# Leaders' Daily Work Demands, Recovery, and Leadership Behaviors

by

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ABSTRACT

In my dissertation, I develop a theoretical model that explains how leaders' daily work demands and recovery affect their leadership behaviors. In a departure from the trait approach of leadership which suggests that leaders tend to behave in certain ways that are determined by their heritable characteristics such as personality and intelligence (e.g., Bono & Judge, 2002), and from the contingency approach that suggests leaders behave in ways that are most suitable to the situation based on the needs of followers and the demands of their tasks (e.g., House, 1971), this dissertation draws from the transactional theory of stress (Lazarus & Folkman, 1984) and positions the stressful demands that leaders experience at work as important determinants of their leadership behaviors. Specifically, I propose that leaders' daily challenge demands (e.g., workload, time pressure, responsibilities) are positively related to job engagement whereas their daily hindrance demands (e.g., role ambiguity, office politics, and hassles) are negatively related to engagement. Engagement, in turn, is positively related to transformational and transactional leadership and negatively related to laissez-faire leadership and abusive supervision. Meanwhile, both challenge and hindrance demands are positively related to strain, which is negatively related to transformational and transactional leadership, and is positively related to laissez-faire leadership and abusive supervision. In addition, leaders' daily after-work recovery experience influences the mediating roles of engagement and strain in the relationships between work demands and leadership behaviors. Specifically, daily recovery moderates both the first stage (i.e., the linkages between work demands and engagement and strain) and the second stage (i.e., the linkages between engagement and strain and leadership behaviors) of the mediation. I test this two-level dual-stage

moderated mediation model using a two-week experience sampling design. The sample consists of 26 supervisors and 73 employees who directly report to these supervisors from the flood control district of a metropolitan county in the Southwest United States. Results suggest that leaders' daily challenge demands have a positive influence on transformational leadership attributable to engagement, a negative influence on abusive supervision attributable to engagement, and a positive influence on abusive supervision attributable to strain. Leaders' daily hindrance demands, in contrast, have a positive influence on abusive supervision attributable to strain. In addition, leaders' daily recovery moderates the relationship between strain and laissez-faire leadership so that hindrance demands have a positive influence on laissez-faire leadership when the individual is poorly recovered. Leaders' daily recovery also moderates the relationship between strain and abusive supervision so that hindrance demands have a stronger positive influence on abusive supervision through strain when the individual is poorly recovered.

DEDICATION

To my mom and dad, and their unconditional love

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# Chapter 1

## INTRODUCTION

*"Leaders don't have bad days! As a leader, you really need to be alert to your demeanor each and every day and what you say and do, as they are watching you and judging you. Do I really ever have a bad day? Sure I do, but you are never going to see it. If I am in such a state that I cannot control my behaviors and be positive and professional, then I will either go home and stay away from people...or lock myself in my office, and take no calls or see anyone until I recover. One of the best ways to stay positive and to have fewer bad days is to feel good...and the best way to feel good is to get daily exercise, watch your diet, and get enough sleep. "*

*- Lee Cockerell "Lessons in Leadership"*

What happens when leaders have bad days? Or more specifically, how does having a bad day influence a leader's behavior? Is it true that having a bad day, like what Lee Cockerell (the past vice president at the Walt Disney Company) described in the above quote, could make a positive and professional leader take absence from his or her responsibilities, or even worse, lose control of his or her behaviors and act inappropriately? To further clarify and extend the question (given that "having a bad day" is a vague expression), how do leaders' daily work experience (good or bad) affect their leadership behaviors? Unfortunately, existing leadership theories do not seem to have a satisfactory explanation for such within-individual variation in leadership behaviors as responses to what happens in a leader's daily work. For example, the trait approach of leadership suggests that leaders tend to behave in ways that are determined by their heritable traits such as personality and intelligence (Bono & Judge, 2004; DeRue,

Nahrgang, Wellman, & Humphrey, 2011; Judge, Colbert, & Ilies, 2004). It focuses on the between-individual differences in leader behaviors and assumes that those who possess certain traits are destined to be more effective at the leader's position. The contingency approach of leadership, in contrast, suggests that leaders choose to take certain actions depending on the needs of subordinates and the demands of their tasks (e.g., the Path-Goal Theory; House, 1971). It assumes that leaders are capable and willing to make accurate diagnosis of the situation and display the most suitable behaviors. Although the contingency perspective may explain within-individual variation in leaders' behaviors, it emphasizes subordinates' needs and features of their tasks rather than leaders' work experiences. Until recently, a third perspective that focuses on leaders' work demands has been hinted in the top management team literature. Hambrick, Finkelstein, and Mooney (2005) called for attention to the unique task and performance demands that executives face on a day-to-day basis and how those demands may impact their decision making and leadership behaviors. However, very few studies have responded to this call (e.g., Ng, Ang, & Chan, 2008) and none has offered theoretical explanations with regard to how and why leaders' work demands may impact their leadership behaviors.

This dissertation attempts to address this significant gap in the management literature and identify leaders' daily work demands as an important set of determinants of leadership behaviors. The focus on leaders' behaviors is particularly meaningful because they are related to follower and organizational effectiveness (e.g., DeRue et al., 2011; Judge & Piccolo, 2004). Drawing from the transactional theory of stress (Lazarus & Folkman, 1984), I adopt the challenge-hindrance framework of work demands (Cavanaugh, Boswell, Roehling, & Boudreau, 2000) and examine their respective

influences on leaders' behaviors. I propose that *hindrance demands* such as role ambiguity, office politics, and administrative hassles, and *challenge demands* such as workload, time pressure, and job responsibility, have differential relationships with a wide range of leadership behaviors that include transformational (e.g., leaders offer meaning that transcends one's self-interests), transactional (e.g., leaders set up expectations and establish contingent rewards in exchange for followers' effort), laissez-faire leadership (e.g., leaders are absent when needed) and abusive supervision (e.g., leaders engage in non-physical abuse of followers; Bass, 1985; Tepper, 2000). In addition, I propose two intervening explanations – engagement (defined as a "self-in-role" process in which individuals invest their physical, emotional, and cognitive energies into their role performance; Kahn, 1990) and strain (defined as the negative consequences of stress due to depletion of energy, such as anxiety, fatigue, and burnout; Jex, 1998; Lazarus & Folkman, 1984) – that account for the differential effects of challenge and hindrance demands on leadership behaviors. Prior meta-analysis has indicated that although both types of work demands tend to induce strain, hindrance demands tend to have a negative relationship with engagement whereas challenge demands tend to have a positive relationship with engagement (Crawford, LePine, & Rich, 2010). This dissertation extends this dual-pathway model from the stress literature by examining challenge and hindrance demands of managerial jobs and developing theoretical links between engagement/strain and a wide range of leadership behaviors that are diverse with regard to their content and effectiveness.

Our theoretical understanding about how leaders' daily work demands impact their leadership behaviors is further lacking in that we have limited knowledge with

regard to how leaders may recover from the work demands effect and whether their daily recovery experiences may influence the above work demands–leadership behaviors relationship. Recovery is defined as the process during which those functional systems that were called upon restore to their prestressor levels (Meijman & Mulder, 1998). Given the way work is normally designed, after-work recovery is particularly important in the examination of daily work demands because it separates the two work periods. In the previous quote, it was also mentioned that recovery activities such as sleep and exercise are needed for leaders to effectively cope with "bad days". Based on prior stress and recovery research (e.g., Sonnentag & Fritz, 2007), I conceptualize one's recovery experiences as a resource-based mechanism that may not only alleviate the negative influence of hindrance demands but also strengthen the positive influence of challenge demands. In particular, recovery not only moderates a leader's physiological and psychological responses to work demands (the linkages between work demands and engagement/strain, or the first stage of mediation) but also moderates a leader's behavioral responses to work demands (the linkages between engagement/strain and leadership behaviors, or the second-stage of the mediation). This beneficial role of recovery challenges the conventional "workaholic" image of a good leader (i.e., leaders are expected to sacrifice his or her personal life in exchange for group or organizational effectiveness) and highlights the importance of work-life balance for leaders.

In this dissertation, I employ the experience sampling method (ESM) to capture leaders' work experience as it is lived. I test the hypotheses with a two-level dual-stage moderated mediation model that simultaneously assesses the mediating roles of strain and engagement and the moderating role of daily recovery.

Chapter 2

# LITERATURE REVIEW

## Antecedents of Leadership Behaviors

***Leadership behaviors and effectiveness***. The behaviors displayed by occupants of formal leadership positions have long been held as important determinants of follower and organizational effectiveness (e.g., Fleishman, Mumford, Zaccaro, Levin, Korotkin, & Hein, 1991; Fuller, Patterson, Hester, & Stringer, 1996; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). Although there are numerous existing theories that offer insights in describing and categorizing leaders' behaviors (e.g., authentic leadership; Avolio & Gardner, 2005; ethical leadership; Brown, Trevino, & Harrison, 2005), the *full-range model of leadership* (Bass & Avolio, 1995) has been the predominant conceptual framework that guides leadership research and practice over the past decades. This model identifies three main types of leader behaviors: transformational, transactional, and laissez-faire leadership.

*Transformational leadership* refers to a set of leader behaviors that transcend individuals' short-term goals and self-interests for the sake of larger visions of the organization (Bass, 1985; Burns, 1978; Judge & Piccolo, 2004). A transformational leader behaves in admirable ways that cause followers to identify with him or her as a role model (*idealized influence*), articulates an inspiring vision and motivates followers with meaning (*inspirational motivation*), challenges the status quo, reframes problems, and solicits innovative ideas from followers (*intellectual stimulation*), and attends to each follower's needs for achievement and growth and acts as a mentor or coach (*individual consideration*; Bass, 1985; Bass & Riggio, 2006). Meta-analytic evidence has suggested

that transformational leadership is positively related to effectiveness (e.g., performance, job attitudes) at individual, team, and organizational levels (Judge & Piccolo, 2004; Wang, Oh, Courtright, & Cobert, 2011).

*Transactional leadership*, in contrast, refers to a set of leader behaviors that motivate followers through transactions or exchanges of resources (Bass, 1985; Bass & Avolio, 1995). Transactional leaders set specific goals, articulate their expectations, and establish rewards for meeting these expectations. The follower's receipt of rewards or avoidance of punishments is contingent on their successful compliance and completion of the transaction (*contingent rewards*; Bass & Avolio, 1995; Bass & Riggio, 2006). According to the full-range model, transactional leadership also includes *management-by-exception* whereby leaders either actively monitor follower behavior, anticipate problems, and take corrective actions or passively wait until follower behavior has created problems (Bass & Avolio, 1995). However, these two components – contingent rewards and management-by-exception – do not seem to indicate one general leadership factor, and only contingent reward has shown satisfactory validity in predicting important outcomes (Judge & Piccolo, 2004). Therefore, consistent with prior leadership research (e.g., Walumbwa, Wu, & Orwa, 2008), I conceptualize and measure the construct of transactional leadership with the contingent rewards dimension only. Although the effect of transactional leadership with regard to motivating employee efforts and performance is theorized to be augmented by transformational leadership (Bass, 1998), meta-analyses have suggested that transformational and contingent reward transactional leadership seem to be equally effective and that contingent reward explains unique incremental variance in follower task performance (Judge & Piccolo, 2004; Wang et al., 2011).

*Laissez-faire leadership* is considered the avoidance or absence of leadership (Bass & Avolio, 1995). Laissez-faire leaders avoid making necessary decisions, delay actions, and ignore their leadership responsibilities by not getting involved (Bass & Avolio, 1995). It is noteworthy that the absence of leadership does not mean it has no consequences. Rather, research has shown that followers of laissez-faire leaders are more likely to experience ambiguous demands and struggle with conflicts among coworkers, and are thereby more likely to report psychosomatic distress (Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007). In general, laissez-faire leadership has a negative relationship with follower and organizational effectiveness (Judge & Piccolo, 2004).

In addition to the above three types of leader behavior described in the full-range model of leadership, *abusive supervision*, a dysfunctional type of leader behavior, has attracted the attention of leadership scholars and practitioners over the last decade. It is defined as leaders' engagement in sustained displays of hostile verbal and nonverbal mistreatment against their followers (physical contact excluded; Tepper, 2000). Unlike laissez-faire leadership that emphasizes on leaders' withdrawal from their work role requirements, abusive supervision captures leaders' aggression towards followers, which is conceptually different from laissez-faire leadership and adds to the scope and comprehensiveness of the full-range model. Abusive supervision has been consistently linked to followers' experience of psychological distress, disrupted job attitudes, and undermined performance, as well as counterproductive behaviors (Duffy, Ganster, & Pagon, 2002; Grandey, Kern, & Frone, 2007; Harris, Kacmar, & Boonthanum, 2005; Tepper, 2000).

It is noteworthy that these different types of leader behaviors are intercorrelated with one another. For example, Bass and his colleagues found in a military setting that transformational and transactional leadership correlated at .85 (Bass, Avolio, Jung, & Berson, 2003). Given their conceptual distinctiveness and differential validities, this high level of correlation indicates that a leader can be both transformational and transactional, which, according to Bass (1990), is more effective than a leader being purely transformational or transactional.

