four different determinants exist for the transfer of positive or effective attitudes and behaviors. These determinants refer to (1) *frequency* of how often an observer associates with a role model is a key predictor, such that higher frequency levels increase the likelihood of learning; (2) a role model's *attributes* such that those who have high status, competence and power are perceived as more effective in prompting imitation by observers; (3) *functionality*, or observers' perceptions of role models' actions as engaging, credible and successful, increases the likelihood that observers will behave similarly; and (4) if observed behaviors result in valued outcomes, learning will follow due to the observer seeing the *consequences* of their role models' behaviors (cf. Bandura, 1977). Although not explicitly discussed by cascading scholars and in the context of cascading supportive leadership, the predictive power of these factors in falling dominoes processes is evident given that first, by virtue of their positions, upper-level leaders are likely to have high status in an organization and second, lower-level leaders are likely to imitate towards employees those "feel good" practices which evoke their own positive response towards their upper-level leaders. Consistent with this logic, past empirical studies' findings indicate that

employees who perceive their leader as supportive also report functional outcomes such as higher levels of job satisfaction (Mathieu, 1990; Yukl, 1999) and personal accomplishment and self-efficacy (Choi et al., 2003).

In sum, social learning theory is theoretically relevant and practically intuitive in explaining the ways through which upper-level leaders' attitudes and behaviors influence lower-level leaders' attitudes and behaviors. In this regard, I later draw on social learning theory to inform my own theorizing.

Section 3: Group-Level Cascading Research and Cohesion

Group-level cascading research. To date, limited scholarly work has utilized group-level variables in considering trickle-down effects across a hierarchy (e.g., Griffin & Mathieu, 1997). According to past empirical work, *group processes* in groups of upper-level leaders (referring to coordination and readiness efforts including the extent to which the group plans together) are positively associated with (1) group processes in work groups comprised of lower-level leaders; and (2) favorable perceptions by lower-level leaders of upper-level leadership, or lower-level leaders' reporting of the extent to which their upper-level leaders engage in behaviors emphasizing support and work team coordination (Griffin & Mathieu, 1997). The first work group process findings are attributable to imitation and modeling effects, such that interactions among upper-level leaders provide "cues" for interactions among lower-level leaders; and the second link between work upper-level group processes and leadership perceptions by lower-level leader subordinates suggests that cascading leadership is due to complex, mediated pathways (Griffin & Mathieu, 1997).

Cumulatively, this research both illustrates the importance of imitation mechanisms in cascading processes and coincides with a call by trickle-down scholars for more sophisticated explanations beyond "simple imitation at a lower level of a pattern practiced at the next level up in the hierarchy" (Bowers, 1963, p. 140). However, this study is also limited in its use of multi-dimensional assessments of upper-level leaders and work group processes, which prevents understanding of those specific dimensions which might be most influential in diffusion effects. My specific use of supportive leadership and the proposed mediating role of cohesion together therefore offer a more nuanced understanding of cascading process.

Cohesion. I next discuss cohesion and its development over the last several decades, including to highlight its importance in group research. Consistent with its etymology in being drawn from the Latin word *cohaesus*, meaning to "cleave or stick together," scholars originally defined cohesion as a "field of forces" keeping members together (cf. Dion, 2000). In line with this conceptualization, early research explored *causes* to cohesion. As an example, in their classic study of highly cohesive German Army units during World War II which demonstrated unusual resilience in battle, Shils and Janowitz (1948) found that cohesion among Army members was strengthened due to factors including zealous upper personnel as energetic role models; ethnic and national homogeneity amongst members; and experiencing victory together (termed "positive gratifications"). Conversely, solidarity amongst members was weaker when soldiers were isolated from the group (i.e., bunkers); had strong familial ties which provided support; suffered lack of basic needs such as food, health and equipment; and experienced hopeless tactical situations. Later cohesion research subtly shifted from a focus on its

causes to its effects, or "the *resultant* of forces acting on members to remain in a group" (Dion, 2000, p. 10). For example, Festinger and colleagues (1950) suggested that the strength of the force-field characterizing cohesion (1) defines the group's power in influencing its members' attitudes and behaviors; and (2) determines both by the attractiveness of the group and the extent to which the group mediates goals for its members (implying social versus task dimensions, as I explicate below).

In addition to the above research exploring cohesion, scholars have also conceptualized cohesion as a multi-dimensional construct both in terms of *direction* and *function*. The direction of cohesion contrasts relationships between superiors and subordinates (termed "vertical cohesion") versus peers (termed "horizontal cohesion"). More specifically, vertical cohesion is assessed as subordinates' perceptions of their leaders as considerate and competent while horizontal cohesion refers to fraternal bonding and kinship ties among group members (Bliese & Halverson, 1996). Further, cohesion has been distinguished along task (or instrumental) versus interpersonal or social (or emotional) functions (cf. Dion, 2000). *Task* cohesion refers to an attraction to the group because of a liking for, or commitment, to the group task (Hackman, 1976), and reflects group members' shared commitment to the group's task, their collective efforts, and group members' motivation to coordinate their efforts towards goal attainment (Griffith, 2007). By contrast, social cohesion includes friendship, liking, caring, and emotional closeness amongst group members, enjoying each other's company, and wishing to spend time together (Griffith, 2007). This differentiation is due to scholars finding non-equivocal effects of these two dimensions on a variety of outcomes. For example, task cohesion has been empirically linked to lower role

uncertainty, higher levels of performance, and lower absenteeism for group members (Mullen & Copper, 1994; Zaccaro, 1991), while social cohesion has been empirically linked to increased levels of group communication and cooperation, and lower levels of hostility, amongst members (cf. Lott & Lott, 1965; Sherif & Sherif, 1956). Cumulatively, and as evidenced by the prior research reviewed above, cohesion is regarded "as one of the most important properties, if not the most important property, of groups" (Dion, 2000, p. 7).

Section 4: Contingent Leadership Research and Leadership Boundary Conditions

Contingent leadership research. Since the early 1970s, management scholars have explored contingency variables in leadership processes and developed an ongoing body of theories and paradigms which offer explanations for the moderating effects of these variables (Howell, Dorfman & Kerr, 1986). This research explores situational influences to the relationship between an individual's leadership style and effectiveness (i.e., under condition A, leadership style X is appropriate while under condition B, style Y is the better choice), and emerged in response to practical failure by leaders in the mid-twentieth century to obtain consistent, successful results across a variety of organizational circumstances (see Robbins & Judge, 2010). I next briefly review four contingent leadership theories and paradigms: (1) Fiedler's (1967, 1978) contingency theory; (2) House's (1971) path-goal theory; (3) the Vroom-Yetton-Jago Normative Decision Model (Vroom & Yetton, 1973; Jago & Vroom, 1980); and (4) Hershey and Blanchard's (1982) situational leadership theory.

First, in Fiedler's contingency theory (1967, 1978), he proposed that effective group performance for employees depends on the proper match between leadership style

of the group leader and moderator-factors of task structure, quality of leader-member relations, and a leader's position power. In a second example, and as referenced earlier, House's path-goal theory (1971) delineated that leaders use factors of both followers and the work environment to determine the most appropriate of four sets of behaviors (directive, participative, achievement oriented and supportive) in clarifying a path for followers to achieve work and personal goals. Third, in the Vroom-Yetton-Jago Normative Decision Model (Vroom & Yetton, 1973; Jago & Vroom, 1980), subordinate acceptance of a leader's decisions and information availability determine the appropriate decision-making strategy leaders use in involving employee participation in decision-making processes (i.e., to include autocratic, consultative, inquiry/consensus and delegation practices). Finally, Hershey and Blanchard's (1982) situational leadership theory, suggests that leader behaviors should be adjusted to the job maturity and psychological maturity of subordinates, ranging from telling to selling to participating to delegating. Collectively, these four theories provide conceptual support for the importance of contingency factors in leadership processes.

To organize contingent leadership research including the above theories, Howell and colleagues (1986) created a typology classifying moderator variables in three categories: (1) as neutralizers/enhancers; (2) supplements/substitutes; and (3) mediators. A neutralizer/enhancer contingency factor decreases versus increases the effect of a leader's behavior on an outcome. As an example in my research, I theorize that combat exposure from the external environment enhances the positive effects of upper-level supportive leadership on lower-level social cohesion. Second, a supplement moderator variable independently influences the criterion while a substitute moderator replaces the

impact of a leader's behavior on an outcome. Subordinate job maturity in Hershey and Blanchard's situational leadership theory (1982) is a substitute example such that when a subordinate is mature, the optimal leadership style prescribed by this model is low task- and relationship-oriented behaviors towards the subordinates. Finally, a mediator variable is influenced by the leader's behavior, neutralizer/enhancer, or substitute/supplement and in turn, impacts other criteria. As an illustrative example, leader-member relations from Fielder's (1967, 1978) contingency theory may be classified as a mediator given that Fielder implies that leaders who describe their coworkers in unfavorable terms provide relationship-oriented leadership if relations need to be improved, such as to make the group more effective.

Cumulatively, the theoretical paradigms discussed above coupled with the Howell et al. (1986) typology provide conceptual support for the importance of contingency factors in leadership processes. Hence my dissertation adds to this growing body of literature by assessing boundary conditions in the cascading of supportive leader practices across a hierarchy.

Boundary conditions to cascading leadership. In addition to the proposed intervening role of social cohesion, my study explores potential boundary conditions to the supportive leadership cascading process. Within the cascading literature itself, limited research has considered the role that moderating factors in determining how social influence is passed downwards across leaders in an organizational hierarchy. As an example, using a sample of British and Irish managers, Smith et al. (1969) found that first, under conditions of slow change, as typically associated with *mechanistic* organizations, good relations with one's superiors were associated with good relations

with one's subordinates (termed the "enhancement model"). These findings were attributed to the standardization of procedures in mechanistic organizations, including for each manager to relate to subordinates in terms of procedural requirements (and not personal preference or variations in managerial personality). By contrast, under conditions of rapid change, as typically associated with *organic* organizations, good relations with one's superiors were associated with poor relations with one's subordinates (termed the "polarization model"), as attributed to the managers attempting to identify or "side" with their superiors and keep distance from their subordinates as a means to polarize, or separate, the two sets of demands from superiors and subordinates (Smith et al., 1969). While the study by Smith and colleagues (1969) helps promote understanding of under what circumstances leadership will fall forward due to the conditions of organizational change, the ubiquitous nature of stressful stimuli in the work environments of leaders (Lovelace et al., 2007) also warrants examination in cascading research.

Boundary conditions to supportive leadership-cohesion link. More specifically, few studies have explored moderators to the supportive leadership-cohesion relationship established by prior non-cascading studies. For example, in their longitudinal study using employees in work groups at four different organizations from a variety of industries, Greene and Schriesheim (1980) found that supportive leadership promoted social cohesion in small as well as new groups. That is, in smaller groups, leaders tend to be more visible and relationship-oriented with group members, so the leader's impact on the group can more easily occur than in larger groups; and also, since newer (versus older) groups tend to have less stability, supportive leaders can exert a greater effect in stabilizing the group through practices such as awareness and demonstrating concern

about the group's functioning. In a second study by Wendt, Euwema and van Emmerik (2009), a small moderating effect was found for individualistic societies in the supportive leadership-social cohesion relationship, which the authors suggest is due to how cultural norms that emphasize team efforts (such as collectivism) likely reduce the importance of specific leadership behaviors in facilitating team cohesiveness. While the above studies provide conceptual clarity to boundary conditions to the supportive leadership-cohesion link, my dissertation study proposes to incorporate the important role that organizational context and environment stimuli may also play to this relationship.