***Antecedents of leader behaviors*.** Although researchers have devoted more effort in the conceptualization and classification of leader behaviors and the examination of their respective effectiveness, there has been an important stream of research that focuses on the determinants of the occurrence of certain types of leader behavior, mostly from a trait perspective. This trait perspective rests on the idea that leadership depends on the personal qualities of the leader (Judge, Bono, Ilies, & Gerhardt, 2002). Prior research has developed linkages between individual traits and leadership behaviors. For example, Bono and Judge (2004) found in a meta-analysis that big-five personality traits were related to dimensions of both transformational and transactional leadership, and identified extraversion as the strongest and most consistent predictor of transformational leadership. Judge and colleagues also established the meta-analytic correlation between intelligence and leadership ($r$ = .27; corrected for range restriction; Judge et al., 2004). In a more recent meta-analysis, DeRue and colleagues (2011) developed an integrative trait-behavioral model of leadership and examined the relative validities of a variety of traits (e.g., demographics, intelligence, personalities) over a wide range of leader behaviors (e.g., task-oriented, relational-oriented, and change-oriented; DeRue et al., 2011). Their

findings suggested that leader traits and behaviors, combined, explain a minimum of 31% of the variance in leadership effectiveness. However, the authors did note that leader behaviors tend to explain more variance in effectiveness than leader traits, which indicates that other types of determinants are in play which affect organizational effectiveness through leader behaviors (DeRue et al., 2011).

An alternative perspective on the determinants of leadership behaviors, the contingency approach, focuses on the contextual factors in the organizations that may shape leaders' behaviors and affect their effectiveness. Prior research, although less in quantity compared to the trait approach, has examined several aspects of the work context (e.g., organizational culture/climate, demographic variability, HRM policies, degree of formalization and centralization, crisis, organizational life cycle, etc.; Porter & McLaughin, 2006; Shamir & Howell, 1999). One particular line of research focused on how features of the task (e.g., variety, complexity, difficulty, etc.) affect the emergence and effectiveness of leader behavior (Bass, 1990; Bell, 1967). The path-goal theory (House, 1971) provided theoretical guidance for this research by suggesting that the effectiveness of leadership behavior is contingent on the subordinates' personal characteristics and the demands of their tasks. In general, the contingency approach implies that leaders are able to evaluate the situation and make a conscious choice of the most appropriate and effective behaviors. Although the contingency approach offers important insights that explain whether and why a leader may engage in different types of leadership behaviors, it places more emphasis on the fit between a leader's style and the needs of the situation (e.g., Fiedler, 1967), which still, like the trait approach, focuses on the between-individual variation of leader behavior.

A third perspective that focuses on leaders' experiences at work has been indicated in different domains of the management literature. This perspective is particularly important because it takes a "human" view of leaders (compared to the other two approaches that imply an ideal image of leaders), and allows possibilities for leaders' development and growth on the job, which is in a departure from both the trait and the contingency approaches. There are a few prior studies that have shed light on the importance of leaders' work experience. For example, McCauley, Ruderman, Ohlott, and Morrow (1994) looked into the developmental design of managerial jobs and suggested that successful managers learn from experience and develop on the job, which implies a potential relationship between the challenges at work and one's leadership behaviors. Avolio and Chan (2008) focused on the trigger events at work and suggested that work events may activate a leader's working self-concept, which also indicates a potential influence further to leadership behaviors (Shamir & Howell, 1999). Hambrick and his colleagues (2005) attempted to conceptualize the job demands of executives and theorized that an executive's job demands influence his or her leadership behaviors such as decision making or impression management. For example, they theorized that executives tend to convey more confidence and calm when they perceived high job demands, and tend to enhance the impression of having high job demands when they actually perceive low demands (Hambrick et al., 2005). Although these theoretical propositions were derived from the top management team literature and were not consistent with the widely used leadership framework (e.g., the full-range model), they offered important insights with regard to grounding the conceptualization of leaders'

work experience in work stress theories and identifying leaders' work demands as determinants of leadership behaviors.

**Work Demands and Outcomes**

*Stress* is defined as the relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being (Lazarus & Folkman, 1984). The environmental conditions that evoke the stress process are called *stressors* (the term *stressor* in the work stress literature is interchangeable with the term *demand*, and I will use the latter throughout the paper), and the negative consequences of stress, such as anxiety, depression, and burnout, are called *strains* (Jex, 1998; Lazarus & Folkman, 1984).

Management scholars have attempted to link work stress to important individual and organizational outcomes, but have struggled to reach a consensus (Bogg & Cooper, 1995; Bretz, Boudreau, & Judge, 1994; Leong, Furnham, & Cooper, 1996; Spector & Jex, 1998). To account for the inconsistent findings with regard to the consequences of work stress, researchers have started to realize that there is both "good" stress and "bad" stress depending on the type, or the nature, of the environmental demands. Supporting this assumption, Cavanaugh and her colleagues (2000) identified two main dimensions underlying existing measures of work stressors that had differential effects on work outcomes. C*hallenge demands*, which include work demands such as workload, time pressure, job complexity, and responsibility, tend to have a *positive* relationship with work outcomes. *Hindrance demands*, which include demands such as role ambiguity, role conflict, office politics, red tape, and hassles, tend to have a *negative* relationship with

work outcomes (Cavanaugh et al., 2000). Over the last decade, research has consistently supported the differential associations of challenge and hindrance demands with a wide variety of individual and organizational outcomes, including task performance, citizenship behavior, counterproductive behavior, service performance, job attitudes, job search, turnover, as well as group performance (e.g., Boswell, Olson-Buchanan, & LePine, 2004; Cavanaugh et al., 2000; LePine, Podsakoff, & LePine, 2005; Pearsall, Ellis, & Stein, 2009; Podsakoff, LePine, & LePine, 2007; Rodell & Judge, 2009; Wallace, Edwards, Arnold, Frazier, & Finch, 2009).

***The challenge-hindrance framework.*** The challenge-hindrance distinction lies in one's cognitive appraisals of the environmental demands, which, according to Lazarus and Folkman (1984), shape reactions to the demands and are therefore essential for the adequate understanding of the stress process. They defined *cognitive appraisal* as the process of categorizing an encounter with respect to its significance for one's well-being, which, in general, includes two evaluative issues – primary and secondary appraisals (Lazarus & Folkman, 1984). Primary appraisal evaluates "what is at stake?" and determines whether the situation is irrelevant, benign, or stressful. Among stressful appraisals, threat (hindrance) appraisals concern harms or losses that have not yet taken place but are anticipated, whereas challenge appraisals focus on the potentials for gain or growth inherent in an encounter (Lazarus & Folkman, 1984). When an individual is in jeopardy, whether it be a threat or challenge, something must be done to manage the situation and ease the discomfort. Secondary appraisal, in contrast, evaluates "what can be done?" or more specifically, which coping options are available, whether a given option will accomplish its purpose, and whether one can apply a particular coping option

effectively (Lazarus & Folkman, 1984). Both types of cognitive appraisal interact in determining the degree of stress and the strength and type of reactions (Lazarus & Folkman, 1984). The challenge-hindrance stressors framework taps both types of cognitive appraisals. According to Cavanaugh et al. (2000), challenge demands such as workload, time pressure, and job responsibility are often appraised as potentially beneficial for one's personal growth and well-being, and as controllable in the sense that effective coping is possible through investments of personal resources. Hindrance demands such as role ambiguity and politics, in contrast, tend to be appraised as unnecessarily thwarting or hindering one's goal attainment and personal growth, and as uncontrollable in the sense that the issues are unlikely to be resolved through devotion of personal resources (Cavanaugh et al., 2000; Webster, Beehr, & Love, 2011).

Recent research has extended this cognition-based theoretical framework through examining affective, motivational, and behavioral mechanisms that may account for the differential effects of challenge and hindrance demands on work outcomes. For example, challenge demands tend to evoke positive emotions such as excitement and attentiveness that are pleasant and beneficial to employee performance, whereas hindrance demands tend to invoke negative emotions such as anxiety or anger that are unpleasant and detrimental to performance (Lazarus, 1991; Rodell & Judge, 2009). Further, challenge and hindrance demands are associated with different levels of work motivation. People who appraise their work demands as challenges are more likely to believe that they can meet the demands by exerting more effort, and that once these demands are met, valued or desired outcomes will occur. People who appraise their work demands as hindrances are not likely to believe that there is a link between exerting effort and meeting the

demands, regardless of how valuable the potential outcomes may be (LePine et al., 2005; Webster, Beehr, & Christiansen, 2010). Moreover, people tend to cope with challenge and hindrance stressors with different strategies. Challenge demands tend to trigger active or problem-solving styles of coping (e.g., increasing efforts or making plans) whereas hindrance demands tend to trigger avoidant or emotion-focused styles of coping (e.g., psychological withdrawal; Lazarus & Folkman, 1984; Pearsall et al., 2009). Due to these various intervening mechanisms, individuals are more willing to invest their personal physical, affective, and cognitive energies in response to challenging demands, and are less willing to invest such personal energies in response to hindrance demands. In other words, individuals who encounter challenge demands are more engaged in their work role performance whereas individuals who encounter hindrance demands are less engaged in their work role performance (Crawford, LePine, & Rich, 2010). *Engagement*, defined as "the harnessing of organization members' selves to their work roles" (Kahn, 1990, p. 694), implies the simultaneous employment and expression of one's self physically, cognitively, and emotionally during role performances, and appears to be a key motivational construct that occurs more proximal to behavioral outcomes and captures the differential effects of challenge and hindrance demands through the above psychological mechanisms (Crawford et al., 2010).

Despite the differences accounted by affective/motivational mechanisms such as engagement, challenge and hindrance demands are similar in certain aspects that further complicate the demands-outcomes relationship. It is noteworthy that the appraisals of and reactions to the two types of work demands *both* result in strains such as fatigue, depression, and burnout (Cohen, 1980; LePine et al., 2005). The attempt to maintain the

stability of performance under demanding work conditions results in compensatory physiological and psychological costs that gradually deplete people's energies, which ultimately disrupt their job attitudes and undermine their performance (LePine et al., 2005; Podsakoff et al., 2007; Schaufeli & Bakker, 2004). However, as LePine et al. (2005) noted, because strains accrue gradually through repeated or prolonged exposure to work demands, they are relatively distally related to outcomes than are the above affective-motivational mechanisms. As a result, although the effect of strain offsets that of the affective-motivational mechanisms, challenge demands, in general, reveal a positive relationship with work outcomes. For hindrance demands, the effect of strain further exacerbates its negative relationship with work outcomes. A recent meta-analysis showed that a dual-path model that specifies both the energy depletion process (i.e., strain) and the motivational process (i.e., engagement) as core intervening mechanisms provides a comprehensive yet parsimonious explanation for the differential effects of challenge and hindrance demands (Crawford et al., 2010).

***Work demands at higher levels of the organization.*** There has been a longstanding interest as well as debate with regard to the demands-outcomes relationship at higher levels of the organization, such as "What happens when leaders are under stress? " or "Are leaders better at dealing with work demands, or worse?" Katz (1964) suggested that job level serves as an important moderator of the stress process in that the effect of work demands (e.g., role conflict, role ambiguity) over various outcomes varies at different levels (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). More specifically, these authors believed that occupants of higher-level jobs tend to have more decision latitude, autonomy, power, and other types of resources to cope with threatening work

demands, and, as a result, the demands-performance relationship should be weaker at higher levels of the organization. Beehr and Drexler (1986) agreed with and built on this perspective by arguing that occupants of higher-level jobs are often more resilient and confident, which indicate a higher level of internal resources that help them cope with work demands more effectively. An alternative perspective, however, states that individuals who hold managerial jobs often have a higher workload, more difficult and complex tasks, and more responsibilities and obligations. As such, a stronger stressor-performance relationship could be expected among managers who are exposed to such intense demands (Cohen, 1980; Szilagyi, Slims, & Keller, 1976). To resolve this debate, Gilboa and colleagues (2008) found in their meta-analysis that the negative correlation between role overload and performance was higher among managers relative to non-managers (Gilboa, Shirom, Fried, & Cooper, 2008), which indicates the importance of examining work demands and the consequences at higher-levels of the organization.

In the top management team literature, Hambrick and colleagues (2005) also called attention to executives' job demands. They proposed that executives' job demands are fundamentally different than the work demands experienced by bottom-line employees or even lower-level managers. They chose to focus only on quantitative job demands (defined similarly as challenges) by defining executive job demands as "the degree to which a given executive experiences his or her job as difficult or challenging" and identified task challenges, performance challenges, and personal aspirations as three key determinants of executive job demands (Hambrick et al., 2005). Although intuitive and interesting, the notion that executive job demands are fundamentally different does not necessarily suggest that work demands at different levels of the organization are not

compatible. Rather, it is noteworthy that the challenge-hindrance framework, which has been widely used in evaluating job demands of employees at lower levels of the organization (e.g., Rodell & Judge, 2009; Wallace et al., 2009), was originally developed using a sample of 1,886 U.S. high-level managers (Cavanaugh et al., 2000). Therefore, the validity of the challenge-hindrance distinction may still hold among occupants of mid- or higher-level managerial jobs.

The shift of focus from employees' to their leaders' work demands opens up a door for new perspectives with regard to the consequences or implications of work demands. So far, the work stress literature has mostly focused on individual outcomes such as well-being, job attitudes, performance, and turnover (LePine et al., 2005; LePine et al., 2007). However, as we consider work demands at higher-level jobs, the choice of meaningful outcomes likely becomes more interesting and complicated. As Hambrick et al. (2005) suggested, the two most important outcomes for executive job demands include strategic decision making and leadership behaviors. Regarding leadership behaviors, they proposed that executives who face greater job demands will impose greater demands and pressures on their subordinates and convey confidence and calm, whereas executives who face fewer job demands are likely to put greater attention on enhancing the impression of them having high demands (Hambrick et al., 2005). Although these leader behaviors such as impression management make sense as coping strategies associated with high status, there is a disconnection between the leadership behaviors they identified and those that are theorized in the leadership literature and widely used in management research and practice, such as the full-range model of leadership (Bass & Avolio, 1995).

## Recovery Experiences

***The interaction of work demands and resources.*** In addition to the main effects of work demands, research also suggests that resources available to individuals may interact with work demands in affecting the development of strain and engagement, which, in turn, affect the behavioral outcomes (Bakker & Demerouti, 2007). The role of resources was initially conceptualized as a buffer, which assumed that all demands are detrimental in nature and that resources may attenuate the negative effect of demands on outcomes (e.g., Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003; Cohen & Wills, 1985; Karasek, 1979). Recent research, under the influence of the challenge-hindrance framework, extended the moderating role of resources in that resources can be a "buffer" that attenuates the negative effect of hindrance demands or an "enhancer" that strengthens the positive effect of challenge stressors (e.g., Wallace et al., 2009). This theoretical extension calls for a variety of resource moderators, which is consistent with Diener and Fujita's (1995) notion that there are many potential resources that can facilitate the achievement of different types of demands (Bakker & Demerouti, 2007). It is noteworthy that resources may interact with demands at various stages of the stress process (Kahn & Byosserie, 1992). Specifically, resources may influence the tendency of organizations to generate certain demands, alter the perceptions and cognitions evoked by such stressors, affect responses that follow the appraisals, or change the consequences of certain responses (Bakker & Demerouti, 2007; Kahn & Byosserie, 1992).

According to the Conservation of Resource Theory (Hobfoll, 1998), resources can be conceptualized as external entities or objects (e.g., organizational support; Wallace et al., 2009) or internal attributes such as traits or energies (e.g., emotional stability;

Kammeyer-Mueller, Judge, & Scott, 2009). Stress threatens these resources and people strive to obtain, retain, and protect them (Hobfoll, 1998). In respect to the day-to-day work demands, people experience the recovery from stress on a day-to-day basis through two complementary mechanisms. First, they could refrain from work demands and avoid activities that employ the same functional systems or internal resource. Second, they could restore threatened resources by gaining new resources such as energy (Sonnentag & Fritz, 2007).

***Recovery from work demand effects*.** Recovery is defined as "the process during which individual functional systems that have been called upon during a stressful experience return to their prestressor levels" (Meijman & Mulder, 1998; Sonnentag & Fritz, 2007). Individuals respond to a stressful work day with specific behaviors during their after-work leisure time that help to alleviate the impact of stress experienced at work (Repetti, 1989; Sonnentag, 2001). Other studies that looked into weekend or vacation experiences suggested a similar process in how recovery may attenuate the effect of work demands (e.g., Friz & Sonnentag, 2005, 2006).

With regard to specific activities, Sonnentag (2001) summarized different types of activities that people may choose to undertake in their off-work time, and found that task-related activities (e.g., completing one's tax declaration) and household activities (e.g., cleaning, child-care) has a negative effect on one' well-being before bed, whereas low-effort activities (e.g., watching TV, browsing through a magazine), social activities (e.g., gathering with family members or friends), and physical activities (e.g., exercise) has a positive relationship with one's well-being before bed. In addition to leisure activities, the quantity and quality of sleep, or conversely, sleep deprivation, has also been linked to

employee job attitudes, unethical behavior, withdrawal, accidents, and performance (e.g., Barnes, Schaubroeck, Huth, & Ghumman, 2011; Barnes & Wagner, 2009; Scott & Barnes, 2011). Sleep is deemed to be a natural and fundamental requirement for human functioning, and a dominant activity in human life because people, on average, spend more time sleeping than working (Barnes, 2012; Barnes & Wagner, 2009). Although some may think of sleep as a period of inactivity, research has indicated that sleep is a period of heavy physiological activity entailing many restorative processes necessary for normal brain and body functioning (Barnes, 2012).

Recovery research has provided a theoretical framework that explains the effects of the after-work activities above, with a focus on one's psychological recovery experiences, which manifest in four dimensions (Sonnentag & Fritz, 2007). *Psychological detachment* refers to an individual's sense of being away or detached from the work situation. It goes beyond the physical absence from the workplace and implies that demands on the functional systems taxed at work are reduced. *Relaxation* is a process often associated with leisure activities and is characterized by a state of low activation and positive affect. *Mastery experiences* refer to activities that distract from work and provide challenging experiences and learning opportunities in other domains. Although mastery experience may put additional demands on the individual, they help build up new internal resources. *Control during leisure time* refers to the experience of control in choosing one' own actions or making one's own decisions after work. Control can lead to a positive reevaluation of a stressful situation and is associated with lower distress and higher psychological well-being (Sonnentag & Fritz, 2007).

## All In A Day's Work: A Within-Individual Study

Given that this dissertation is focused on explaining the within-individual variation in leadership behaviors on a day-to-day basis, it is important that the theoretical explanations capture such dynamic fluctuations. In the following section, I will elaborate on how engagement and strain, the two intervening mechanisms that are positioned to explain the theoretical relationships between leaders' work demands and leadership behaviors, are dynamic in nature.

***The fluctuations of engagement and strain.*** As mentioned in earlier sections, engagement and strain are often used as a dual-process model to explain the relationship among work demands and outcomes. Both mechanisms are dynamic in nature and have a significant life cycle built around a typical work day. On one hand, engagement, as Kahn (1990) theorized, captures the varying degrees with which people occupy their work roles, or "how fully they are psychologically present during particular moments of their role". Contingent on the favorable psychological conditions provided by the work environment, people frequently bring into or remove various depths of their selves from role behaviors during the course of their work days (Kahn, 1990). In addition, individuals engage in daily role transitions as part of their organizational life (Ashforth, Kreiner, & Fugate, 2000). For example, within a single work day, a manager can experience both work–n on-work transitions (e.g., from being a manager at work to being a parent at home or being a friend at a party) and at-work transitions (e.g., from being a manager to his/her employees to being a subordinate to his/her supervisors). The work–non-work transitions are especially meaningful for the choice of a daily experience sampling design, because individuals as occupants of work roles are required to engage and disengage within a day,

which creates periodic separations in one's experience of work engagement and thus possible variation from day to day.

Strains, on the other hand, contain physical (e.g., fatigue) or emotional states (e.g., anxiety) that are short-term and ephemeral in nature, and also states that are accumulated over time (e.g., exhaustion, psychosomatic distress). Ephemeral emotions that immediately follow daily events are ideal subjects for the use of an experience sampling design (e.g., Rodell & Judge, 2009). Although not the focus of the current study, the experience sampling design is able to capture the prolonged accumulation of symptoms as well because the within-individual data points, unlike individuals nested in teams, occur in a sequence of time and can be used in longitudinal analyses (Bolger et al., 2003). More importantly, like engagement, the energy depletion process that strain represents is affected by the role transitions at or after work, because individuals get to be away from work and recover the energies that were depleted by work demands. As such, the daily fluctuation in strains is substantial and meaningful as well.

It is noteworthy that by addressing the daily fluctuations of both engagement and strain, which appear to be theoretically related, a dual-pathway model becomes even more appropriate for explaining the covariation of leaders' work demands and their behaviors. Specifically, strain occurs and accumulates in the process of engagement, as "the experience of being fully present in one's work role is also the experience of being vulnerable, taking risks, and feeling anxiety" (Kahn, 1992: 324). During this "self-in-role" process, accumulated strain, along with other types of internal cues (e.g., hunger and thirst), may serve as "push" factors that indicate the need to disengage or the need for role exit (Ashforth et al., 2000).

# Chapter 3

# THEORIES AND HYPOTHESES

## Work Demands and Leadership Behaviors

The current study aims to develop a theoretical understanding of how and why leaders' daily work demands affect their leadership behaviors. Although detailed theory that involves mediating and moderating mechanisms will be provided in the following sections, a set of general hypotheses with regard to the main effects of challenge and hindrance demands on leader behaviors is developed here. Prior research has established that challenge demands, in general, have a positive relationship with task performance and citizenship behavior, and a negative relationship with counterproductive behavior. In contrast, hindrance demands have a negative relationship with task performance and citizenship behavior, and a positive relationship with counterproductive behavior (LePine et al., 2005; Rodell & Judge, 2009; Wallace et al., 2009). In a typology of leader behaviors, transactional leadership involves clarification of what the organization expects in terms of task performance and provides contingent rewards for meeting those expectations, and is therefore categorized as task-oriented leader behaviors (DeRue et al., 2011). Transformational leadership involves behaviors that are of an affiliative/relational (e.g., individual consideration) or challenging/change-oriented (e.g., intellectual stimulation) nature, which resembles the definition of citizenship or extra-role behaviors. Similarly, laissez-faire leadership and abusive supervision both have been conceptualized as destructive/counterproductive forms of leader behavior (Skogstad et al., 2007; Tepper, 2007). Therefore, I propose the following hypotheses:

*Hypothesis 1(a-d): Hindrance demands are negatively related to (a) transformational leadership and (b) transactional leadership, and positively related to (c) laissez-faire leadership and (d) abusive supervision.*

*Hypothesis 2(a-d): Challenge demands are positively related to (a) transformational leadership and (b) transactional leadership, and negatively related to (c) laissez-faire leadership and (d) abusive supervision.*

**Engagement: A Motivational Explanation**

Kahn (1990) theorized that people have various dimensions and depths of their selves that, given appropriate conditions, they prefer to invest and express in the course of their work role performances. He conceptualized *engagement* as this dynamic "self-in-role" process and, as importantly, developed a theoretical model of three key engagement antecedents that, as I argue, can be extended to explain how challenge and hindrance demands that leaders encounter at work are differentially related to engagement.

First, people are more willing to engage in their role behaviors when they experience *meaningfulness*, which is derived from "work elements that create incentives for investment of self, such as challenge, variety, and autonomy" (Kahn, 1990; Macey & Schneider, 2008). Challenge demands, by definition, possess such attributes because there are potential opportunities for personal gain and growth inherent in these demands (Cavanaugh et al., 2000). Hindrance demands, however, do not have any potential gains and, as a result, one cannot receive a positive return on his or her investment of self in role performances. Second, people also tend to engage in their work roles when they experience *safety*, which refers to the sense of having the ability to show and employ the

self without fear of negative consequences (Kahn, 1990). At work, people who encounter hindrance demands often perceive the organization as unfair, and are therefore more likely to perceive the situation as insecure, untrustworthy, unpredictable, and ambiguous, which are all signs that prevent people from engaging in their work roles (Kahn, 1990). Challenge demands, with appropriate framing, may evoke fairness perceptions, which help to establish trust in the present work situations (Zhang, LePine, Buckman, & Wei, unpublished manuscript). Third, engagement is also promoted by *availability*, defined as the sense of possessing resources necessary for investing the self in role activities, or simply the question "how capable am I to engage?" (Kahn, 1990). According to Cavanaugh et al. (2000), people appraise challenge demands as manageable in the sense that they believe they can achieve the desired outcome once they devote effort to coping with the demands. People, however, do not have the same feeling of confidence when they encounter hindrance demands. Therefore, I propose the following hypotheses with regard to the differential relationships that challenge and hindrance demands have with engagement, which are consistent with findings in prior studies (Crawford et al., 2010).

*Hypothesis 3a: Hindrance demands are negatively related to engagement.*

*Hypothesis 3b: Challenge demands are positively related to engagement.*

Though Kahn (1990) did not elaborate on the consequences of engagement, scholars have recently developed and tested theory that links engagement to individual performance outcomes (Rich, LePine, & Crawford, 2010). Those who fully invest their selves in their roles are more attentive and focused on fulfilling their role requirements. As such, an engaged leader should display more transactional behaviors such as establishing and maintaining the contingent exchange relationship between employees

and the organization and monitoring and facilitating the functioning of the organizational system, which meet the organization's core expectations of a managerial role. Engaged individuals are also more motivated and conscientious because they are able to display their own beliefs and values by fulfilling these responsibilities (Rich et al., 2010). Therefore, an engaged leader is less likely to avoid his or her responsibilities and display laissez-faire behaviors. In addition, Kahn (1990) also theorized that engaged individuals are more accessible, more giving and receiving in relating with coworkers, and tend to display their true identities, thoughts and feelings, which results in authentic, non-defensive communication, the use of personal voice, and ethical behavior. As such, I expect an engaged leader to display more transformational behaviors that promote a collective identity and initiate necessary and beneficial changes in the organization, and less self-serving and unethical abuse of power.

*Hypothesis 4 (a-d): Engagement is positively related to (a) transformational leadership and (b) transactional leadership, and is negatively related to (c) laissez-faire leadership and (d) abusive supervision.*

To sum up, engagement offers a motivational explanation for the differential relationships that challenge and hindrance demands have with leadership behaviors. Kahn's engagement concept is deemed to be motivational because "it refers to the allocation of personal resources to role performance and also to how intensely and persistently those resources are applied" (Rich et al., 2010). Based on the above discussion, I offer the following hypotheses with regard to the indirect effects of work demands on leader behaviors that can be attributed to engagement.