Section 5: Prior Stress-Cohesion Research and Occupational Stress Theories

Prior stress-cohesion research. Indeed as earlier referenced, the practical reality of contemporary organizations is that leaders especially are prone to experiencing stressful on-the-job demands associated with their positions (Hambrick et al., 2005). Further, from a theoretical perspective, the resource-based nature of supportive leadership is likely especially important in promoting social cohesion when lower-level leaders are enduring threatening (i.e., distressing) stimuli such as combat exposure. Interestingly though, most research on cohesion and stress to date has typically adopted a "buffer" perspective when using these constructs together in the same study. This perspective suggests that cohesion weakens the negative effects of stressful stimuli on strain-based responses by individuals, including anxiety and emotional exhaustion (cf. Griffith, 2002). In doing so, prior empirical work which explores the moderating role of cohesion to stress-strain linkages is consistent with occupational stress theories such as the Conservation of Resources theory (or COR; Hobfoll, 1989) and the job demands-resources model (JD-R; cf. Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Conservation of resources theory. The central tenet of COR is that individuals strive to retain, protect and build "resources" and so the potential or actual loss of these resources is perceived as threatening (cf. Hobfoll, 1989). Resources are conceptualized as objects (e.g., one's home); personal characteristics (such as marriage, tenure, and seniority); conditions (for example, positive self-view and ability to see through stressful circumstances); and/or energies (to include time, money and knowledge) that are valued in their own right, or which can act as conduits to the achievement or protection of valued resources (cf. Hobfoll, 1989). According to COR, when these resources are threatened or lost, individual well-being suffers and burnout will result. However, and importantly, the loss of personal resources in a stressful situation can be offset using other resources, such as social support from coworkers (Hobfoll, 1989). That is, prior empirical work indicates that social support can help individuals "gain" resources, as attributed broadly to mechanisms of building resiliency and providing recognition and interpersonal closeness that makes individuals feel better during stressful circumstances (Kobasa & Puccetti, 1983).

Job demands-resources model. In addition to COR, the job demands-resources model is a conceptual framework that provides insights across occupations pertaining to the relationship between work characteristics (demands versus resources) and employee stress versus engagement (cf. Demerouti et al., 2001). According to the JD-R model, workplace stimuli may be conceptualized as job *demands,* or those job aspects which are stressful and associated with certain physiological and psychological "costs" such as feeling depleted; versus job *resources*, or those job aspects which are functional in helping individuals achieve work goals and/or stimulate personal growth and

development (Demerouti et al., 2001). Examples of job demands include interpersonal conflict, emotional demands and feeling overload (Babakus, Yavas & Karatepe, 2008), which impair individuals' health due to constant overtaxing demands and eventually, exhaustion. By contrast, job resources typically refer to job control, autonomy, training, supervisory and team support, and rewards (Babukus et al., 2008), and usually promote positive outcomes for individuals in their work environment such as organizational commitment, personal initiative and reduced turnover intentions, by satisfying basic human needs for autonomy, support and competence, or extrinsically by fostering a productive work climate (e.g., Demerouti et al., 2001; Lewig, Xanthopoulou, Bakker, Dollard, & Metzer, 2007; Salanova & Schaufeli, 2008). Past studies findings' indicate that job demands and resources can also interact to impact individual health. As an example, the highest levels of employee burnout typically occur when demands are high and resources are low (Bakker, Demerouti, Taris, Schaufeli & Schreurs, 2003); and relatedly, resources can buffer against the negative and health-impairing impact of job demands by changing individuals' perceptions of demands as more manageable (Bakker, Demerouti, & Euwema, 2005; Hakanen, Bakker & Demerouti, 2005).

Cumulatively, the above theories and empirical research offer support for the buffer role of cohesion (and its related construct, social support, see Griffith, 2002) in weakening the negative relationships between stressful stimuli (e.g., demands) and stress-based outcomes. Although it is important to consider these latter perspectives in offsetting the negative effects of stress using positive resources, current occupational stress research limits our conceptual understanding of, and cannot account for, the possibility that aversive stimuli might moderate resource-filled relationships (such as the

supportive leadership-social cohesion link I later propose). This possibility is likely given not only the concomitant presence of positive and negative stimuli in work settings, but due to the likelihood that these stimuli-types work and "fit" together in interactive ways to impact outcomes (cf. LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007). In this regard, and as I later explicate, my examination of stress as a moderator suggests that external factors might further induce the benefits for subordinates typically associated with positive leader behaviors.

Chapter 3: Theory and Hypotheses

The Mediating Role of Social Cohesion

In the context of my dissertation study, I suggest that upper-level supportive leadership promotes social cohesion in groups of lower-level leaders, and in turn, supportive leadership practiced at lower levels follows. As I next discuss, the positive relationship between upper-level supportive leadership and lower-level social cohesion is likely due to social learning theory (Bandura, 1977); and the positive relationship between social cohesion and lower-level supportive leadership may be attributed to group norms and cooperation theory (Deutsch, 1973; Hackman, 1992).

Consistent with social learning theory (Bandura, 1977), lower-level leaders who observe their superiors engaging in nurturing practices are likely to model and imitate these behaviors towards their peers due to the combination of (1) attributes of upper-level leaders coupled with (2) the functionality and (3) the consequences of these nurturing practices for the lower-level leaders as subordinates. That is, by virtue of their positions relative to lower-level leaders in an organizational hierarchy, upper-level leaders are likely perceived by lower-level leaders as having high status and power (i.e., "attributes"), so they are influential in this regard on their subordinates' attitudes and behaviors. Further, given the "feel good" nature of supportive practices and the positive outcomes typically reported by subordinates experiencing care and concern from their leaders, it is logical that lower-level leaders will perceive their upper-level leaders as engaging (i.e., "functional") and that their practices yield positive "consequences." Hence, lower-level leaders will likely imitate their superiors' actions by being nurturing and caring towards one another (i.e., be socially cohesive).

As empirical support, past research indicates supportive leadership is a key predictor of social cohesion due to the positive attitudes and behaviors it promotes in group members (Bass et al., 2003; Beal, Cohen, Burke & McLendon., 2003; Greene & Schriesheim, 1980). That is, supportive leaders encourage group members to collaborate, trust one another, and engage in cooperative behavior focused on achieving organizational goals, rather than self-serving behaviors, or a focus on individual goals (Choi et al., 2003; Euwema, Wendt, & van Emmerik, 2007). Further and relatedly, through increasing the expectation that rewards follow from group membership, supportive leaders are likely to enhance the attractiveness of members participating in the group and forming collegial and cooperative relations with one another (Schriesheim, Mowday & Stogdill, 1979).

In turn, cohesive groups of lower-level leaders are likely to cascade supportive practices downward both because of normative pressure to do so as well as the cooperative nature of their group relations. *Norms* are powerful sources of influence on group members in that they specify conditions under which discretionary stimuli are used by the group to reinforce desired behavior and to inhibit undesired behavior (cf. Hackman, 1992). For socially cohesive groups, it is likely that caring and closeness amongst individuals reflects behaviors desired by, and important to, group members. Indeed past research suggests that members who are part of socially cohesive groups are likely to resent any rejection of influence attempts within the group (Back, 1951). Stated another way, lower-level leaders will likely look to their group for guidance on "how things are," such that this influence-role of groups not only provides an immediate, salient context for members, but also enhance member arousal through reassuring and

supportive practices (Hackman, 1992). Thus, a cohesive group "signals" to its members that supportive practices are normative and should occur in the work setting towards one's own direct reports.

Second, according to Deutsch's (1973) cooperation and conflict theory, individuals' perceptions of goals explain dynamics and outcomes of their interactions with others. In *cooperative* settings, "goal achievements are positively correlated; individuals perceive that they can reach their goals if, and only if, others also reach their goals" while in *competitive* settings, "goal achievements are negatively correlated; each individual perceives that when one person achieves his or her goal, all others with whom he or she is competitively linked fail to achieve their goals" (Tjosvold & Sun, 2006, p. 219). Past empirical finding support that cooperative settings position individuals to effectively communicate, exchange resources, and productively work together to ensure others succeed, while competitive settings are characterized by suspicion, inability to coordinate, and a desire to dominate others (Deutsch, 2000). As illustrated by prior empirical work, cooperative (rather than competitive) orientations in work settings have been shown to be positively associated with socially cohesive groups in which members share stable, socially rewarding relationships (Lott & Lott, 1965). Hence social cohesion amongst lower-level leaders likely prompts positive interactions between these leaders and their front-line employees—thus the trickling down of supportive leadership practices across organizational levels likely occurs. Following this, I therefore propose:
Hypothesis 1: Social cohesion mediates the relationship between supportive leadership at upper and lower organizational levels.

The Moderating Role of Combat Exposure

In addition to the intervening role of social cohesion, combat exposure likely induce responsiveness by groups of lower-level leaders to the psychological resources provided through the link between supportive practices by upper-level leaders and lower-level leaders' social cohesion. This theorizing is consistent with the previously mentioned tenet of path-goal theory that supportive leadership exerts a compensatory effect during stressful circumstances (House, 1971), and with the previously mentioned tenet of COR theory that individuals seek to build their resources such as the ability to see through stressful circumstances (e.g., Hobfoll, 1989). Other scholars similarly have advanced reasoning that individuals are more likely to seek psychological resources during stressful periods, due to insufficient resources on one's own to cope with threatening and difficult events (Hobfoll & Walfisch, 1984). In particular, such circumstances evoke feelings of helplessness and dependency which facilitate individuals' needs and responsiveness to the provision of support from leaders as authority figures (Solomon, Mikulincer, & Hobfoll, 1986).

Although to my knowledge no research has explored the moderating role of stress in the context of supportive leadership and cohesion, two empirical studies offer relevant patterns of findings. First, in research using military personnel, Halpin (1954) found that combat situations (i.e., stress) strengthened a positive correlation between initiating structure behaviors of lower-level leaders—such as defining performance expectations of subordinates and establishing well-defined patters of communication—and lower-level leader performance as reported by upper-level leaders. Conversely, combat situations accentuated a negative correlation between lower-level leader consideration behaviors—

indicative of friendship, mutual trust, respect, and warmth in relationships with subordinates—and lower-level leader performance (Halpin, 1954). In a second research example, Schriesheim and Murphy (1976) utilized a sample of personnel in geographically dispersed units of a national black social services organization and found that leader initiating structure promoted subordinate job satisfaction and performance in situations of high stress (defined as on-the-job anxiety), while leader consideration promoted subordinate job satisfaction and performance under low stress situations. Such results may be attributed to how leaders who engage in initiating structure behaviors are providing a clear and manageable task structure within which their employees can perform. Taken together, the findings above suggest that in stressful circumstances which may be perceived as aversive and difficult to cope with, task-focused (rather than relationship-based) leader behaviors more strongly promote task-based outcomes for employees (i.e., satisfaction with one's job as well as job performance).