*Hypothesis 5 (a-d): Hindrance demands have negative indirect effects through engagement on (a) transformational leadership and (b) transactional leadership, and positive indirect effects through engagement on (c) laissez-faire leadership and (d) abusive supervision.*

*Hypothesis 6 (a-d): Challenge demands have positive indirect effects through engagement on (a) transformational leadership and (b) transactional leadership, and negative indirect effects through engagement on (c) laissez-faire leadership and (d) abusive supervision.*

**Strain: An Energy Depletion Explanation**

Although challenge and hindrance demands may evoke differential affective/motivational mechanisms, they both are associated with increased effort in appraising and coping, which results in strains such as anxiety, fatigue, depression, and exhaustion (Crawford et al., 2010; Rodell & Judge, 2009; Schaufeli & Bakker, 2004). As mentioned in earlier sections, one's attempt to maintain the stability of performance under demanding work conditions may result in psychological manifestations such as anxiety – an anticipatory emotion associated with uncertainties (Lazarus, 1991; Rodell & Judge, 2009) or fatigue (Hockey, 1997), or physiological manifestations such as increased excretion of cortisol (Hockey, 1997; Schaufeli & Bakker, 2004). Over time, these compensatory physiological and psychological costs gradually deplete or drain people's energies and result in burnout or chronic psychosomatic distress (LePine et al., 2005; Schaufeli & Bakker, 2004). The Conservation of Resources Theory (Hobfoll, 1989) also illuminates the relationship between work demands and strain in that exhaustion, the

central component of burnout that is manifested in both physical fatigue and a sense of feeling psychologically and emotionally "drained" (Maslach & Jackson, 1986), is most likely to happen when there is actual or anticipated loss of valuable resources (the physical, emotional, and cognitive efforts in coping with demands that could be used in other endeavors; Hobfoll, 1989; Wright & Cropanzano, 1998). Meta-analytic evidence suggested that challenge demands such as workload and pressure, and hindrance demands such as role conflict and (un)clarity, both have significant positive relationships with emotional exhaustion (Crawford et al., 2010; Lee & Ashforth, 1996). Based on theory and prior findings (e.g., LePine et al., 2005; Podsakoff et al., 2007), I hypothesize the links between work demands and strain as follows:

*Hypothesis 7a: Hindrance demands are positively related to strain.*

*Hypothesis 7b: Challenge demands are positively related to strain.*

Energy depletion associated with the appraisal of and coping with work demands detract from performance because they sap resources that could be used to perform tasks (Cohen, 1980; Lazarus & Folkman, 1984). Exhausted or depleted individuals also lack the capability of going beyond routine job responsibilities because they feel used up and show less intention to help or connect with others (Dewall, Baumeister, Gailliot, & Maner, 2008; Jex, 1998). Leiter (1991) also pointed out that emotionally exhausted individuals overemphasize avoidance or withdrawal coping mechanisms. As such, a strained or depleted leader is less likely to exhibit transformational or transactional behaviors, but is more likely to engage in laissez-faire behaviors. Social psychologists also suggested that self-control, and more related to the current study, inhibition of aggression, is a limited resource, and that ego depleted individuals tend to display more

aggressive behavior (e.g., easily provoked by and react aggressively to insults; DeWall, Baumeister, Stillman, & Gailliot, 2007; Stucke & Baumeister, 2006). Therefore, a strained or depleted leader is also likely to engage in more abusive behaviors toward his or her followers. Based on the discussion above, I make the following hypotheses with regard to the relationship between strain and leadership behaviors, and further, to the indirect effects of work demands on leadership behaviors that could be attributed to strain, or the energy depletion pathway:

*Hypothesis 8 (a-d): Strain is negatively related to (a) transformational leadership and (b) transactional leadership, and is positively related to (c) laissez-faire leadership and (d) abusive supervision.*

*Hypothesis 9 (a-d): Hindrance demands have negative indirect effects through strain on (a) transformational leadership and (b) transactional leadership, and positive indirect effects through strain on (c) laissez-faire leadership and (d) abusive supervision.*

*Hypothesis 10 (a-d): Challenge demands have negative indirect effects through strain on (a) transformational leadership and (b) transactional leadership, and positive indirect effects through strain on (c) laissez-faire leadership and (d) abusive supervision.*

**Daily Recovery: A Resource-Based Moderating Mechanism**

Prior research has suggested that resources available to individuals, at work or off work, not only may have beneficial direct effects on outcomes, but, perhaps more importantly, may attenuate the negative effect of hindrance demands and/or strengthen the positive effect of challenge demands. In the current study, I focus on daily recovery experience, a dynamic form of personal resource that varies from day to day. The

construct of daily recovery here is broadly-defined, which taps four dimensions (psychological detachment, relaxation, mastery experiences, and control over leisure time). As a resource-based moderating mechanism, recovery may interact with demands at various stages of the stress process. As mentioned earlier, resources may influence the tendency of organizations to generate certain demands, alter the perceptions and cognitions evoked by such stressors, affect responses that follow the appraisals, or change the consequences of certain responses (Bakker & Demerouti, 2007; Kahn & Byosserie, 1992). Given that both intervening mechanisms in the present study (engagement and strain) can be considered as psychological responses to appraisals of work demands, daily recovery experiences may moderate either the linkages among work demands and engagement/strain (the first-stage of mediation), the linkages among engagement/strain and leadership behaviors (the second-stage of mediation), or both.

***Moderations at the first-stage of mediation.*** I first discuss the potential moderating influence of recovery on the relationship between work demands and engagement/strain. Engagement, as discussed earlier, offers an affective/motivational explanation for the differential effects of challenge and hindrance stressors, a mechanism that is determined by the cognitive appraisal of the demands. According to the transactional theory of stress, whether a specific demand can be appraised as a challenge or hindrance is not definite, and recovery experiences may be influential in such ambivalence. For example, one may acquire both instrumental and emotional support through spending time with family or friends, which may either directly alter his or her appraisal of a particular demand by finding a way out of the seemingly desperate situation, or foster positive emotion so that one becomes more open-minded and creative

and can figure out the solutions by himself or herself. Rothbard (2001) provided direct empirical support that engagement in family activities may enrich one's engagement at work. A similar influence of sleep quality and quantity on one's emotion or cognition has been theorized and found in recent research (Barnes, 2012). Therefore, I hypothesize the role of daily recovery in the engagement process. Given the central role of both strain and engagement in explaining the differential validities of challenge and hindrance demands (Crawford et al., 2010), I also hypothesize that the interaction effect of daily work demands and recovery on strain and engagement will extend to leadership behaviors, which is the main focus of the current study.

*Hypothesis 11a: Recovery moderates the positive relationship between challenge demands and engagement, such that the relationship is more positive when the leader is well (vs. poorly) recovered.*

*Hypothesis 11b: Recovery moderates the negative relationship between hindrance demands and engagement, such that the relationship is less negative when the leader is well (vs. poorly) recovered.*

The role that daily recovery plays in the energy depletion process is basically the same for both challenge and hindrance demands, given that they share the same physiological process in terms of the accumulation of strain (Cavanaugh et al., 2000). According to the Effort-Recovery Theory (E-R theory, Meijman & Mulder, 1998), the expenditure of energies or resources at appraising and coping with work demands is associated with physiological reactions such as accelerated heart rate and elevated blood pressure due to hormone release, which, under ideal circumstances, return to pre-stressor levels during after-work hours when work demands are absent, and get ready for the next

activation. However, if the reactions prolong or re-occur during after-work hours, the individual will have to invest compensatory effort in the next workday coping with work demands. Such an increase in the intensity and duration of neurophysiological activation, which initially manifests as anxiety, tends to result in a decrease of regulatory resources (e.g., fatigue), which, over time, develops into impaired functioning (e.g., exhaustion or psychosomatic distress; Demerouti, Bakker, Geurts, & Taris, 2009; Meijman & Mulder, 1998). The role of daily recovery, therefore, is essential in that it allows the activated neurophysiological system to rest and restore its full functions, like recharging the battery of a cell phone. Sleep and leisure activities both contribute to this process through a general inactive state or the activation of alternative systems that may serve as cognitive distractions (Barnes, 2012; Sonnentag, 2001). As such, I hypothesize a similar role of daily recovery in the energy depletion process for challenge and hindrance demands.

*Hypothesis 12a: Recovery moderates the positive relationship between challenge demands and strain, such that the relationship is less positive when the leader is well (vs. poorly) recovered.*

*Hypothesis 12b: Recovery moderates the positive relationship between hindrance demands and strain, such that the relationship is less positive when the leader is well (vs. poorly) recovered.*

***Moderations in the second-stage.*** Daily recovery experience may also influence the relationship between engagement/strain and leader behaviors. With regard to the effects of engagement on leader behaviors, a well-recovered leader has a higher level of personal energy, which compensates for the energy spent in the boundary crossing during the self-in-role engagement process and enables the engaged individual to be more

attentive and task-focused. A well-recovered leader with a full storage of energy could feel more secure and capable in displaying his or her true identities, participating in non-defensive communications with coworkers and subordinates, as well as following ethical principles. Therefore, I propose:

*Hypothesis 13 (a-d): Recovery moderates the positive effect of engagement on (a) transformational and (b) transactional leadership such that the effect is more positive when the leader is well (vs. poorly) recovered, and moderates the negative effect of engagement on (c) laissez-faire leadership and (d) abusive supervision such that the effect is more negative when the leader is well (vs. poorly) recovered.*

The role of daily recovery on the strain effects is more straightforward. A well-recovered leader is more likely to maintain his or her capability of going beyond routine job responsibilities even when he or she is strained by the work demands and less likely to overemphasize avoidance as a coping mechanism. A well-recovered leader is also more likely to maintain a higher level of self-control under strain and less likely to act out the frustration or anger in an inappropriate way toward followers. Therefore, I propose:

*Hypothesis 14 (a-d): Recovery moderates the negative effect of strain on (a) transformational and (b) transactional leadership such that the effect is less negative when the leader is well (vs. poorly) recovered, and moderates the positive effect of engagement on (c) laissez-faire leadership and (d) abusive supervision such that the effect is less positive when the leader is well (vs. poorly) recovered.*

The above hypotheses of the moderating effects at both stages of the mediation further imply that the overall indirect effects of work demands on leader behaviors attributable to engagement or strain vary across conditional levels of daily recovery

experiences. In other words, the above hypotheses indicate moderated mediation in that the overall indirect effects are moderated. Therefore, I propose the following hypotheses that speak to the moderated mediation relationships.

*Hypothesis 15 (a-d): Daily recovery moderates indirect effects of hindrance demands on leadership behaviors via engagement, such that when the leader is well (vs. poorly) recovered, the indirect effects on (a) transformational and (b) transactional leadership are less negative, and the indirect effects on (c) laissez-faire leadership and (d) abusive supervision are less positive.*

*Hypothesis 16 (a-d): Daily recovery moderates indirect effects of hindrance demands on leadership behaviors via strain, such that when the leader is well (vs. poorly) recovered, the indirect effects on (a) transformational and (b) transactional leadership are less negative, and the indirect effects on (c) laissez-faire leadership and (d) abusive supervision are less positive.*

*Hypothesis 17 (a-d): Daily recovery moderates indirect effects of challenge demands on leadership behaviors via engagement, such that when the leader is well (vs. poorly) recovered, the indirect effects on (a) transformational and (b) transactional leadership are more positive, and the indirect effects on (c) laissez-faire leadership and (d) abusive supervision are more negative.*

*Hypothesis 18 (a-d): Daily recovery moderates indirect effects of challenge demands on leadership behaviors via strain, such that when the leader is well (vs. poorly) recovered, the indirect effects on (a) transformational and (b) transactional leadership are less negative, and the indirect effects on (c) laissez-faire leadership and (d) abusive supervision are less positive.*

# Chapter 4

# METHODS

## Sample

Participants were recruited from the flood control district of a metropolitan county in the Southwest United States. The sample was comprised of 26 supervisors and 73 employees who directly report to these supervisors. Of the 26 supervisors, 23 (88.5%) were male and 3 (11.5%) were female. On average, the supervisors were 54.35 years of age (SD = 7.14) and had worked 17.32 years (SD = 7.12) in their current job positions. Of the 73 employees, 51 (69.9%) were male and 22 (30.1%) were female. On average, the employees were 49.31 years of age (SD = 9.66) and had worked 10.79 years (SD = 9.06) in their current job positions.

## Design

***The Experience Sampling Method (ESM).*** In recent years, a growing body of management research has examined the daily events and experiences that make up people's work lives, using the Experience Sampling Method (ESM; Larson & Csikszentmihalyi, 1983). Experience sampling allows researchers to study work events and experiences in their natural, spontaneous context, or, as nicely put by Bolger and colleagues – "capture life as it is lived" (Bolger, Davis, & Rafaeli, 2003). It significantly reduces the amount of retrospection involved when participants respond to survey questions, and produces less biased results (Larson & Csikszentmihalyi, 1983).

The stress process is one of the major areas in social and health psychology in which the experience sampling method emerged, grew and prospered (e.g., Bolger &

Zuckerman, 1995). However, only a small number of studies in the management field have examined the daily fluctuation in work demands (e.g., Rodell & Judge, 2009; Teuchmann, Totterdell, & Parker, 1999; Williams & Alliger, 1994; Williams, Suls, Alliger, Learner, & Wan, 1991). Among these studies, Rodell and Judge (2009) employed an experience sampling design and explained the daily variation and covariation among challenge and hindrance demands and citizenship and counterproductive behaviors with a dynamic emotion-based model. The theoretical framework they adopted, the affective events theory (Weiss & Cropanzano, 1996), which suggests that fluctuations in emotions are predictable and influence workplace behaviors, was an ideal fit with the experience sampling design and a key determinant of the success of the study (Rodell & Judge, 2009). Given the dynamic nature of the two theoretical intervening mechanisms proposed in this dissertation – engagement and strain – it is theoretically meaningful and empirically appropriate to adopt ESM in its design.

***Procedure.*** The chief engineer and general manager of the flood control district consented to participate in the study. I sent an email to all supervisors and employees in the district, and directed them to a website that contains an informed consent form as well as detailed instructions on how to participate. Individuals interested in participating were asked to enter their work email addresses (for the purpose of matching daily responses within individual and matching leader and follower responses) and fill out an online survey that collected demographic and job information. No monetary reward was provided in order to comply with rules and policies of the county.

During the following two weeks (10 consecutive workdays; weekends excluded), I employed the experience sampling methodology (Larson & Csikzentmihalyi, 1983) and

sent out two separate emails at 1:00 p.m. each day. I chose a two-week period because it is considered a generalizable sample of an individual's work life and frequently used in prior experience sampling studies in management (e.g., Scott & Barnes, 2011). I set up the email delivery at 1:00 p.m. each day because participants worked on different schedules (e.g., the standard work schedule is from 9:00 a.m. to 5:00 p.m. whereas some employees had an alternative schedule from 6:00 a.m. to 2:00 p.m.). For supervisors, the email I sent directed them to an online survey that contained brief measures of the work demands, strain, and engagement they experienced that day and the recovery experience they had the night before. For employees, the email directed them to an online survey that contained brief measures of various leadership behaviors they might have observed in their direct supervisors that day as well as measures of their own work demands. Each participant was asked to complete the survey by the end of the day and skip questions that were not applicable (e.g., the employee did not go to work that day or did not have any interaction with his or her direct supervisor).

Of a total of 200 daily responses from 30 supervisors and a total of 700 daily responses from 125 employees who took part in the daily experience sampling phase, I was able to match a total of 158 daily responses from 26 supervisors to a total of 514 daily responses from 73 employees. On average, each supervisor completed about 6 daily surveys and each employee completed about 7 daily surveys.

**Measures**

Unless otherwise indicated, responses were collected with a Likert response scale in which 1 was "strongly disagree" and 7 was "strongly agree."

***Challenge and hindrance demands.*** Consistent with prior research (e.g., Cavanaugh et al., 2000; LePine et al., 2005; Rodell & Judge, 2009), the 6 challenge demands items tapped daily work demands such as workload, time pressure, task complexity, and responsibility (e.g., "Having to complete a lot of work"), and the 6 hindrance demands items tapped daily work demands such as role conflict, office politics, administrative hassles (e.g., "Bureaucratic constraints to completing work (red tape)"). Supervisors were asked to evaluate the frequency of these stressful demands they experienced at work each day. Responses were collected with a Likert response scale in which 1 was "never" and 5 was "extremely often."

***Strain.*** The 5 items used to measure strain were adapted from the emotional exhaustion scale of the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996). Supervisors were asked to assess the strains they experienced at work each day. Sample items include "I feel emotionally drained from my work today."

***Engagement.*** Supervisors were also asked to assess their physical, emotional, and cognitive engagement at work each day with 9 items from the Work Engagement Scale (3 items for each engagement dimension; Rich et al., 2010). Sample items include "I exert my full effort" (physical engagement), "I put my feelings into my work" (emotional engagement), and "My mind is focused on the work that I do" (cognitive engagement).

***Recovery.*** Recovery was measured using the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007). Supervisors were asked to assess their after-work recovery experience the night before the current work day. Sample items for the four subscales (4 items each) include "Last night, I forgot about work" (psychological detachment), "Last night, I kicked back and relaxed" (relaxation), "Last night, I did something to broaden my

horizons" (mastery), and "Last night, I felt like I could decide for myself what to do" (control).

***Transformational leadership.*** Each day, employees assessed their supervisors' transformational leadership behaviors using 4 items adapted from the Multifactor leadership questionnaire (MLQ Form 5X; Bass & Avolio, 1995). To develop a brief measure out of 20 items in the full scale, I asked seven leadership and management scholars to vote for one item in each of the four subscales that best represents transformational leadership in the day-to-day work setting, and picked the items with the highest number of votes. There appeared to be a high level of consensus among the seven experts, i.e., for each of the four subscales, there was one (and only one) item that received more than half of the votes. So the 4-item brief measure consists "Today, my supervisor acted in ways that built my respect" (idealized influence), "Today, my supervisor talked enthusiastically about what needs to be accomplished" (Inspirational motivation), "Today, my supervisor got me to look at problems from many different angles" (intellectual stimulation), and "Today, my supervisor treated me as an individual rather than just as a member of the group" (individual consideration). In a confirmatory factory analysis, these 4 items were loaded on an overall transformational leadership factor, and the factor loadings ranged from .70 to .85.

***Transactional leadership.*** Each day, employees assessed their supervisors' transactional leadership behavior using the 4-item contingent rewards subscale from MLQ (Form 5X; Bass & Avolio, 1995). Sample items include "Today, my supervisor provided me with assistance in exchange for my efforts" and "Today, my supervisor expressed satisfaction when I met his or her expectations."

***Laissez-faire leadership*.** Each day, employees assessed their supervisors' laissez-faire leadership behaviors using the 4-item subscale from MLQ (Form 5X; Bass & Avolio, 1995). Sample items include "Today, my supervisor delayed responding to my urgent requests" and "Today, my supervisor avoided making important decisions."

***Abusive supervision*.** Each day, employees assessed their supervisors' abusive supervision behaviors using 4 items adapted from the Abusive Supervision Scale developed by Tepper (2000). Sample items include "Today, my supervisor expressed anger at me when he/she was mad for another reason" and "Today, my supervisor told me I was incompetent."

Given that survey space was limited in experience sampling research, I only included supervisors' family-work conflict and employees' work demands as control variables in the daily measures.

***Family-work conflict.*** Supervisors were asked to assess the family-work conflict they experienced each day with the 5-item Family-Work Conflict Scale (Netemeyer, Boles, & McMurrian, 1996). Sample items include "Today, the demands of my family or spouse/partner interfered with my work-related activities" and "Today, I have to put off doing things at work because of demands on my time at home."

***Employee challenge and hindrance demands.*** Employees were asked to assess the frequency of challenge and hindrance demands in their work each day using the same measured described earlier in this section. Responses were also collected with a Likert response scale in which 1 was "never" and 5 was "extremely often."

**Analyses**

The research model is multilevel in nature not only because daily observations are nested within individuals, but also because employees are nested in supervisors/work units. The non-independence of data may lead to inaccurate standard errors and biased statistical conclusions, and in the current study, both types of non-independence (nesting) should be assessed. Given that my theory is focused on leaders' daily work experience and behavior (within-leader), I accounted for the nesting of employees in supervisors/work units by aggregating the employees' observations of leadership behaviors to the supervisor level within the same day. This approach is popular in prior leadership research (e.g., Kirkman, Chen, Farh, Chen, & Lowe, 2009), and is supported by the intraclass correlations for all four types of leadership behaviors (transformational leadership: ICC (1) = .15; transactional leadership: ICC (1) = .20; laissez-faire leadership: ICC (1) = .24; and abusive supervision: ICC (1) = .26; all *p*'s <.05). I also aggregated the two control variables in the employee survey, employee challenge and hindrance demands, to the supervisor level within the same day, which was also supported by the intraclass correlations (ICC (1) = .37, .20, respectively, both *p*'s <.05).

After the above aggregation, the structure of the data became two-level in that daily responses are nested in individual supervisors. To account for this type of non-independence, I applied multilevel structural equation modeling (MSEM: Preacher, Zyphur, & Zhang, 2010) in evaluating the proposed research model using Mplus 6.11 (Muthén & Muthén, 2010). Compared to the traditional multilevel modeling paradigm (MLM; Raudenbush & Bryk, 2002) used in experience sampling research (e.g., Scott & Barnes, 2011), MSEM does not require multiple stages of analysis (the piecemeal

approach) and offers estimates that are less biased (Preacher et al., 2010). Given that all theoretical relationships in the proposed model were hypothesized at the within-individual level, I allowed the between-individual level variance portions of all endogenous variables (strain, engagement, and the four types of leadership behaviors) to freely correlate (Preacher et al., 2010). Consistent with theory and prior research, I also allowed the exogenous variables (i.e., challenge and hindrance demands, recovery, family-work conflict, and employee challenge and hindrance demands) to covary (e.g., Podsakoff et al., 2007). It is noteworthy that the daily responses are also nested within the survey days (day 1, 2, …, 10). In order to control for this type of non-independence, I created a set of nine dichotomous dummy variables for the survey days and modeled them as additional exogenous variables in the analyses. These variables were also allowed to covary with other exogenous variables.

The hypothesized research model implies a *two-level dual-stage moderated mediation model* (Edwards & Lambert, 2007; Liu, Zhang, & Wang, 2012). Dual-stage moderated mediation occurs when the mediation effect varies as a function of a moderator or several moderators strengthening or weakening the relationship between an independent variable and a mediator (first stage) *and* the relationship between a mediator and an outcome variable (second stage; Edwards & Lambert, 2007; Liu et al., 2012). Specifically in this research, the mediation effects through strain and engagement are hypothesized to vary as a function of daily recovery, which strengthens or weakens the relationships among work demands and strain/engagement and the relationships among strain/engagement and leadership behaviors. Therefore, the key to testing the hypotheses lies in the accurate estimates of indirect effects on average and at conditional levels of

recovery. Because indirect effects are compound effects that are not normally distributed, researchers have recommended the use of resampling methods in generating an empirical distribution of the compound effect for constructing bias-corrected confidence intervals (Shrout & Bolger, 2002). Given that the traditional bootstrapping method of resampling cannot be applied to multilevel modeling (Preacher & Selig, 2012), I utilized an alternative Monte Carlo approach of resampling to construct the bias-corrected confidence intervals (Liu et al., 2012). Using a program written in R, I constructed bias-corrected 95% confidence intervals for the indirect effects based on 20,000 resamples.

***Confirmatory factor analyses.*** I conducted a confirmatory factory analyses (CFA) on the 12 measures to examine their construct and discriminant validity. For the two multidimensional constructs – engagement and recovery, I used the average score of each dimension to indicate the respective broad factor. For the other constructs, individual items were used as observed indicators. The hypothesized 12-factor measurement model, which consists of challenge demands, hindrance demands, strain, engagement, recovery, transformational leadership, transactional leadership, laissez-faire leadership, abusive supervision, family-work conflict, employee challenge demands, and employee hindrance demands, fit well to the data ($\chi^2(1418) = 2855.06$, CFI = .90, RMSEA = .080, SRMR = .076).

# Chapter 5

# RESULTS

## Descriptive Statistics and Correlations

Table 1 provides the descriptive statistics, internal consistency reliabilities, and zero-order correlations among study and control variables. As shown in the diagonal of this table, each variable has a satisfactory degree of internal consistency reliability. The zero-order correlations among the study variables are generally consistent with prior research regarding the direction and magnitude. For example, the correlation between challenge and hindrance demands is moderately positive ($r = .28$, $p < .05$), as is the correlation between employee challenge and hindrance demands ($r = .26$, $p < .05$), supporting the notion that they are related but distinct constructs (LePine et al., 2005). The three control variables (i.e., family-work conflict, employee challenge and hindrance demands) have significant correlations with one or more endogenous study variables so it is necessary to include them in the subsequent analyses.

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Insert Table 1 about here

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## Partitioning of Variance Within and Between Individuals

Before testing the hypotheses, I examined the variance components for each variable to determine whether there was significant variance within individual supervisors. As shown in Table 2, over half of the variance for each type of leadership behavior is within-individual (e.g., transformational leadership: 65.7%; transactional leadership: 57.1%; laissez-faire leadership: 56.6%; and abusive supervision: 51.7%). In addition, 43.4% of the variance in engagement and 24.7% of the variance in strain are

within-individual. All exogenous study and control variables also varied within individual supervisors. The substantial amount of within-individual variance in study variables indicates that it is appropriate and necessary to use a multilevel approach to test the hypotheses.

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Insert Table 2 about here
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**Tests of Hypotheses**

As mentioned earlier, I tested the hypotheses with the Multilevel Structural Equation Modeling (MSEM) approach using Mplus. Figure 2 provides the standardized path coefficients for the hypothesized model. Decompositions of the hindrance and challenge demands effects are summarized in Table 3 and Table 4, respectively.

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Insert Figure 2 about here
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Insert Table 3 and Table 4 about here
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***Mediation through engagement.*** As shown in Figure 2, the path from hindrance demands to engagement is negative and significant ($\gamma = -.21$, $p < .05$), and the path from challenge demands to engagement is positive and significant ($\gamma = .28$, $p < .05$). As such, hypothesis 3a and 3b are fully supported. Engagement, also as shown in Figure 2, has a significant positive relationship with transformational leadership ($\beta = .42$, $p < .05$), and significant negative relationships with laissez-faire leadership ($\beta = -.31$, $p < .05$) and abusive supervision ($\beta = -.26$, $p < .05$). However, there was no significant relationship between engagement and transactional leadership ($\beta = .30$, $p > .05$). Therefore,

hypothesis 4 is partially supported (hypothesis 4a, 4c, and 4d supported, 4b not supported).