While these empirical findings may seem contrary to my theorizing, upon a deeper look and as guided by the concept of "ecological congruence" (Solomon et al., 1986), the studies inform my proposed link of the accentuating role of combat exposure to the positive link between upper-level supportive leadership and lower-level cohesion. Ecological congruence refers to the theoretical importance of "fit" between task and emotional demands in one's work environment and the characteristics of support provided by leaders (i.e., task-based or instrumental versus relational-based or emotional) (Solomon et al., 1986). Following this, and drawing on the studies above, relational-leader practices are unlikely to promote job-based outcomes under conditions of high stress given the lack of congruence or "match" between job versus relational

characterizations of ambient stimuli (i.e., leadership behaviors) and outcomes. Conversely, it can be inferred that stressful stimuli are likely to increase the positive relationship between *relational*-based leader behaviors (i.e., supportive leadership) and *relational*-based subordinate outcomes (i.e., social cohesion) due to subordinates seeking these affective resources as a means to offset the emotionally-depleting nature of stress. I therefore suggest the following:

Hypothesis 2: Combat exposure moderates the supportive leadership-social cohesion relationship, such that this positive relationship is stronger when combat exposure is high.

Hypothesis 3: Combat exposure moderates the indirect relationship between upper-level and lower-level supportive leadership as mediated by social cohesion, such that the indirect effect is stronger when combat exposure is high.

Strength-Based (Within-Unit Agreement) Cascading Supportive Leadership

In addition to the aforementioned hypotheses, my dissertation also explores the possibility that strength- (or within-unit agreement-) based reports of the substantive variables of interest may explain how cascading supportive leadership processes operate. This strength-based perspective not only builds on, and advances, prior group-based trickle-down research which has utilized a group-mean approach to analyzing cascading data (Griffin & Mathieu, 1997), but also dovetails with a recently emerging body of literature exploring strength-based organizational phenomena (e.g., Zohar & Luria, 2004, 2005).

Strength studies base such scholarly examination in the paradigm of *symbolic interactionism*, or when individuals develop shared perceptions (e.g., regarding organizational practices) through social interactions and communication in which they

discuss their interpretations of events (Schneider & Reichers, 1983). As an example, empirical studies have explored the impact of *climate strength*, or within-unit variance/consensus amongst personnel in sub-units or organizations of policies, practices and procedures, as a boundary condition to climate-outcome linkages and documented how X-Y relationships are stronger with increasing climate strength (e.g., Lindell & Brandt, 2000; Lundby & Fenalson, 2001; Schneider, Salvaggio, & Subirats, 2002). As Ostroff and colleagues note (in press), when climate strength operates as a boundary condition, this is described as climate strength moderating the relationship between a mean climate score and outcomes such that higher consensus coupled with moderate to above average level mean climate will result in more positive outcomes than low consensus because of process loss, such as strain on interpersonal relationships amongst personnel given differences in perceptions (Lindell & Brandt, 2000). Consistent with this, in the safety literature specifically, management scholars have investigated the moderating effects of safety climate strength to safety climate – outcome relationships, or consensus regarding perceptions of formal and informal safety policies, practices and procedures (e.g., Zohar & Luria, 2004). Taken together, prior research on the moderating role of climate strength highlights the important role of agreement amongst personnel in subunits of organizational phenomena in determining social processes in work settings.

The effects for strength found detected prior research also suggest that leadership processes may cascade downward in terms of strength – i.e., in terms of how much within-unit variance there is in subordinates' and leaders' ratings of their leaders, within the same unit. In this regard and consistent with my research focus, I propose that the extent to which groups of lower-level leaders, through interactions, create a mutual

understanding of upper-level supportive leadership practices and exposure to combat may determine the extent to which the group feels more socially cohesive and in turn, will cascade supportive practices down towards front-line employees. More specifically, the amount of within-unit variance (or "strength") in the perceptions by groups of lower-level leaders of their upper-level supportive leadership may influence social cohesion strength, and, in turn, strength of lower-level leadership in the unit. That is, in some units normative leadership and related processes would be stronger – indicated by greater strength or lower level of within-unit variance on the substantive phenomena than others, owing to a stronger (or more similar) "signals" sent by upper-level leaders. Following this, I therefore suggest:

Hypothesis 4: Social cohesion strength mediates the relationship between strength of supportive leadership at upper and lower organizational levels.

Hypothesis 5: Combat exposure strength moderates the supportive leadership-social cohesion strength relationship such that this positive relationship is stronger when combat exposure strength is higher.

Hypothesis 6: Combat exposure strength moderates the indirect relationship between supportive leadership-social cohesion strength as mediated by social cohesion strength, such that the indirect effect is stronger when combat exposure strength is higher.

Chapter 4: Research Methodology

Sample and Data Collection

As part of a 2008 Mental Health Advisory Team (MHAT) research study to address perceptions of leadership behaviors, the Walter Reed Army Institute of Research (WRAIR) administered a paper and pencil Land Combat Survey to approximately 1,000 enlisted soldiers and non-commissioned officers (NCOs). At the time of the data collection, these participants were "in theatre," or in a combat environment as part of an Iraqi deployment, and were selected using a stratified random sampling method from their combat units (termed "platoons").

On average, each platoon's hierarchical structure was comprised of soldiers formally reporting to groups of NCOs (or lower-level leaders), who, in turn, formally reported to groups of officers (or upper-level leaders). In addition, throughout the course of the deployment, soldiers and NCOs generally remained with their platoon leadership and NCOs frequently interacted with one another both for task-related and social purposes. Complete useable data were collected from 388 NCOs and 637 enlisted soldiers nested in 55 platoons. There was one group of officers and one group of NCOs per platoon and on average, each platoon consisted of 12 enlisted soldiers, 7 NCOs, and 5 officers. This sample is therefore relevant to my research questions and theoretical model given the (1) clear hierarchical levels of leadership and reporting relationships within each platoon; (2) group-level leadership structure at upper and lower levels; (3) social relationships between the NCOs; and (4) work setting, such that combat is regarded as one of the most distressing experiences for individuals (Shils & Janowitz, 1948; Solomon et al., 1986).

Survey Measures

The WRAIR survey was comprised of different attitudinal and behavioral measures developed "in-house" by Army researchers (see Appendix 1). The portion of the dataset that I utilize for my dissertation includes the survey measures delineated below. All data was stripped of personally identifying information and a numeric code was assigned for each survey participant, thus allowing matching between groups of "leaders" (officers and NCOs) and groups of "followers" (NCOs and soldiers). Also, as illustrated by Table 1, NCOs reported on their officers' upper-level supportive leadership, social cohesion with other NCOs, and combat exposure; while soldiers reported on their NCOs' lower-level supportive leadership.

Insert Table 1 about here

Further, consistent with the theoretical focus of my model at the group level, and as I explain below, upper- and lower-level supportive leadership, social cohesion, and combat exposure measures were aggregated to the platoon level (see Table 2 for aggregation statistics by source as relevant to my hypothesized model, and Appendix 3 for aggregation statistics across all sources).

Predictor and Dependent Variables

Upper-level supportive leadership. NCOs rated upper-level supportive leadership behaviors in their platoon using a 3-item NCO/Officer Combat Leader Behavior Scale. Sample upper-level supportive leadership items included: "My officers tell soldiers when they have done a good job" and "My officers are concerned about the safety of soldiers." The items were measured by participants' responses on a 5-point Likert scale (1 = *never*,

2 = *seldom*, 3 = *sometimes*, 4 = *often* and 5 = *always*). Average inter-member agreement ($r_{wg(j)}$),with a uniform expected variance distribution across platoons for NCOs was .69 and ICC(1) was .24, $F_{(54, 333)} = 3.20$, $p < .05$. These results indicate nearly strong within-unit agreement (LeBreton & Senter, 2008) and within and between-unit reliability (Bliese, 2000), supporting the aggregation of upper-level supportive leadership to the platoon level.

Lower-level supportive leadership. Soldiers rated lower-level supportive leadership behaviors in their platoon using the same 3-item NCO/Officer Combat Leader Behavior Scale but with the referent "My NCOs." Average inter-member agreement ($r_{wg(j)}$),with a uniform expected variance distribution across platoons for soldiers was .61 and ICC(1) was .06, $F_{(54, 582)} = 1.74$, $p < .05$. These results indicate moderate within-unit agreement (LeBreton & Senter, 2008) and sufficient within and between-unit reliability (Bliese, 2000).

Mediator and Moderator Variables

Social cohesion. NCOs rated social cohesion using a 3-item WRAIR scale adapted from Podsakoff and MacKenzie (1994). Sample items included: "The members of my platoon are cooperative with each other" and "The members of my platoon know that they can depend on each other." The items were measured by participants' responses on a 5-point Likert scale (1 = *never*, 2 = *seldom*, 3 = *sometimes*, 4 = *often* and 5 = *always*). Average inter-member agreement ($r_{wg(j)}$), with a uniform expected variance distribution across platoons for NCOs was .70 and ICC(1) was .16, $F_{(54, 333)} = 2.32$, $p < .05$. These results indicate nearly strong within-unit agreement (LeBreton & Senter,

2008) and sufficient within and between-unit reliability (Bliese, 2000), supporting the aggregation of social cohesion to the platoon level.

Combat exposure. NCOs rated combat exposure using a 34-item Experience in Combat scale. Sample items included: "I have experienced seeing dead or seriously injured Americans" and "I have experienced having a member of my own unit become a casualty." The items were measured by participants' responses on a 5-point Likert scale (1 = *never*, 2 = *one time*, 3 = *two to four times,* 4 = *five to nine times* and 5 = *ten or more times*). Average inter-member agreement ($r_{wg(j)}$), with a uniform expected variance distribution across platoons for NCOs was .92 and ICC(1) was .45, $F_{(54, 333)} = 6.76$, $p < .05$. These results indicate strong within-unit agreement (LeBreton & Senter, 2008) and sufficient within and between-unit reliability (Bliese, 2000), supporting the aggregation of combat exposure to the platoon level.

Insert Table 2 about here

Confirmatory Factor Analyses

Before testing my hypothesized model, I first examined the validity of the above measures using several confirmatory factor analyses in LISREL. Specifically, I conducted these analyses using within-source data (i.e., NCOs versus soldiers) for upper-level supportive leadership; lower-level supportive leadership; social cohesion and combat exposure. For the combat exposure scale comprised of 34 items, I created seven parcels randomly comprised of 3-4 items each.

As illustrated by Table 3, results indicated that the hypothesized 4-factor measurement model fit the NCO data well ($\chi^2_{(df = 98)} = 273.74$, RMSEA = .07, CFI = .95).