Table 3 provides the average indirect effects of hindrance demands on leadership behaviors that are attributable to engagement. Results show that none of the average indirect effects of hindrance demands through engagement were statistically significant (transformational, $\rho$ = -.09; transactional, $\rho$ = -.07; laissez-faire, $\rho$ = .07; abusive, $\rho$ = .06; all $p$'s > .05). So hypothesis 5 is not supported. Table 4 provides the average indirect effects of challenge demands on leadership behaviors that are attributable to engagement. Results show that the indirect effect of challenge demands on transformational leadership attributable to engagement is positive and significant ($\rho$ = .11, $p$ < .05), and the indirect effect of challenge demands on abusive supervision attributable to engagement is negative and significant ($\rho$ = -.07, $p$ < .05). However, the indirect effects of challenge demands on transactional and laissez-faire leadership through engagement are not statistically significant (transactional, $\rho$ = .08; laissez-faire, $\rho$ = -.08; both $p$'s > .05). Therefore, hypothesis 6 is partially supported (6a and 6d supported, 6b and 6c not supported).

***Mediation through strain.*** As shown in Figure 2, the path from hindrance demands to strain is positive and significant ($\gamma$ = .32, $p$ < .05), and the path from challenge demands to strain is positive and significant ($\gamma$ = .22, $p$ < .05). As such, hypothesis 7a and 7b are fully supported. Strain, also as shown in Figure 2, has a significant positive relationship with abusive supervision ($\beta$ = .42, $p$ < .05), but no statistically significant relationships with transformational leadership ($\beta$ = .05, $p$ > .05), laissez-faire leadership ($\beta$ = .02, $p$ > .05) or abusive supervision ($\beta$ = .14, $p$ > .05).

Therefore, hypothesis 8 is partially supported (hypothesis 8d supported, 8a, 8b, and 8c not supported).

As shown in Table 3, the average indirect effect of hindrance demands on abusive supervision attributable to strain was positive and significant ($\rho$ = .13, $p$ < .05), whereas the indirect effects of hindrance demands on the other three types of leadership behaviors attributable to strain are not statistically significant (transformational, $\rho$ = .02; transactional, $\rho$ = .01; and laissez-faire, $\rho$ = .05; all $p$'s > .05). So hypothesis 9 is partially supported (hypothesis 9d supported, 9a, 9b, and 9c not supported). As shown in Table 4, the indirect effect of challenge demands on abusive supervision attributable to strain is positive and significant ($\rho$ = .09, $p$ < .05), whereas the indirect effects of challenge demands on transformational ($\rho$ = .01, $p$ > .05), transactional ($\rho$ = .00, $p$ > .05), and laissez-faire leadership ($\rho$ = .03, $p$ > .05) through engagement are not statistically significant. Therefore, hypothesis 10 is partially supported (10d supported, 10a, 10b and 10c not supported).

***Moderation of the first-stage mediation.*** The moderating effects of recovery are summarized in Figure 2. The first-stage of the mediation model includes the effects of work demands on engagement and strain. Results suggest that recovery does not moderate the linkage between hindrance demands and engagement ($\gamma$ = -.09, $p$ >.05) or the linkage between challenge demands and engagement ($\gamma$ = -.07, $p$ >.05). So hypothesis 11 is not supported. Recovery, as also shown in Figure 2, does not moderate the linkage between hindrance demands and strain ($\gamma$ = .01, $p$ >.05) or the linkage between challenge demands and strain ($\gamma$ = .07, $p$ >.05). So hypothesis 12 is not supported.

***Moderation of the second-stage mediation.*** The second-stage of the mediation model includes the effects of engagement and strain on leadership behaviors. As shown in Figure 2, recovery does not moderate the linkage between engagement and leadership behaviors (transformational, $\gamma = .11$, $p > .05$; transactional, $\gamma = .00$, $p > .05$; laissez-faire, $\gamma = -.07$, $p > .05$; and abusive, $\gamma = -.07$, $p > .05$). So hypothesis 13 is not supported.

However, as shown in Figure 2, recovery significantly moderates the relationship between strain and laissez-faire leadership ($\gamma = -.23$, $p < .05$). As illustrated in Figure 3, for supervisors who were well recovered (who scored high on recovery), strain is less positively related to laissez-faire leadership (simple slope = -.10, $p > .05$) than for supervisors who were poorly recovered (who scored low on recovery; simple slope = .37, $p < .05$). As such, hypothesis 14c is supported. Recovery, as shown in Figure 2, also moderates the relationship between strain and abusive supervision ($\gamma = -.18$, $p < .05$). As illustrated in Figure 4, for supervisors who were well recovered, strain is less positively related to abusive supervision (simple slope = .24, $p > .05$) than supervisors who were poorly recovered (simple slope = .59, $p < .05$). As such, hypothesis 14d is supported. Recovery, however, does not moderate the relationships between strain and transformational leadership ($\gamma = .07$, $p > .05$) or the relationship between strain and transactional leadership ($\gamma = -.01$, $p > .05$). So hypothesis 14a and 14b are not supported.

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Insert Figure 3 and Figure 4 about here

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***Moderation of the overall mediation.*** As mentioned earlier, moderated mediation occurs when the indirect effect through the mediator varies at different levels of the moderator. Therefore, to test the moderated mediation hypotheses, it is necessary to

calculate the bias-corrected 95% confidence intervals for the indirect effects of work demands on leadership behaviors via engagement and strain at "high" and "low" values (one standard deviation above and below the average) of recovery, as well as the difference between each pair of the conditional indirect effects (Liu et al., 2012). Results are also summarized in Table 3 and Table 4.

For hindrance demands, as shown in Table 3, the indirect effects via engagement on all four types of leadership behaviors do not differ significantly when recovery is at high versus low levels (transformational, *diff* (difference between conditional indirect effects) = -.12; transactional, *diff* = -.05; laissez-faire, *diff* = .09; and abusive, *diff* = .07; all *p*'s > .05). As such, Hypothesis 15 is not supported. However, the indirect effects of hindrance demands via strain on laissez-faire leadership (*diff* = -.15, $p < .05$) and abusive supervision (*diff* = -.10, $p < .05$) differ significantly when recovery is at high versus low values. Thus, Hypothesis 16c and 16d are supported. The indirect effects via strain on transformational and transactional leadership do not differ significantly when recovery is at high versus low levels (transformational, *diff* = .05; transactional, *diff* = .00; both *p*'s > .05). So hypothesis 16a and 16b are not supported.

For challenge demands, as shown in Table 4, the indirect effects via engagement on all four types of leadership behaviors do not differ significantly when recovery is at high versus low levels (transformational, *diff* = .01; transactional, *diff* = -.04; laissez-faire, *diff* = .00; and abusive, *diff* = -.00; all *p*'s > .05). As such, Hypothesis 17 is not supported. However, the indirect effects of hindrance demands via strain on laissez-faire leadership (*diff* = -.15, $p < .05$) and abusive supervision (*diff* = -.10, $p < .05$) differ significantly when recovery is at high versus low values. Thus, Hypothesis 16c and 16d are supported.

Similarly, the indirect effects via strain on all four types of leadership behaviors do not differ significantly when recovery is at high versus low levels (transformational, *diff* = .04; transactional, *diff* = .00; laissez-faire, *diff* = -.08; and abusive, *diff* = -.02; all *p*'s > .05). As such, Hypothesis 18 is not supported.

# Chapter 6

# DISCUSSION

## Theoretical Implications

As a departure from traditional leadership theories that focus on heritable traits of the leader or characteristics of the situation as antecedents of leadership behaviors, the present study focuses on leaders' day-to-day work experience and suggests that leaders' daily work demands may influence their leadership behaviors, and such influences can be explained by two intervening mechanisms – engagement and strain. In addition to leaders' daily experience at work, the present study also suggests that leaders' after-work recovery experience may also influence their leadership behavior by moderating the effects of work demands. With an experience sampling design, the findings of this dissertation support a substantial portion of the hypotheses and provide important theoretical implications for the leadership, work stress, and recovery literature.

In general, my findings show that leaders' daily challenge demands have a positive influence on transformational leadership attributable to engagement, a negative influence on abusive supervision attributable to engagement, and a positive influence on abusive supervision attributable to strain. Leaders' daily hindrance demands, in contrast, have a positive influence on abusive supervision attributable to strain. In addition, leaders' daily recovery moderates the relationship between strain and laissez-faire leadership so that hindrance demands have a positive influence on laissez-faire leadership when the individual is poorly recovered. Leaders' daily recovery also moderates the relationship between strain and abusive supervision so that hindrance demands have a stronger positive influence on abusive supervision through strain when the individual is

poorly recovered. Based on these findings, it appears that the theoretical explanations based on leaders' work demands are more applicable for explaining leadership behaviors on the two ends of the continuum (i.e., transformational leadership and abusive supervision).

***The within-individual variation in leadership.*** The present study, based on literature search, is the very first study that examines the within-individual variation in leadership behaviors. According to the results of variance partitioning (as shown in Table 2), each of the four types of leadership behaviors has a substantial amount of within-individual variance (over 50%). This finding stands in sharp contrast with the predominant focus on between-individual differences in leadership theories, which are actually consistent with and may serve as an important explanation for the recent meta-analytic evidence that traits only explain about 31% of the variance in leadership behaviors (DeRue et al., 2011).

The findings of the substantial within-individual variation in leadership call for theoretical explanations at the within-individual level. Although the experience sampling method has grown popular in management research, it has seldom been applied to assessing research models that involve leadership. There are empirical constraints (e.g., it is more difficult to motivate leaders to participate in such an intense research effort), of course, but more importantly, there is a lack of leadership theory that suggests and explains the daily fluctuation in a leader's behavior. The present study attempted to fill in this blank area in leadership theory by positioning leaders' daily work demands as unique antecedents of a wide range of leadership behaviors and found support for its hypotheses in general. Future studies may pursue this line of inquiry by extending the question "what

happens at the leader's job?" from stressful work demands to other possible work events, especially the ones that are positive and beneficial in nature (e.g., resources, organizational support, coworker helping behavior, etc.), and offer a more comprehensive framework that captures the linkage between a leader's daily work experience and the variation in his or her leadership behaviors. Another area that future research may focus on is intervening mechanisms that are dynamic in nature and fluctuate on a daily basis. The present study offered theoretical explanations why strain and engagement are examples of such mechanisms, but there are more popular choices in experience sampling research (e.g., moods and emotions, emotional labor) that may also explain how and why leaders' daily work experience influence their leadership behaviors.

It is noteworthy that leaders' work experience is not the only theoretical explanation for the within-individual variation in leadership. The contingency theories suggest that leaders may adjust their behaviors to fit the specific needs of the focal problem or situation. Although contingency theories may also explain why the same leader may engage in different behaviors, there are conceptual differences compared to the work experience perspective. The within-individual variance explained by the contingency theories is based on the needs of subordinates or features of the problem that the employee is facing alone or together with the leader, whereas the variance explained by the work experience perspective is based on events that happen in the leader's work life that may or may not involve the subordinate. In the present study, I controlled for the work demands (both challenges and hindrances) perceived by employees in testing the hypotheses in order to control their influences on leadership as suggested by the Path-Goal Theory (House, 1971). Future studies that look into the influence of leaders' daily

work experience may choose to use different or a wider range of variables to control for the contingency explanations, or, as a more interesting direction, future studies may attempt to incorporate these two theoretical explanations and examine their potential interactions. For example, what happens when a leader's work demands predict a certain type of leadership behavior while his or her employees need a different one?

**An extension of the challenge-hindrance framework.** This dissertation has contributed to the work stress literature in three ways. First, although the challenge-hindrance framework was originally established using a large sample of high level executives (Cavanaugh et al., 2000), nearly all subsequent research has applied it to employee work stress at lower levels of the organization. Researchers who attempted to theorize leaders' work demands (e.g., Hambrick et al., 2005) did not refer to this stress framework or recognize its origins. The present study has extended this challenge-hindrance framework by applying it to the conceptualization and operationalization of leaders' work demands, and results have shown satisfactory reliability and validity. In comparison to Hambrick and colleagues' (2005) conceptualization of executives' job demands, the use of the challenge-hindrance framework has enlarged the scope of the construct of leaders' work demands by identifying a new set of stressful work events (e.g., role ambiguity, politics, hassles) that leaders encounter and experience in their daily work lives. The recognition and inclusion of hindrance demands is important because these demands, according to the findings, significantly affect abusive supervision, as well as laissez-faire leadership (when the leader is poorly recovered), through the depletion of energy. Future research that takes interests in dysfunctional or unethical leadership is

urged to include leaders' hindrance demands, in combination with challenge demands, as important determinants.

Second, this dissertation has contributed to the validity of the revised Job Demands-Resources Model (the revised JD-R model; Crawford et al., 2010) by examining the theoretical relationships among work demands and engagement and strain in a within-individual design. The revised JD-R model, as mentioned in earlier sections, suggests that although both types of work demands evoke strain, challenge demands tend to have a positive relationship with engagement whereas hindrance demands tend to have a negative relationship with engagement (Crawford et al., 2010; LePine et al., 2005). This set of theoretical hypotheses is fully supported in my findings, which indicates that the JD-R model can serve as a valid explanation for the daily variation and covariation of work demands, strain, and engagement. Although Rodell and Judge (2009) have examined the challenge and hindrance work demands in a daily setting, this dissertation is the first to examine the dual-pathway JD-R model in a day-to-day setting and highlight the dynamic nature of both engagement and strain.