In addition, an alternative 1-factor model in which the correlations between upper-level supportive leadership; lower-level supportive leadership; social cohesion; and combat exposure were set at 1.0 fit the NCO data significantly worse than the hypothesized 4-factor model ($\Delta\chi^2_{(\Delta df = 6)} = 1917.48$, $p < .05$, RMSEA = .217, CFI = .63), thus supporting the discriminant validity of these four measures as reported by NCOs. Additional results indicated that the hypothesized 4-factor measurement model also fit the soldier data well ($\chi^2_{(df = 98)} = 302.17$, RMSEA = .075, CFI = .96). An alternative 1-factor model in which the correlations between upper-level supportive leadership; lower-level supportive leadership; social cohesion; and combat exposure were set at 1.0 fit the soldier data significantly worse than the hypothesized 4-factor model ($\Delta\chi^2_{(\Delta df = 6)} = 1988.12$, $p < .05$, RMSEA = .222, CFI = .76), thus supporting the discriminant validity of these four measures as reported by soldiers too.

Insert Table 3 about here

Control Variables

Several other variables have the potential to influence the relationships of interest in my study. For this reason, when testing my hypothesized model, I statistically controlled for two measures in my analyses: months in current deployment of the platoon, and platoon size. Months in deployment for the platoon reflects tenure of the platoon (soldiers and NCOs) with the platoon leadership (officers and NCOs) and was included given that longer (versus shorter) tenure with particular leaders may make leadership practices less obvious to the followers who are reporting on such actions. Platoon size was included as a control variable given past research indicates that the size of a work

group impacts the relationship between supportive leadership and social cohesion (Greene & Schriesheim, 1980).

Validation Study

To test for convergent and discriminant validity of the military measures with previously validated measures from the management literature, I also collected data from a second, non-military sample. Participants in this second study design were lower-level leaders (i.e., supervisors) and front-line staff from resource management and housing divisions at a west coast university. Using an electronic survey asking about organizational experiences, complete useable data was collected from 44 lower-level leaders (e.g., architects and electrical engineers) and 102 front-line employees (e.g., housekeeping and janitorial staff) from within the two divisions. This survey included both the military measures as well as previously validated measures from the management literature capturing similar content (see Appendix 2).

Substantive Measures

Supportive leadership. Employees rated their supervisor's (i.e., lower-level leaders) supportive leadership and supervisors rated their manager's (i.e., upper-level leaders, n=35) supportive leadership using Eisenberger et al.'s (1986) eight-item perceived supervisor support (PSS) scale. Sample perceived supervisor support items included: "My leader really cares about my well-being" and "My leader takes pride in my accomplishments at work." The items were measured by participants' responses on a 7-point Likert scale (1 = *strongly disagree,* 7 = *strongly agree*).

Social cohesion. Lower-level leaders rated social cohesion with other supervisors using Seashore's (1954) four-item social cohesion scale. Sample items included: "How

well do other supervisors help each other on the job?" and "How well do other supervisors get along with each other?" The items were measured by participants' responses on a 3-point Likert scale (1 = *great,* 2 = *couldn't be better,* and 3 = *not very good*).

Convergent and Discriminant Validity

To assess the convergent validity of the WRAIR measures with the previously validated measures from the management literature, I used several correlational analyses. As indicated by Tables 4-6 and as expected, all like-measures correlated strongly. For example, like-measures of supportive leadership correlated at .73 across the lower-level leaders and employees. In addition, as indicated by Tables 5 and 6 which report correlations by source (lower-level versus employee), like-measures of upper- and lower-level supportive leadership correlated at .61 and .76, respectively. Similar patterns of results were found for like-measures of social cohesion, which correlated at .89 across the lower-level leaders and employees (see Table 4), and at .89 for like-measures of social cohesion reported only by lower-level leaders (see Table 5). In addition, I also tested the differences between the correlations of supportive leadership and cohesion and found the like-measures of supportive leadership are significantly different than the like-measures of cohesion across the lower-level leaders and employees ($t = 6.47$, $p < .05$) and for the lower-level leaders only as well ($t = 2.24$, $p < .05$).

Insert Tables 4-6 about here

Chapter 5: Results

Means, standard deviations, bivariate correlations, and internal consistency reliability (alpha) coefficients of the key variables were calculated and are reported in Table 7.

Insert Table 7 about here

Given the platoon-level focus of my hypothesized model, I utilized OLS regression to test my model. I first conducted tests for the mediating role of social cohesion between upper-level and lower-level supportive leadership, followed by tests for mediated moderation of combat exposure to the upper-level supportive leadership-lower-level social cohesion link. Mediated moderation refers to when an interaction effect (XZ) impacts a mediator variable (M), which in turn impacts an outcome variable (see Baron & Kenny, 1986; Edwards & Lambert, 2007). The regression results of my mediation analyses are presented in Table 8. As indicated by these findings, supportive leadership at upper organizational levels did not promote lower-level supportive leadership (b = .12, *n.s.*) or social cohesion for groups of lower-level leaders (b = .15, *n.s.*); however, social cohesion was positively related to lower-level supportive leadership (b = .24, $p < .05$). Thus Hypothesis 1 was not fully supported.

Insert Table 8 about here

The regression results of my mediated moderation analyses are provided in Table 9 and illustrated in Figure 2. Consistent with Hypothesis 2, combat exposure strengthened the upper-level supportive leadership-social cohesion relationship ($b = .60$, $p < .10$.).[1]

Insert Figure 2 about here

Insert Table 9 about here

To further probe the nature of this significant interaction effect, I plotted the interaction following Aiken and West's (1991) procedures. As shown in Figure 3, upper-level supportive leadership exhibited a more positive relationship with social cohesion when combat exposure was high (illustrated by the solid line) than when combat exposure was low (illustrated by the dotted line). Tests of simple slopes further confirmed that the upper-level supportive leadership was positively related to social cohesion at high levels of combat exposure ($b = .37$, $p < .05$), but was not significantly related to social cohesion at low levels of combat exposure ($b = -.08$, $p > .05$).

Insert Figure 3 about here

Tests for Indirect Effects

I also conducted tests for indirect effects at high versus low levels of the upper-level supportive leadership x combat exposure interaction term, reflecting the product of the estimated independent variable → mediator effect and the estimated mediator →

[1] The same pattern of mediation and mediated moderation findings emerged when using platoon-reported social cohesion. I report the more conservative approach, however, to hone in on, and parcel out, NCO reports across the three substantive measures (X, Z and M).

dependent variable effect, and their respective bootstrapped 95% confidence intervals from MacKinnon, Lockwood and Williams (2004) test. The indirect effects were not significant (for high upper-level supportive leadership x combat exposure, $z = 1.22$, *n.s.*, and for low upper-level supportive leadership x combat exposure, $z = 1.22$, *n.s.*), which is likely attributed to insufficient power for the interaction on the indirect effect in my model. Finally, in partial support for Hypothesis 3, social cohesion was significantly and positively related to lower-level supportive leadership ($b = .22$, $p > .05$), therefore suggesting a conditional indirect effect for the proposed relationships.

Second Order Moderation

In addition to the above analyses, I conducted tests for second-order moderation – that is, to probe if combat exposure moderates the relationship between social cohesion and lower-level supportive leadership. As illustrated by Table 10, combat exposure did not strengthen this latter relationship ($b = -.23$, *n.s.*), thus providing empirical support for the positioning of combat exposure as a moderator to the upper-level leadership-social cohesion link.

Insert Table 10 about here

Strength Analyses

I additionally tested the relationships in my research model using standard deviations values (SDs) as a means of assessing the strength of agreement (or lack thereof) of the substantive measures. The regression results of my mediation analyses with standard deviations are presented in Table 11. As indicated by these findings, SD upper-level supportive leadership did not promote SD lower-level supportive leadership ($b = -.07$, *n.s.*) or SD social cohesion for groups of lower-level leaders ($b = .08$, *n.s.*). In a

similar vein, SD social cohesion did not promote SD lower-level supportive leadership (*b* = .04, *n.s.*). Thus Hypothesis 4 was not supported.

Insert Table 11 about here

The regression results of my mediated moderation analyses using standard deviations are provided in Table 12 and illustrated in Figure 4. As indicated, SD combat exposure weakened the relationship between SD upper-level supportive leadership and SD social cohesion (*b* = -1.13, *p* < .10*).* That is, consistent with Hypothesis 5, high levels of combat exposure strength (i.e., high agreement assessed by low SD), increased the positive relationship between upper-level supportive leadership strength and lower-level social cohesion strength.

Insert Figure 4 about here

Insert Table 12 about here

To further probe the nature of this significant interaction effect, I plotted the interaction following Aiken and West's (1991) procedures. As shown in Figure 5, SD upper-level supportive leadership exhibited a more positive relationship with SD social cohesion when SD combat exposure was low (illustrated by the dotted line) than when SD combat exposure was high (illustrated by the solid line). Stated another way, the positive relationship between agreement on upper-level supportive leadership and agreement on lower-level social cohesion was stronger when agreement on combat exposure was high (i.e., visually depicted as low SD and indicated by the dotted line) and

weaker when agreement on combat exposure was low (i.e., visually depicted as high SD and indicated by the solid line). Tests of simple slopes did not provide significant results, however, of SD upper-level supportive leadership positively promoting SD social cohesion at high (b = -.09, *n.s.*) or low levels of SD combat exposure (b = .34, *n.s.*). Thus, Hypothesis 5 received only partial support.

Insert Figure 5 about here

Tests for Strength Indirect Effects

I also conducted tests for indirect effects at high versus low levels of the upper-level supportive leadership x combat exposure interaction term, reflecting the product of the estimated independent variable → mediator effect and the estimated mediator → dependent variable effect, and their respective bootstrapped 95% confidence intervals from MacKinnon, Lockwood and Williams (2004) test. The indirect effects were not significant (for high upper-level supportive leadership x combat exposure, z = -0.42, *n.s.*, and for low upper-level supportive leadership x combat exposure, z = -0.42, *n.s.*), which again may be attributed to insufficient power for the interaction on the strength indirect effect in my model. Further, social cohesion strength did not predict lower-level leadership strength b = .05, *n.s.*). Hypothesis 6 was therefore not supported.

Chapter 6: Discussion

In my dissertation, I sought to answer two research questions pertaining to the cascading of supportive leadership across an organizational hierarchy. First, I explored *how* and *why* supportive practices are likely to cascade from groups of upper- to lower-level leaders, as mediated by social cohesion amongst lower leaders. Second, I examined *when* these falling dominoes effects are stronger (versus weaker) by considering the moderating role of combat exposure to the link between upper-level supportive leadership and lower-level social cohesion. In addition, I also tested my research using an agreement based approach, consistent with a recently developing body of literature using this assessment technique. Taken together, my findings provide some evidence for intervening and moderating mechanisms in the cascading supportive leadership process.

Theoretical Implications

The present findings contribute to existing theory in several ways. First, in general, the group-level results of my research extend prior models of cascading leadership by suggesting it is important to utilize a multi-level perspective to explain how influence is passed down an organizational hierarchy, in addition to the typical leader-centric view in leadership research and the dyadic focus in most cascading leadership studies (Day & Harrison, 2007). Relatedly, my findings buttress past theorizing and empirical research examining the pervasive impact of groups on their members' attitudes and behaviors by indicating that a group-level stimulus (social cohesion) promotes member behaviors (in the form of supportive practices by lower-level leaders) through influencing members' assumptions about what actions are appropriate or desirable in the workplace (cf. Hackman, 1992).

Second, given that more is typically known about outcomes rather than antecedents of lower-level leadership in organizational behavior phenomena (e.g., Beatty & Lee, 1992; Waldman & Yammarino, 2006), my study suggests that relationships amongst peer leaders at lower organizational levels play a key role in determining the type of behaviors enacted by lower-level leaders towards their own employees. In this regard, it is the quality of social interactions amongst leaders at the same hierarchical position which have employee-level implications, rather than the usual finding of prior cascading research that upper-level leadership behaviors directly predict lower-level leader practices, as attributed to imitation mechanisms (e.g., Bass et al., 1987; Mayer et al., 2009). Indeed in past following dominoes studies, the explanation typically adopted by scholars is that of lower level leaders observing their upper-level leaders' behaviors as "input" and then modeling these practices as "output" (e.g., Bass et al., 1987; Mayer et al., 2009). While this explanation is conceptually intuitive and empirically valid, the lack of a direct relationship between supportive leadership practiced at upper- and lower-organizational levels coupled with the predictor-role of social cohesion for lower-level supportive leadership in my research implies that it is horizontal, and not only vertical, relationships that serve impactful in predicting cascading effects.

This latter implication does not contradict prior cascading research per se, but rather builds on earlier work, and may be explained given the dyadic versus group-level focus in extant research versus my dissertation. That is, the possibility that leadership at upper levels does not directly promote lower-level leadership is especially relevant in group-level cascading processes because when lower-level leaders together experience practices from above, the lower-level leaders *as a group* are likely to first process, and

internalize, the practices by using their exchanges with one another to do so (Griffin & Mathieu, 1997). This group "sense-making" logically occurs prior to lower-level leaders engaging in behaviors towards their subordinates because it is unrealistic that an entire group of lower-level leaders will immediately imitate upper-level practices they experience, due to possible differences in perceptions by the lower-level leaders of their upper-level leaders actions and/or that certain (but not all) lower-level leaders may experience practices from certain (but not all) upper-level leaders who enact behaviors in slightly varied ways. Consistent with this, past theoretical and empirical work indicates that when individuals are together in a group, other members serve as a proximal stimulus for social interactions and in prompting individuals' behaviors (cf. Hackman, 1992). In the cascading context using groups of lower-level leaders, this reasoning is likely especially pertinent given that familiar relationships and friendships amongst lower-level group-mates provide a source of influence for members' leadership behaviors downward towards employees (Hackman, 1992). Hence it can be inferred from my social cohesion finding that lower-level leaders who experience supportive practices from upper organizational levels under circumstances of high stress will diffuse their reactions to these practices in a horizontal manner first (i.e., thru exchanges with group members) as a means of response to their upper-level leaders' practices, followed by vertical diffusion (i.e., towards subordinate employees).

As a third implication, my finding of how upper-level supportive leadership predicts lower-level social cohesion only under circumstances of high combat exposure suggests that influence processes across leaders *depend* on external factors. That is, there are boundary conditions to the diffusion of leadership patterns across an organizational

hierarchy, rather than such patterns operating in a "closed system" as documented in earlier research (Smith et al., 1969). In this regard, trickle-down effects may not always occur in a straightforward (i.e., direct) manner, and instead cascading leadership may at times follow prior paradigms of contingent leadership which explicate the moderating role of situational influences in leadership processes (e.g., Fiedler, 1967, 1978; Hershey & Blanchard, 1982; House, 1971; Vroom & Yetton, 1973). Notably, my combat exposure finding also (a) coincides with the conceptual description by Howell and colleagues (1986) in labeling certain variables as "enhancers" of leadership effects; and (b) advances prior cascading work by highlighting *when* lower-level leaders are more susceptible (i.e., receptive) to support from upper organizational levels (Bass et al., 1987; Bowers, 1963). The contingency role of combat exposure further sheds light on the importance of "ecological congruence" (Solomon et al., 1986) between ambient stimuli experienced by lower-level leaders (i.e., upper-level supportive leadership and combat exposure), such that the relational and interpersonal nature of both upper-level supportive leadership and social cohesion are likely to "fit" more strongly together when lower-level leaders are feeling depleted or threatened by their external environment. This theoretical implication of congruence is supported by descriptions in past research of how combat exposure stimuli put individuals "on alert" (Hobfoll & Walfisch, 1984) and therefore positions them to be more sensitized to psychological resources available from one's leader (i.e., being approachable, considerate and sensitive towards subordinates' needs, House, 1971), and in turn, to respond by forming friendships characterized by emotional closeness with peer others.

A fourth implication of my research regards the non-significant finding of an indirect effect of upper-level supportive leadership x combat exposure on lower-level supportive leadership through social cohesion. This is likely attributed, in part, to the reality that in certain organizational settings, upper-level leadership practices are distal from lower-level leaders' behaviors towards their subordinate employees, versus the more proximal interactions amongst lower-level leaders as an antecedent to lower-level leader actions (as discussed above). The distal nature of upper-level leadership is a possibility given that the relationship shared between upper and lower leaders are probably more formal due to differences in status and hierarchal position – hence less casual and impactful as compared to the camaraderie amongst lower-level leaders together in the same group. In this regard and in line with social learning theory (Bandura, 1977), it is logical that upper-level supportive leadership promotes cohesive, lateral relationships amongst lower-level leaders experiencing combat exposure as a seemingly orthogonal process from the impact of peer friendships on the behaviors of the lower-level leaders towards employees.

Finally, the strength-based analyses I conducted offer the theoretical implication that the extent of within-unit agreement can potentially play a moderating role in organizational phenomena. Specifically, my finding that high levels of combat exposure agreement (i.e., strength) by lower-level leaders strengthens the relationship between lower-level leaders' agreement on upper-level leadership and social cohesion broadly suggests that sharedness perceptions amongst lower-level leaders can accentuate the effects of ambient stimuli (i.e., upper-level leadership practices) on social outcomes (i.e., lower-level social cohesion). This is consistent with prior work empirically

demonstrating that more positive outcomes are likely to follow when there is high (versus low consensus) because of process loss, such as strain on interpersonal relationships amongst personnel given differences in perceptions (Lindell & Brandt, 2000). However, results involving strength, or within-unit agreement, variables provided weaker support overall to the model, relative to results involving mean level on variables. This suggests that, cascading leadership effects may be stronger when considering how leaders behave "on average" in groups, relative to the distribution or variance in leader behaviors in groups. Clearly, though, more research is needed to more thoroughly compare cascading processes involving strength versus mean-level of leadership in groups.

Practical Implications

My findings also offer at least two practical implications for managers and organizations alike. First, since it is cooperative work relationships amongst lower leaders which promote supportive leader behaviors towards front-line employees, leadership development training efforts should encompass team-building activities which facilitate and encourage lower-level leaders to build friendships and camaraderie with one another (van Velsor, McCauley, & Ruderman, 2010). From a job design and rewards system perspective, human resource practices should also consider ensuring the work of lower-level leaders necessitates a team-design from which relationships characterized by emotional closeness might evolve amongst lower-level leaders, and that team-based projects are rewarded. Indeed while my research indicates that while leaders at upper management levels "set the tone" in organizations, it is through more complex, nuanced processes that the influence of these leaders trickles down. Thus while upper-level leaders should also be encouraged through training and development efforts to engage in

supportive leaderships, organizations are well-served to understand that the relationships amongst lower-level leaders can also be shaped in other ways to predict the falling of supportive actions across a hierarchy.

Second, the last two decades have provided considerable evidence that *radical change*, defined as a "fundamental, qualitative modification in an organization's philosophy or core perspective/identity which may also affect the pattern of strategic relationships outside the firm" (Huy, 1999, p. 332), continues to occur frequently in organizations of all types (Taylor & Sharma, 2008). Such changes include mergers, acquisitions and down-sizing, which typically are distressing and so evoke high levels of employee uncertainty, anxiety, and frustration (Schweiger & DeNisi, 1991). Although typically the management literature has cautioned against the occurrence of such aversive stimuli in the workplace, the findings of my study suggest that distressing stimuli may actually serve a beneficial purpose by increasing lower-level leader receptivity to their upper-level leaders' influence. Following this, my research suggests to organizations that supportive leadership behaviors are even more important in times of stress for their subordinates, hence leaders at upper levels especially should be encouraged and rewarded to engage in nurturing practices especially when tough times are at hand for organizational members. Further, as suggested by prior work (Howell et al., 1986), upper-level leaders might seek to create work environments characterized by combat exposure situations in order to increase their own influence on subordinate lower-level leaders and ultimately yield beneficial outcomes for the organization and employees alike.

Limitations and Future Research

As with any research, this study is not without limitations. First, while I examined social cohesion in the supportive leadership cascading process, it is possible that other mediators such as work unit empowerment might play an important role in the trickle down of effective leadership behaviors such as empowering leadership (Kirkman & Rosen, 1999), hence should be considered in future studies. Such potential research would help further contribute to the theoretical explanation of congruence between ambient stimuli, and help inform scholars – particularly in the cascading context – of how leadership practices at upper-levels are likely to impact lower-levels through mediating mechanisms which conceptually "fit" with the practices.

As a second limitation, the aggregation statistics for soldiers in my study reporting on their lower-level leaders' supportive leadership were lower than expected, which may suggest that while there is a general "climate" of leadership within a particular unit, the reality that different individual leaders are enacting supportive practices may impact the extent to which there are shared leadership perceptions by subordinates. Further, the use of a military sample is a third limitation of my study, and together with the low aggregation statistics, warrants replication of my findings in a non-military organization. Doing so would help promote the generalizability of my results and could be done so by using organizations whose leadership structures are distributed or shared (i.e., using groups, such as with groups of senior-level managers and lower-level supervisors in a direct reporting structure). Related to this, although combat experience is considered to be one of the most distressing experiences (Solomon et al., 1986), it would be important to study the contingency role of other combat exposure-sources in non-

military settings, such as during downsizing initiatives, to see if similar effects will occur in the cascading supportive leadership context.

Additionally, given that early research decoupled stress into "combat exposure" (from the Latin *dis* = bad, as in disagreement) versus "eustress" (from the Greek *eu* = good, as in euphoria) (Selye, 1978), another limitation of my study is the sole focus on the moderating role of aversive stimuli. Future work should therefore explore if, and how, positive (e.g., challenge) stressors exert similar effects as combat exposure to the cascading context. Given that challenge stressors are demands viewed as obstacles to be overcome in order to learn and achieve (such as high workload, time pressure, job scope, and high responsibility), rather than being aversive and depleting in nature (LePine et al., 2005; Podsakoff et al., 2007), it is likely that challenge stimuli may have less of an impact on the relationship between supportive leadership and relational outcomes such as social cohesion.