Last but not least, this dissertation has identified leadership as an important and meaningful behavioral outcome of the revised Job Demands-Resources Model. As Crawford and colleagues (2010) suggested, there is a need for studies that extend the differential relationships of challenge and hindrance demands to important behavioral outcomes. The choice of leadership behaviors as endogenous variables not only extends the validity of the revised JD-R model, but, more importantly, increases its theoretical importance given that leader behaviors are proven to be determinants of effectiveness at individual, group, and organizational levels. In other words, this dissertation has

indicated the potential of using the JD-R model in explaining multilevel issues in organizations that can be far more complicated than the issue of individual well-being where the focus of the traditional stress literature lies. For example, future research may look into how leaders' work demands affect the performance of the work teams they supervise through their leadership behaviors. In particular, since prior research has outlined the unique roles of different leadership behaviors in managing different types of employee work demands (e.g., Zhang et al., unpublished manuscript), future research may use leader behaviors as a key mechanism that explains how stress is transmitted along the organizational hierarchy.

***The role of recovery.*** The present study may also contribute to the literature on recovery experience. Prior research in this area has in general positioned recovery as the source of important personal resources (e.g., energies) and theorized a buffering role of recovery in the stress process. The theoretical hypotheses in the present study are in line with this general positioning. However, the buffering role of recovery identified in prior research has focused on the emergence and accumulation of strain in that a well-recovered person is more resourceful in dealing with demands at work and therefore less likely to experience strain due to a significant depletion of energy. It was unclear what happens afterwards with regard to whether recovery may influence the relationship between strain and its behavioral consequences, or in general, the relationship between the immediate physiological and psychological consequences of work demands (e.g., strain, emotions, engagement) and the behavioral consequences of work demands. Findings of the present study, surprisingly, only supported the moderating influence of recovery in the second stage of the stress process. Specifically, a well-recovered leader is

less likely to exhibit dysfunctional leadership behavior such as laissez-faire or abusive supervision when he or she experiences strain because of the current work demands. This finding highlights the potential theoretical linkage between recovery and a leader's self-regulation and sheds light on a larger scope of the recovery effects. Future research may further clarify the role of recovery in the stress process by implementing the ego depletion experimental paradigm in social psychology which has offer rich evidence with regard to the linkage between one's self-regulation or self-control and a wide range of behavioral outcomes.

Another alternative explanation that may account for surprising pattern of findings associated with recovery in this dissertation is that different types of recovery experience, which were aggregated under the umbrella construct of recovery, may be effective in different stages and/or pathways of the stress process. For example, relaxing activities such as getting a massage may help preventing the accumulation of strain whereas social interactions with family and friends may help maintaining the role boundaries and facilitating engagement. Future research, with a more focused design, may look into such nuanced differences among the various types of recovery experience and identify their unique effectiveness.

**Limitations**

The theoretical implications of the present study should be interpreted in consideration of several limitations. First, although the experience sampling design involves repeated measures of the study variables over time, the data are cross-sectional in nature because daily observations were treated as independent. This treatment is

consistent with other experience sampling studies given that the focus of the design is about what happens within a single day; however, alternative causal explanations or feedback loops cannot be ruled out. Given the intensity of the daily measures, it is quite difficult to obtain a sample large enough to apply means of controlling time in longitudinal analyses. As an alternative, I created 9 dummy variables that represent the influence of 10 days, and controlled them as exogenous variables in the model. Thus, if there were any systematic differences among the means of one or more study variables across days, its influence over the testing of hypotheses is controlled for.

Another limitation is that although we were able to obtain the dependent variables from a different source (employees), the independent variables, mediators, and the moderator were all obtained form the same source (leader). Although the data of most prior experience sampling studies were obtained from a single source only (because the dependent variables for most experience sampling studies were psychological mechanisms rather than behavioral outcomes), the findings concerning the front end of the research model may be confounded with same-source bias and should be interpreted with caution even though the effects are consistent with meta-analytic evidence in both directions and magnitudes. Future studies may consider using objective indicators of leaders' work demands, or obtain the evaluations from a third source (e.g., leader's personal assistant). Using alternative measures of recovery is also an option. For example, future research may consider examining specific recovery activities (e.g., leisure activities, exercise, or even sleep quality and quantity) instead of the recovery experience employed in the present study.

A third limitation is that all leaders and followers in the sample are from the same organization. Although these leaders and followers hold various types of jobs, it is possible that the findings are affected by unique features of the organization. Future research is encouraged to replicate the hypothesized relationships in this dissertation with samples that are diverse in organizations, occupations, and even cultures.

**Practical Implications**

In addition to theoretical implications, the findings of the present study have a couple of important implications for management practice, too. First, managers and human resources specialists who design and offer leadership training could incorporate my findings by recognizing leaders' work experience, especially the stressful demands at work, as important antecedents of leadership behavior such as transformational leadership. Current leadership training, guided by the trait or contingency theories of leadership, either focuses on identifying one's own leadership style (what type of leader you are) or learning to apply the most appropriate leadership behavior to specific management situations (what you should do). Based on the present study, leaders should also be trained to be self-aware of their experience and feelings at work and understand how these experiences and feelings may affect their leadership behaviors. For example, if a leader is reported as abusive, the human resources specialists should try to get to the bottom of this behavior by examining the demands assigned to this leader and his or her level of psychological strain and engagement rather than simply identifying him or her as an abusive or aggressive person. The experience-based explanations for leader behaviors, especially the dysfunctional types that cause damage in organizations, could also be very

beneficial to the practice of executive coaching, employee assistance programs, or other types of psychological and behavioral intervention.

Second, and in addition to leaders being aware of the consequences of their daily work demands, the findings of the present study also suggest ways to alter the influence of work demands on leaders' behaviors, specifically, to alleviate the negative influence of leader's experience of strain at work. For example, leaders should understand that a good night's sleep or a relaxed night with friends or family could help them resist the influence of strain and remain effective in their positions whereas staying up late working could make them more vulnerable to the depletion of energy the next day at work and less effective in their positions. This positive role of daily recovery also speaks to the general work-life balance of leaders. Traditional view on this matter suggests that maintaining a good balance between work and life is beneficial to one's health and overall well-being, but often leaders make excuses because they feel obligated to their employees and the organization and take comfort in the assumption that the sacrifice in their personal work-life balance would result in greater task accomplishments and leadership effectiveness. My findings challenge this "workaholic" image of good leaders and show the opposite in that a good balance between work and life can help leaders recover from the effects of work demands and be more effective at the leadership position.

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# APPENDIX A

## SURVEY ITEMS AND INSTRUCTIONS

SURVEY ITEMS AND INSTRUCTIONS

**Challenge Demands**

How often do you experience each of these demands at work TODAY? (1 – Never; 5 – Always)

1. Having to complete a lot of work
2. Having to work very hard
3. Time pressure
4. Performing complex tasks
5. Having to balance several projects at once
6. Having high levels of responsibility

**Hindrance Demands**

How often do you experience each of these demands at work TODAY? (1 – Never; 5 – Always)

1. Administrative hassles
2. Bureaucratic constraints to completing work (red tape)
3. Conflicting expectations or instructions from your leader or leaders
4. Unclear job tasks
5. Office politics
6. Disputes with coworkers

**Strain**

These statements describe the feeling of exhaustion you might have experienced at work TODAY. To what extent do you agree with the following statements? (1 – Strongly Disagree; 7 – Strongly Agree)

1. I feel emotionally drained from my work today
2. Working at the office all day today is really a strain for me
3. I feel burned out from my work today.
4. I feel used up at the end of the day.
5. I feel fatigued when I get up in the morning and have to face another day on the job

**Engagement**

These statements describe how you might focus your energy while at work TODAY. To what extent do you agree with the following statements? (1 – Strongly Disagree; 7 – Strongly Agree)

1. I work with high intensity
2. I exert my full effort

3. I devote a lot of energy
4. I put my emotions into what I do
5. I am emotionally connected
6. I put my feelings into my work
7. I give my full attention to my job
8. I concentrate completely
9. My mind is focused on the work that I do

**Recovery**

Listed below are statements that describe your after-work recovery experience LAST NIGHT. To what extent do you agree with the following statements? (1 – Strongly Disagree; 7 – Strongly Agree)

1. Last night, I forgot about work
2. Last night, I did not think about work at all
3. Last night, I distanced myself from my work
4. Last night, I got a break from the demands of work
5. Last night, I kicked back and relaxed
6. Last night, I did relaxing things
7. Last night, I used the time to relax
8. Last night, I took time for leisure
9. Last night, I learned new things
10. Last night, I sought out intellectual challenges
11. Last night, I did things that challenged me
12. Last night, I did something to broaden my horizons
13. Last night, I felt like I could decide for myself what to do
14. Last night, I decided my own schedule
15. Last night, I determined for myself how I would spend my time
16. Last night, I took care of things the way that I wanted them done

**Family-Work Conflict**

These statements describe how demands of your family may have interfered with your work TODAY. To what extent do you agree with the following statements? (1 – Strongly Disagree; 7 – Strongly Agree)

1. The demands of my family or spouse/partner interfered with work-related activities
2. I had to put off doing things at work because of demands on my time at home
3. Things I wanted to do didn't get done because of my family or spouse/partner
4. My home life interfered with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.
5. Family-related strain interfered with my ability to perform job-related duties.

**Transformational Leadership**

Listed below are statements that describe certain types of leadership behaviors. Please recall your interactions with your immediate supervisor TODAY, and fill in the appropriate bubble using the response choices below (1 – Strongly Disagree; 7 – Strongly Agree).

1. Today, my supervisor acted in ways that built my respect.
2. Today, my supervisor talked enthusiastically about what needs to be accomplished.
3. Today, my supervisor got me to look at problems from many different angles.
4. Today, my supervisor treated me as an individual rather than just as a member of a group.

**Transactional Leadership**

1. Today, my supervisor provided me with assistance in exchange for my efforts.
2. Today, my supervisor discussed in specific terms who is responsible for achieving performance targets.
3. Today, my supervisor made clear what one can expect to receive when performance goals are achieved.
4. Today, my supervisor expressed satisfaction when I meet expectations.

**Laissez-Faire Leadership**

1. Today, my supervisor avoided getting involved when important issues arise.
2. Today, my supervisor was absent when needed.
3. Today, my supervisor avoided making decisions.
4. Today, my supervisor delayed responding to urgent questions.

**Abusive Supervision**

1. Today, my supervisor blamed me to save himself/herself from embarrassment.
2. Today, my supervisor expressed anger at me when he/she was mad for another reason.
3. Today, my supervisor made negative comments about me to others.
4. Today, my supervisor told me I was incompetent.

# APPENDIX B

# IRB APPROVAL

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

| | |
|---|---|
| **To:** | Jeffery Lepine<br>BA |
| **From:** | Mark Roosa, Chair<br>Soc Beh IRB |
| **Date:** | 02/08/2013 |
| **Committee Action:** | **Exemption Granted** |
| **IRB Action Date:** | 02/08/2013 |
| **IRB Protocol #:** | 1302008794 |
| **Study Title:** | Leaders' Daily Job Demands, Recovery, and Leadership Behaviors |

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

Table 1

Means, Standard Deviations, and Zero-Order Correlations

| Variables | Mean | s.d. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Challenge Demands | 3.86 | 0.73 | **.90** | | | | | | | | | | | |
| 2. Hindrance Demands | 2.19 | 0.88 | .28* | **.93** | | | | | | | | | | |
| 3. Recovery | 4.82 | 1.17 | .15 | -.14 | **.94** | | | | | | | | | |
| 4. Strain | 2.91 | 1.70 | .10 | .42* | -.44* | **.96** | | | | | | | | |
| 5. Engagement | 6.09 | 0.86 | .39* | -.01 | .12 | -.30* | **.91** | | | | | | | |
| 6. TFL [a] | 5.62 | 0.81 | -.13 | -.19* | .06 | -.07 | .26* | **.94** | | | | | | |
| 7. TSL [a] | 5.45 | 0.87 | -.14 | -.21* | .12 | -.12 | .25* | .87* | **.93** | | | | | |
| 8. LFL [a] | 2.07 | 1.01 | .18* | .20* | .08 | -.05 | -.04 | -.64* | -.56* | **.95** | | | | |
| 9. AS [a] | 1.81 | 0.96 | .13 | .32* | .06 | .20* | -.14 | -.49* | -.42* | .64* | **.95** | | | |
| 10. FWC | 1.85 | 1.53 | -.04 | .32* | -.38* | .54* | -.14 | -.00 | -.12 | -.01 | .14 | **.96** | | |
| 11. ECD [a] | 3.42 | 0.68 | .27* | .02 | .11 | -.04 | .11 | -.04 | -.09 | .11 | .17* | .01 | **.92** | |
| 12. EHD [a] | 1.96 | 0.56 | .20* | -.00 | .26* | -.29* | .10 | -.22* | -.14 | .37 | .27* | -.14 | .26* | **.90** |

Note: N = 158 daily observations. TFL = Transformational leadership; TSL = Transactional leadership; LFL = Laissez-faire leadership; AS = Abusive supervision; FWC = Family-work conflicts; ECD = Employee Challenge Demands; EHD = Employee Hindrance Demands; * $p < .05$