For more future research, given that ineffective behaviors such as abusive leadership (see Mayer et al., 2008) also are likely to occur and cascade in an organizational setting, future theoretical and empirical studies should explore the processes thru which a "cycle of abuse" is (not) perpetuated by upper and lower leaders, and the possibility that intervening factors may exacerbate or weaken the likelihood that abusive leadership cascades across an organization. Indeed it might be interesting to consider if similar processes to the cascading of supportive leadership practices might operate in abusive work settings, such that mediators assessing "lack" of social cohesion or other affective experiences such as frustration might explain how and why abusive leadership may fall forward. Second, the question remains if and how leadership

behaviors might "trickle up"—that is, from lower to upper leaders per prior bottom-up effects of followers on leaders as examined by leadership scholars in past research (cf. Day & Harrison, 2007; Schilit & Allenby, 1988). The use of a longitudinal study design can help untangle the direction from which leadership behaviors trickles in the work setting and explore more closely issues of causality in the cascading phenomena. Finally, it would be interesting to consider if there are potential second-order moderators that could impact the link between variables at lower-levels (i.e., between social cohesion and lower-level supportive leadership). Similar to the findings in my research model for the link between upper-level supportive leadership and social cohesion, it is likely that lower-level leader processes might be impacted by boundary conditions (e.g., leader-member exchange relationships between groups of lower-level leaders and groups of employees), which would provide an interesting avenue of further work to provide an even more complete description of cascading phenomena.

Conclusion

In his review of contemporary trends of leadership research, Warren Bennis (2007, p. 2) commented: "in the best of times, we tend to forget how urgent the study of leadership is. But leadership always matters, and it has never mattered more than it does now." He further explains that "leadership affects the quality of our lives as much as our in-laws or our blood pressure" and in doing so, illustrates that leadership is a critical component of work settings and the quality of experiences for followers across an organization. In this regard, my dissertation research highlights how, why and when supportive leadership behaviors of individuals at upper organizational levels will "cascade" across a hierarchy to ultimately determine lower-level leader and employee

work experiences. As management research continues to explore the complex, and often nuanced, relationships between leaders and followers, coupled with the ever-changing nature and stress of modern work settings, my dissertation promises to help scholars and practitioners alike understand the ways in which nurturing and beneficial leader practices are likely to diffuse and be most impactful. It is my hope that my study will help fuel, hence influence, the emergence of other research exploring these important topics in an effort to build our knowledge on leadership and its value in contemporary times.

Table 1.

Reporting Sources of Variables

Variable	NCO-reported vs.	Soldier-reported
Control Variables		
1. Platoon Months in Current Deployment	x	x
2. Platoon Size	--	--
Substantive Variables		
3. Upper-Level Supportive Leadership	x	--
4. Lower-Level Supportive Leadership	--	x
5. Social Cohesion	x	--
6. Combat Exposure	x	--

Note. *N* = 637 soldiers, 388 NCOs, 55 platoons

Table 2.

Platoon-Level Aggregation Statistics (Hypothesized Model)

Variable	rwg(*j*)	ICC1	ICC2	F value
1. Lower-Level Supportive Leadership (S)	.61	.06	.42	1.74**
2. Upper-Level Supportive Leadership (N)	.69	.24	.69	3.20***
3. Social Cohesion (N)	.70	.16	.57	2.32***
4. Combat Exposure (N)	.92	.45	.85	6.76***

Note. *N* = 637 soldiers (indicated by S), 388 NCOs (indicated by N), and 55 platoons

Table 3.

Within-Source Confirmatory Factor Analyses

Model	χ^2	RMSEA	CFI
Soldiers			
1. Four-Factor Model	$\chi^2_{(df=98)} = 302.17$	.075	.96
2. One-Factor Model	$\chi^2_{(df=104)} = 1988.12$	.222	.71
NCOs			
3. Four-Factor Model	$\chi^2_{(df=98)} = 273.74$	0.07	0.96
4. One-Factor Model	$\chi^2_{(df=104)} = 1917.48$	0.217	0.63
Soldiers and NCOs			
5. Four-Factor Model	$\chi^2_{(df=98)} = 861.50$	0.087	0.95
6. One-Factor Model	$\chi^2_{(df=104)} = 1100.48$	0.097	0.94

Note. N = 632 soldiers and 370 NCOs

Table 4.

Correlations and Descriptive Statistics - University Sample (All Levels)

Variable	Mean	SD	1	2	3	4
1. Supportive Leadership (PV)	5.48	1.47	(.92)			
2. Supportive Leadership (M)	3.74	.84	.73**	(.82)		
3. Social Cohesion (PV)	2.07	.65	.28	.32*	(.91)	
4. Social Cohesion (M)	3.75	.91	.32*	.47**	.89**	(.92)

Supportive leadership measures reported by N = 44 university lower-level leaders and 102 university employees
Social cohesion measures reported by N = 44 university lower-level leaders
PV = previously validated management measure; M = measure from military

Table 5.

Correlations and Descriptive Statistics - University Sample (Lower-Level Leaders)

Variable	Mean	SD	1	2	3	4
1. Upper-Level Supportive Leadership (PV)	5.75	1.37	(.90)			
2. Upper-Level Supportive Leadership (M)	3.96	.77	.61**	(.82)		
3. Social Cohesion (PV)	2.07	.65	.28	.32*	(.91)	
4. Social Cohesion (M)	3.75	.91	.32*	.47**	.89**	(.92)

N = 44 university lower-level leaders
PV = previously validated management measure; M = measure from military

Table 6.

Correlations and Descriptive Statistics - University Sample (Employees)

Variable	Mean	SD	1	2
5. Lower-Level Supportive Leadership (PV)	5.37	1.50	(.93)	
6. Lower-Level Supportive Leadership (M)	3.64	.86	.76**	(.81)

N = 102 university employees
PV = previously validated management measure; M = measure from military

Table 7.

Platoon-Level Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Platoon Months in Current Deployment	6.73	3.38	--									
2. Platoon Size	18.64	6.55	.23	--								
3. Upper-Level Supportive Leadership (N)	2.67	0.55	-.26	-.06	(.70)							
4. Lower-Level Supportive Leadership (S)	3.40	0.39	-.25	-.35**	.22	(.77)						
5. Social Cohesion (N)	3.67	0.47	-.04	-.17	.17	.36**	(.92)					
6. Combat Exposure (N)	1.70	0.38	.52**	.15	-.19	-.32*	-.07	(.91)				
7. $SD_{\text{Upper-Level Supportive Leadership}}$	0.75	0.26	.08	.15	.05	-.07	-.11	.10	--			
8. $SD_{\text{Lower-Level Supportive Leadership}}$	0.86	0.21	-.18	.20	-.13	-.28*	-.24	-.03	-.07	--		
9. $SD_{\text{Social Cohesion}}$	0.71	0.33	-.11	.33*	-.14	-.15	-.38**	-.03	.10	.16	--	
10. $SD_{\text{Combat Exposure}}$	0.35	0.19	.12	.14	-.08	-.24	-.26	.52**	.26	-.01	-.00	--

Note. N = 388 NCOs (N), 637 soldiers (S), 55 platoons; on average 7 NCOs and 12 soldiers per platoon; * $p < .05$; + $p < .10$; Reliability coefficients (alpha) are on the diagonal

Table 8.

Platoon-Level Mediation Regression Analyses

	Social Cohesion	Lower-Level Supportive Leadership	
	Model 1	Model 2	Model 3
Platoon Months in Current Deployment	.01	-.02	-.02
Platoon Size	-.01	-.02*	-.02*
Upper-Level Supportive Leadership (N)	.15	.12	.08
Social Cohesion (N)			.24*
R^2	.06	.18	.26

Note. N = 388 NCOs (N), 637 soldiers (S), 55 platoons; ** $p < .01$;* $p < .05$; + $p < .10$

Table 9.

Platoon-Level Mediated Moderation Regression Analyses

Analysis/Step	b	SE	*t*	Total R^2	ΔR^2	ΔF
DV = Lower-Level Supportive Leadership (S)						
1. Platoon Months in Current Deployment	-.02	.02	-1.39			
Platoon Size	-.02*	.01	-2.39	.16	.16	4.83*
2. Upper-Level Supportive Leadership (N)	.11	.09	1.18			
Combat Exposure (N)	-.24	.15	-1.60	.22	.07	2.11
3. Upper-Level Supportive Leadership x Combat Exposure	.30	.27	1.11	.24	.02	1.23
DV = Social Cohesion (N)						
1. Platoon Months in Current Deployment	.00	.02	.02			
Platoon Size	-.01	.01	-1.20	.03	.03	.75
2. Upper-Level Supportive Leadership (N)	.15	.12	1.20			
Combat Exposure (N)	-.06	.20	-.31	.06	.03	.80
3. Upper-Level Supportive Leadership x Combat Exposure	.60+	.35	1.74	.11	.06	3.01+
DV = Lower-Level Supportive Leadership (S)						
1. Platoon Months in Current Deployment	-.02	.02	-1.39			
Platoon Size	-.02*	.01	-2.39	.16	.16	4.83*
2. Upper-Level Supportive Leadership (N)	.11	.09	1.18			
Combat Exposure (N)	-.24	.15	-1.60	.22	.07	2.11
3. Upper-Level Supportive Leadership x Combat Exposure	.16	.27	.62			
Social Cohesion (N)	.22*	.11	2.06	.30	.08	2.77+

Note. N = 637 soldiers, 388 NCOs, 55 platoons. ** $p < .01$;* $p < .05$; + $p < .10$, two-tailed

Table 10.

Platoon-Level Second-Order Moderation Analyses

Analysis/Step	b	SE	*t*	Total R^2	ΔR^2	ΔF
DV = Lower-Level Supportive Leadership (S)						
1. Platoon Months in Current Deployment	-.02	.02	-1.39			
Platoon Size	-.02*	.01	-.239	.16	.16	4.83*
2. Social Cohesion (N)	.25*	.01	2.47			
Combat Exposure (N)	-.23	.14	-1.62	.29	.13	4.60*
3. Social Cohesion x Combat Exposure	-.23	.29	-.79	.30	.01	.63

Note. N = 637 soldiers, 388 NCOs, 55 platoons. * $p < .05$; + $p < .10$, two-tailed

Table 11.

Platoon-Level Mediation Regression Analyses with SDs

	$SD_{Social\ Cohesion\ (N)}$	$SD_{Lower\text{-}Level\ Supportive\ Leadership\ (S)}$	
	Model 1	Model 2	Model 3
Platoon Months in Current Deployment	-.02	-.02+	-.01
Platoon Size	.02**	.01+	.01
$SD_{Upper\text{-}Level\ Supportive\ Leadership\ (N)}$	.08	-.07	-.08
$SD_{Social\ Cohesion\ (N)}$			.04
R^2	.15	.10	.11

Note. N = 388 NCOs (N), 637 soldiers (S), 55 Platoons; ** $p < .01$;* $p < .05$; + $p < .10$

Table 12.

Platoon-Level Mediated Moderation Regression Analyses with SDs

Analysis/Step	b	SE	*t*	Total R^2	ΔR^2	ΔF
DV = $SD_{Lower\text{-}Level\ Supportive\ Leadership\ (S)}$						
1. Platoon Months in Current Deployment	-.02+	.01	-1.77			
Platoon Size	.01+	.00	1.85	.09	.09	2.68+
2. $SD_{Upper\text{-}Level\ Supportive\ Leadership\ (N)}$	-.08	.11	-.68			
$SD_{Combat\ Exposure\ (N)}$	.01	.15	.07	.10	.01	.24
3. $SD_{Upper\text{-}Level\ Supportive\ Leadership\ x\ Combat\ Exposure}$	.03	.45	.06	.11	.00	.00
DV = $SD_{Social\ Cohesion\ (N)}$						
1. Platoon Months in Current Deployment	-.02	.01	-.19			
Platoon Size	.02**	.01	.37	.14	.14	4.28*
2. $SD_{Upper\text{-}Level\ Supportive\ Leadership\ (N)}$	.09	.17	.53			
$SD_{Combat\ Exposure\ (N)}$	-.08	.24	-.34	.15	.01	.17
3. $SD_{Upper\text{-}Level\ Supportive\ Leadership\ x\ Combat\ Exposure}$	-1.13+	.67	-1.68	.19	.04	2.83+
DV = $SD_{Lower\text{-}Level\ Supportive\ Leadership\ (S)}$						
1. Platoon Months in Current Deployment	-.02+	.01	-1.77			
Platoon Size	.01+	.00	1.85	.09	.09	2.68+
2. $SD_{Upper\text{-}Level\ Supportive\ Leadership\ (N)}$	-.08	.11	-.68			
$SD_{Combat\ Exposure\ (N)}$	.01	.15	.07	.10	.01	.24
3. $SD_{Upper\text{-}Level\ Supportive\ Leadership\ x\ Combat\ Exposure}$	.08	.46	.17			
$SD_{Social\ Cohesion\ (N)}$	.05	.10	.47	.11	.01	.11

Note. N = 637 soldiers, 388 NCOs, 55 platoons. ** $p < .01$;* $p < .05$; + $p < .10$, two-tailed

Figure 1. Hypothesized theoretical model

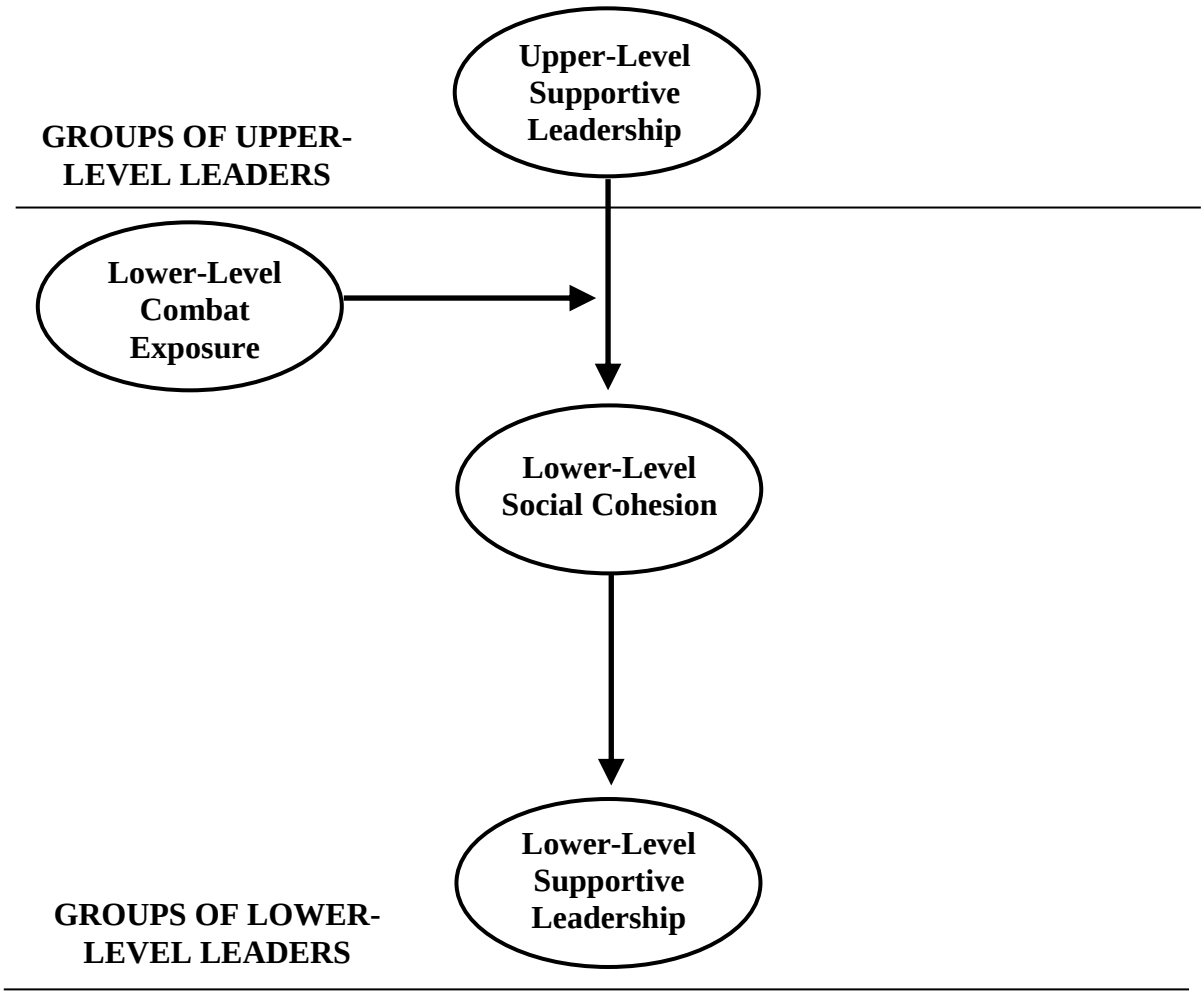


Figure 2. Summary of findings

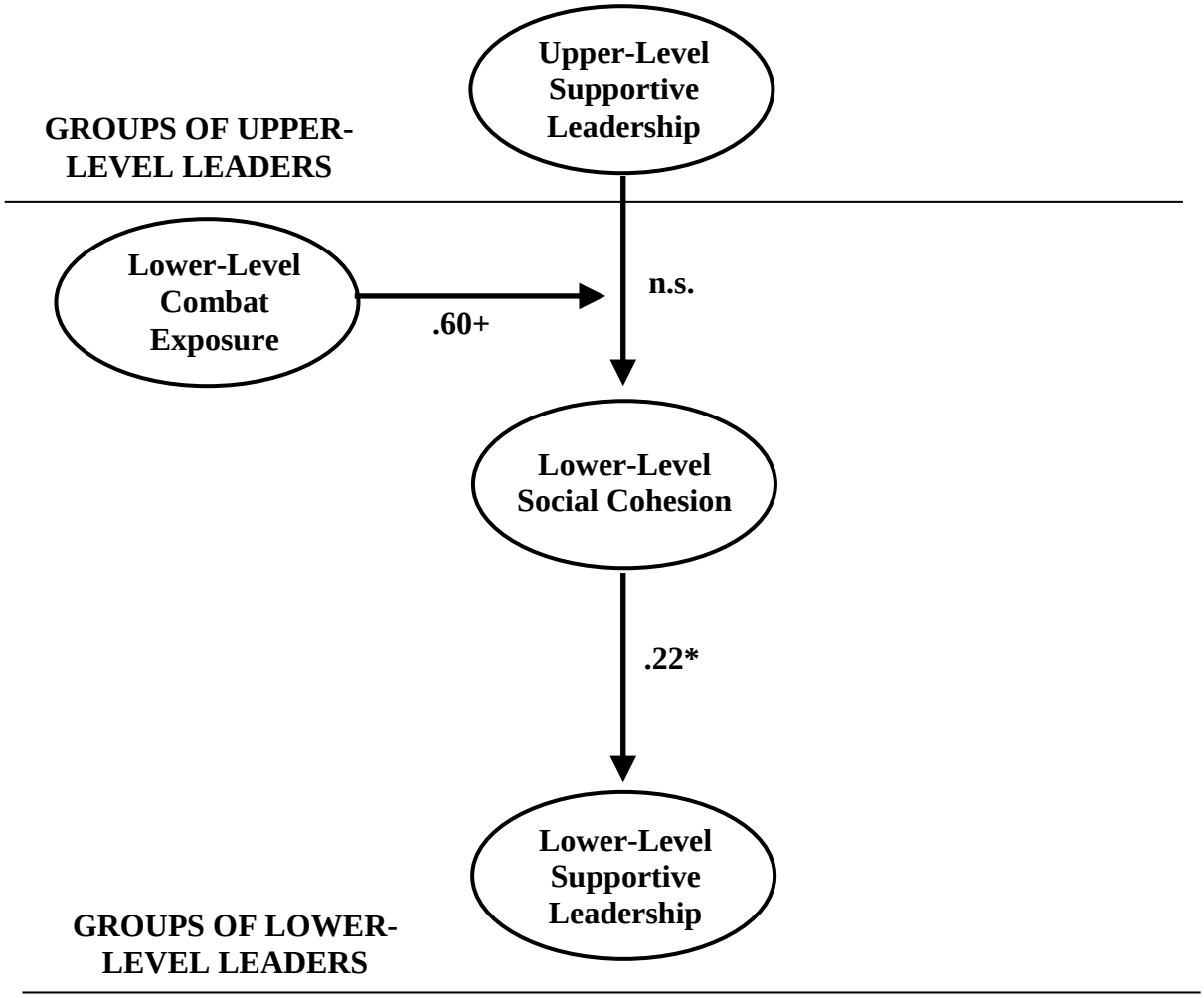


Figure 3. Upper-level supportive leadership x lower-level combat exposure on lower-level social cohesion

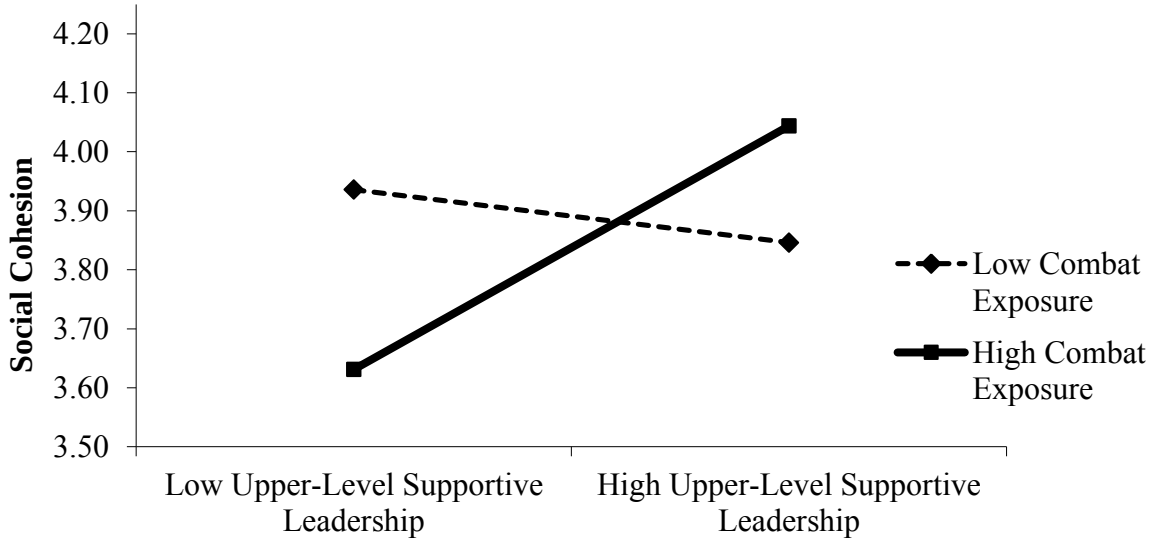


Figure 4. Summary of strength findings (using SDs)