[a] Variables accessed by employees and aggregated to the supervisor level

Table 2

Variance Components of Study Variables

| Variable | Within-Individual Variance | Between-Individual Variance | Percentage of Within-Individual Variance |
|---|---|---|---|
| Challenge Demands | 0.24 | 0.30 | 44.4% |
| Hindrance Demands | 0.28 | 0.45 | 38.4% |
| Recovery | 0.45 | 0.87 | 34.1% |
| Strain | 0.74 | 2.25 | 24.7% |
| Engagement | 0.33 | 0.43 | 43.4% |
| Transformational Leadership | 0.44 | 0.23 | 65.7% |
| Transactional Leadership | 0.44 | 0.33 | 57.1% |
| Laissez-Faire Leadership | 0.60 | 0.46 | 56.6% |
| Abusive Supervision | 0.46 | 0.43 | 51.7% |
| Family-Work Conflicts | 0.43 | 1.99 | 17.8% |
| Employee Challenge Demands | 0.16 | 0.32 | 33.3% |
| Employee Hindrance Demands | 0.14 | 0.21 | 40.0% |

Table 3

Summary of Hindrance Demands Effects on Leadership

| Effect | Transformational Leadership | Transactional Leadership | Laissez-Faire Leadership | Abusive Supervision |
|---|---|---|---|---|
| ***Indirect via Strain*** | | | | |
| *Average* | .02 | .01 | .05 | .13* |
| *High Recovery* | .04 | .01 | -.03 | .08 |
| *Low Recovery* | -.00 | .01 | .12* | .18* |
| *Difference* | .05 | .00 | -.15* | -.10* |
| ***Indirect via Engagement*** | | | | |
| *Average* | -.09 | -.07 | .07 | .06 |
| *High Recovery* | -.16 | -.09 | .12 | .10 |
| *Low Recovery* | -.04 | -.04 | .03 | .02 |
| *Difference* | -.12 | -.05 | .09 | .07 |
| ***Indirect Total*** | | | | |
| *Average* | -.07 | -.06 | .11* | .19* |
| *High Recovery* | -.12 | -.09 | .08 | .18* |
| *Low Recovery* | -.04 | -.03 | .15* | .21* |
| *Difference* | -.07 | -.06 | -.06 | -.03 |

Note: All estimates were tested for significance using bias-corrected confidence intervals from 20,000 parametric resamples;
* $p < .05$

Table 4

Summary of Challenge Demands Effects on Leadership Behaviors

| Effect | Transformational Leadership | Transactional Leadership | Laissez-Faire Leadership | Abusive Supervision |
|---|---|---|---|---|
| ***Indirect via Strain*** | | | | |
| *Average* | .01 | .00 | .03 | .09* |
| *High Recovery* | .04 | .00 | -.03 | .07 |
| *Low Recovery* | -.00 | .00 | .06 | .09* |
| *Difference* | .04 | .00 | -.08 | -.02 |
| ***Indirect via Engagement*** | | | | |
| *Average* | .11* | .08 | -.08 | -.07* |
| *High Recovery* | .11 | .06 | -.08 | -.07 |
| *Low Recovery* | .11 | .10 | -.08 | -.07 |
| *Difference* | .01 | -.04 | .00 | -.00 |
| ***Indirect Total*** | | | | |
| *Average* | .13* | .09 | -.06 | .02 |
| *High Recovery* | .14* | .07 | -.11 | .00 |
| *Low Recovery* | .10 | .11 | -.03 | .02 |
| *Difference* | .04 | -.04 | -.08 | -.02 |

Note: All estimates were tested for significance using bias-corrected confidence intervals from 20,000 parametric resamples;
* $p < .05$

Figure 1

Summary of Hypotheses

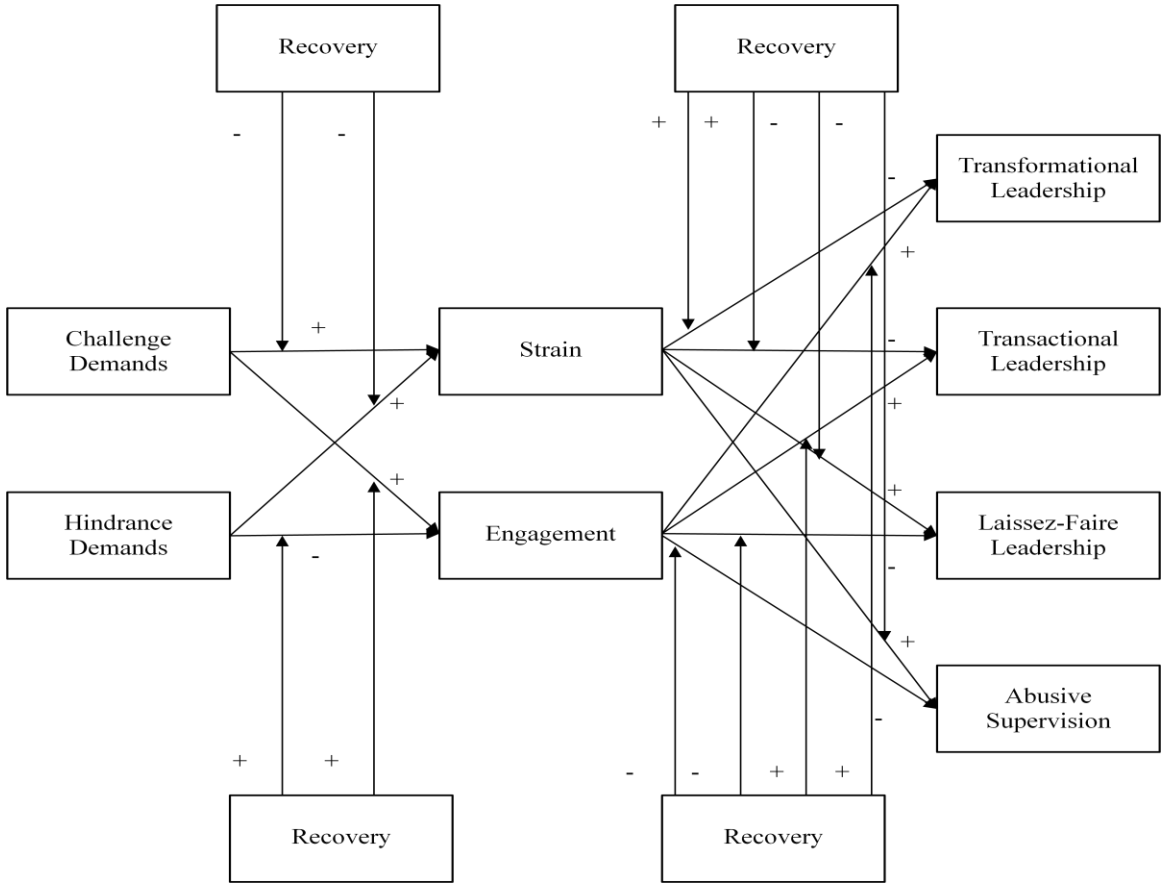

Figure 2

Summary of Standardized Estimates of Path Coefficients

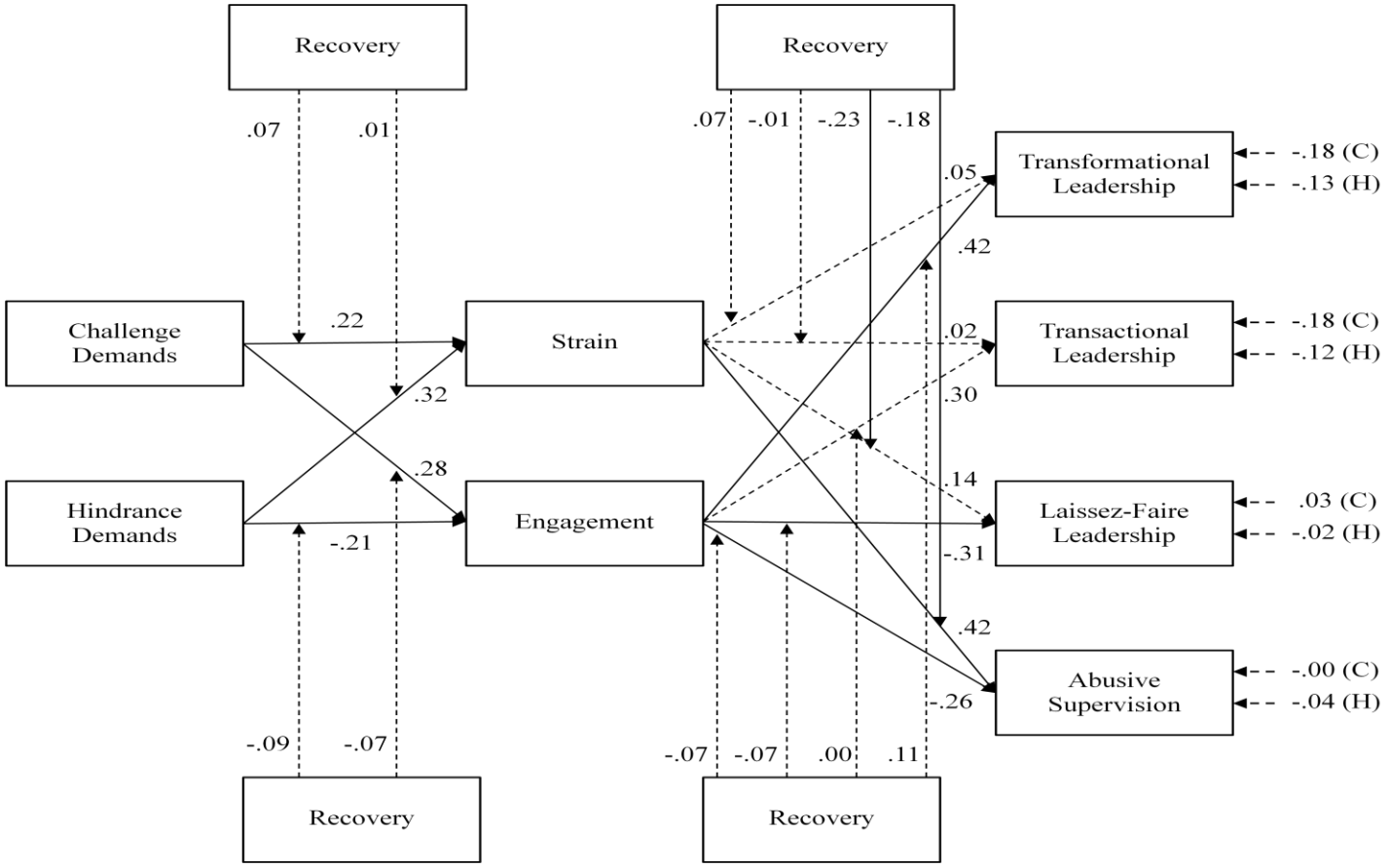

Figure 3

The Strain × Recovery Interaction on Laissez-Faire Leadership

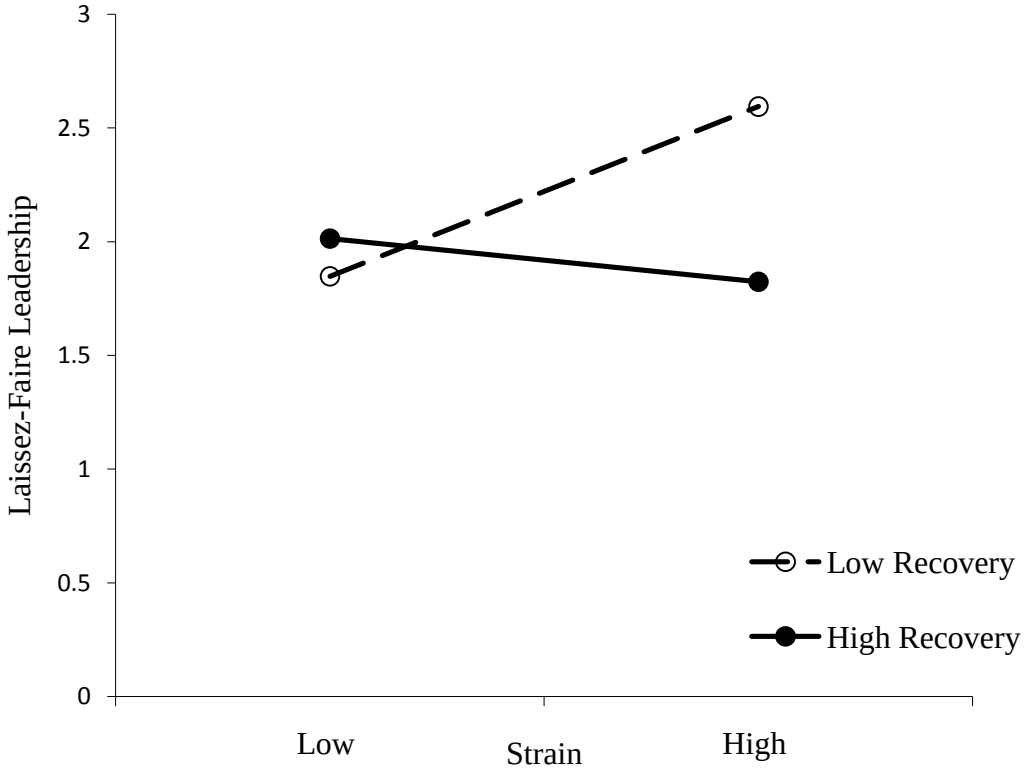

Figure 4

The Strain × Recovery Interaction on Abusive Supervision