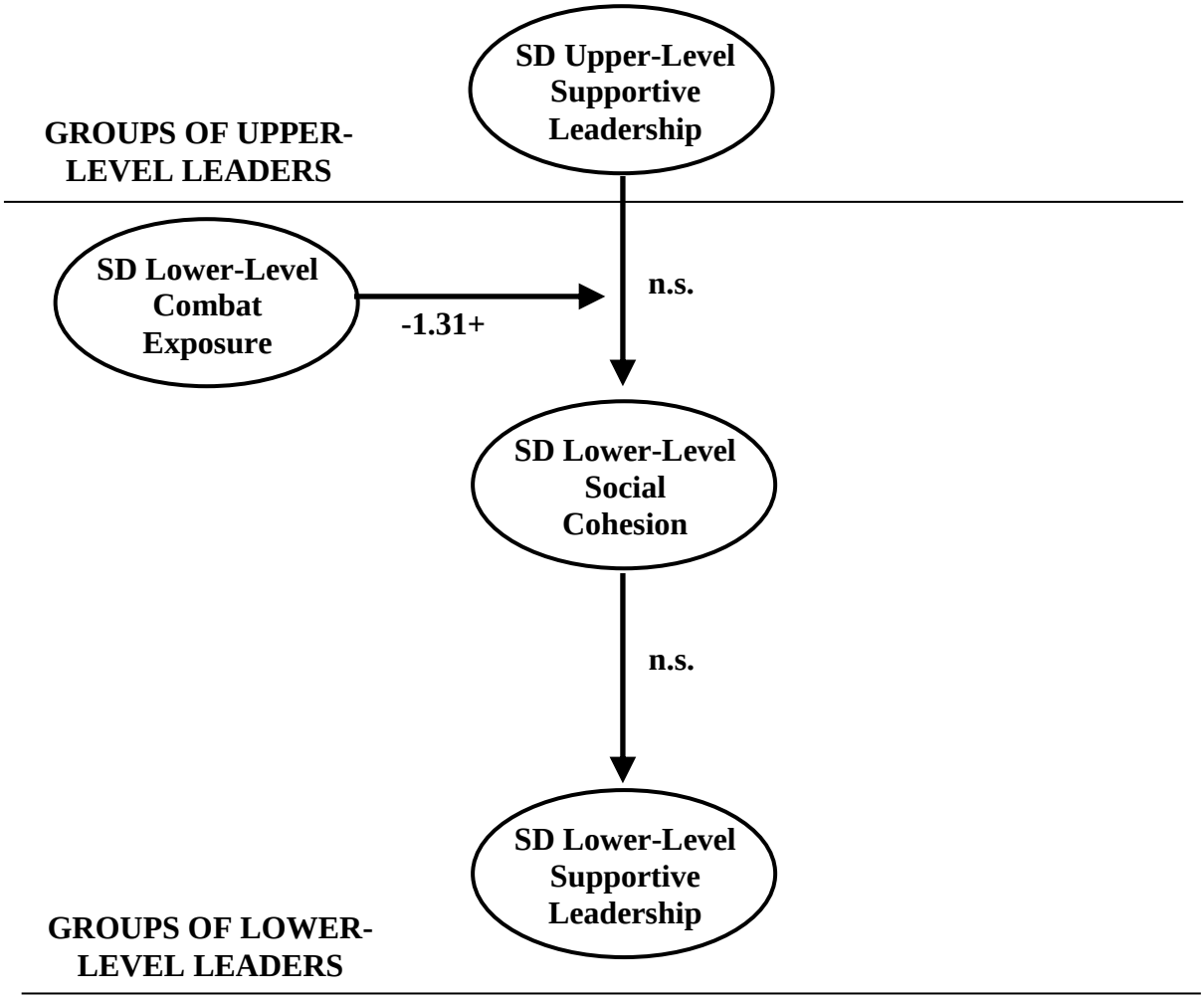
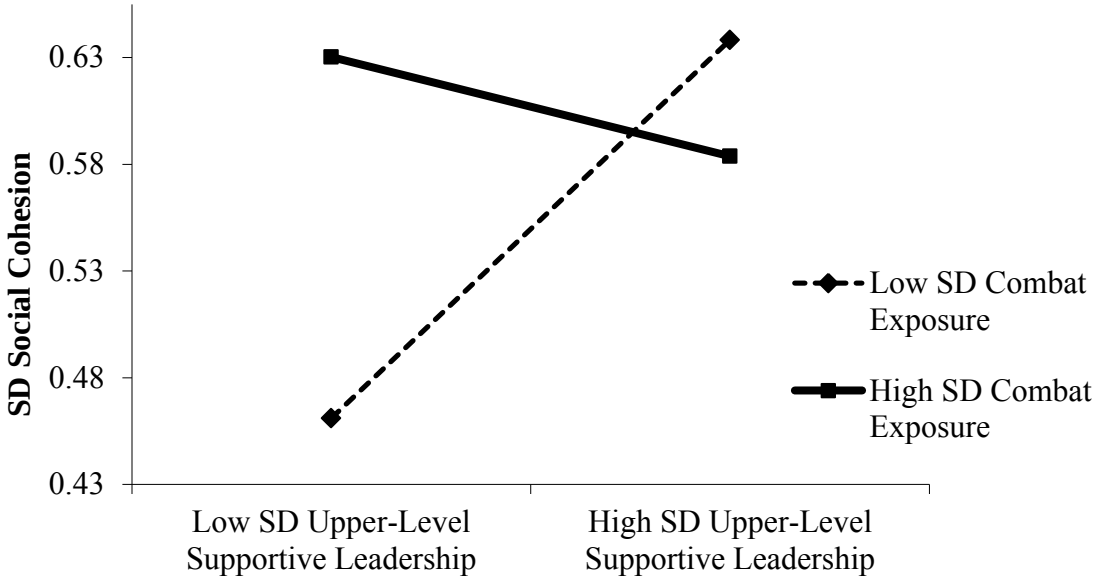


Figure 5. Upper-level supportive leadership strength x lower-level combat exposure strength on lower-level social cohesion strength (using SDs)



Appendix 1.

2008 Land Combat Survey Measures (U.S. Army Sample)

Officer Supportive Leadership

My officers…
1. Tell soldiers when they have done a good job
2. Ensure that soldiers do not assume unnecessary risks when conducting missions
3. Protect the company from receiving too many taskings

NCO Supportive Leadership

My NCOs…
1. Tell soldiers when they have done a good job
2. Are concerned about the safety of soldiers
3. Ensure that soldiers do not assume unnecessary risks when conducting missions

Social Cohesion

1. The members of my platoon are cooperative with each other.
2. The members of my platoon know that they can depend on each other.
3. The members of my platoon stand up for each other.

Combat Exposure

Did you experience any of the following during this deployment?
1. Being attacked or ambushed
2. Seeing destroyed homes and villages
3. Receiving small arms fire
4. Witnessing an accident which resulted in serious injury or death
5. Witnessing violence within the local population or between ethnic groups
6. Seeing dead or seriously injured Americans
7. Knowing someone seriously injured or killed
8. Participating in demining operations
9. Improvised explosive device (IED)/booby trap exploded near you
10. Working in areas that were mined or had IED's
11. Having hostile reactions from civilians
12. Disarming civilians
13. Being in threatening situations where you were unable to respond because of rules of engagement
14. Shooting or directing fire at the enemy
15. Calling in fire on the enemy
16. Engaging in hand-to-hand combat
17. Clearing/searching homes or buildings
18. Clearing/searching caves or bunkers

19. Being wounded/injured
20. Seeing ill/injured women or children who you were unable to help
21. Receiving incoming artillery, rocket, or mortar fire
22. Being directly responsible for the death of an enemy combatant
23. Having a member of your own group become a casualty
24. Had a close call, dud landed near you
25. Had a close call, equipment shot off your body
26. Had a close call, was shot or hit but protective gear saved you
27. Encountering sniper fire
28. Had a buddy shot or hit who was near you
29. Seeing a group member blown up or burned alive
30. Informed group members/friends of a Service Member's death
31. Saved the life of a Service Member or civilian
32. Seeing dead bodies or human remains
33. Handling or uncovering human remains
34. Being physically moved or knocked over from an explosion

Appendix 2.

Validation Study Measures (University Personnel)

Perceived Supervisor Support

Source: Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71,* 500-507.

1. My leader values my contribution to our organization's well-being.
2. My leader fails to appreciate any extra effort from me. (R)
3. My leader would ignore any complaint from me. (R)
4. My leader really cares about my well-being.
5. Even if I did the best job possible, my leader would fail to notice. (R)
6. My leader cares about my general satisfaction at work.
7. My leader shows very little concern for me. (R)
8. My leader takes pride in my accomplishments at work.

(R) indicates reverse-coded items

Social Cohesion

Source: Seashore, S. E. (1954). *Group cohesiveness in the industrial work group*. Institute for Social Research, University of Michigan, Ann Arbor.

1. To what extent are supervisors ready to defend each other from criticism by outsiders?
2. How well do supervisors help each other on the job?
3. How well do supervisors get along with each other?
4. How well do supervisors stick together?

Appendix 3.

Platoon-Level Aggregation Statistics – Measures Across All Sources

Variable	rwg(*j*)	ICC1	ICC2	F value
Soldier Reported				
1. Lower-Level Supportive Leadership	.61	.06	.42	1.74**
2. Upper-Level Supportive Leadership	.56	.07	.46	1.84***
3. Social Cohesion	.62	.12	.61	2.54***
NCO Reported				
4. Lower-Level Supportive Leadership	.68	.06	.30	1.42*
5. Upper-Level Supportive Leadership	.69	.24	.69	3.20***
6. Social Cohesion	.70	.16	.57	2.32***
7. Combat Exposure	.92	.45	.85	6.76***
Overall (NCOs and Soldiers)				
8. Lower-Level Supportive Leadership	.61	.06	.56	2.27***
9. Upper-Level Supportive Leadership	.60	.12	.72	3.60***
10. Social Cohesion	.64	.13	.74	3.88***

Note. N = 637 soldiers, 388 NCOs, 55 platoons

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