MINDFULNESS AT WORK: IMPLICATIONS FOR LEADERS AND FOLLOWERS

by

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Abstract

This dissertation investigates the benefits of mindfulness from the point of view of leaders (Study 1) and employees (Study 2). In Study 1, I draw on Conservation of Resources (COR) and dual process theory (Strack & Deutsch, 2004) to develop a framework that outlines the mediating mechanisms explaining the relationship between leader resource depletion (emotional exhaustion) and leadership style (transformational leadership and abusive supervision). Using Glomb, Duffy, Bono and Yang's (2011) framework of self-regulation, I identify empathy and negative emotion as mediators that are of particular importance for leaders. In addition, I propose that leader mindfulness would disrupt this process to improve leadership style.

Using a time-lagged survey of leader follower pairs (N = 63; follower perceptions of leadership style as the criterion), Study 1's model was not supported. However, using the larger sample of leaders' (N = 505; leader self-reported leadership style as the criterion), I found that leader empathy and negative emotion mediated the relationships between emotional exhaustion and leadership style. Furthermore, I found that leader mindfulness significantly moderated the indirect effect of leader emotional exhaustion on leadership style through negative emotion. However, leader mindfulness did not moderate the relationship between emotional exhaustion and empathy.

In Study 2, I shift focus to the benefits of mindfulness from the followers' perspective in terms of the relationship between leadership style and employee well-being. I define well-being in terms of four key categories: physical, social, psychological, and cognitive. I again use COR theory to suggest that employee mindfulness will boost

the positive relationship between transformational leadership and employee well-being, and will buffer the negative relationship between abusive supervision and employee well-being. I found, using a time-lagged survey of 246 employees, that employee mindfulness boosted the positive relationship between transformational leadership and psychological well-being (null results for the other facets of well-being). Contrary to my hypothesis, employee mindfulness intensified, rather than buffered, the relationship between abusive supervision and employee psychological well-being. This study shows the benefits of employee mindfulness in certain contexts, and reveals one potential dark side of mindfulness at work. I conclude with a general discussion of both studies and outline future directions for research.

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Finally, I would like to dedicate this dissertation to my mom, Linda. Your life has inspired me to follow my dreams, and your love made it possible to do so. Thank you, for everything.

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Chapter 1: Introduction

Stress at work is a significant challenge at the individual and organizational level (Sulsky & Smith, 2005). Research has consistently shown that stress has negative impacts on employee well-being, which ultimately translates into losses in the form of organizational outcomes such as absenteeism and impaired performance (Matteson & Ivancevich, 1987). Despite the inherently stressful nature of this work, less research has focused on the implications of work stress for leaders. McKinsey (2015), for example, found that stress is one of the most significant obstacles for leaders in relation to leader development. Recently, there has been a growing interest in understanding how leaders respond to stress and the implications this may have for leadership styles (e.g., Harms, Credé, Tynan, & Leon, 2017). Given the inherently stressful nature of leadership, chronic indications of experiencing stress over time, such as emotional exhaustion, are particularly relevant to leadership style (e.g., Byrne et al., 2014). There is less known, however, about how and why leader emotional exhaustion can have negative impacts on leadership style. Thus, my first research question is: *What are the mediating mechanisms that explain the negative relationship between emotional exhaustion and leadership style?* Specifically, the leadership styles of interest in this research are transformational leadership and abusive supervision. Transformational leaders inspire followers to perform beyond expectations and to achieve extraordinary outcomes (Bass, 1985). Abusive supervision supervision is when supervisors "engage in the sustained display of hostile verbal and nonverbal behaviours, excluding physical contact" (Tepper, 2000, p. 178).

In addition to investigating how leader emotional exhaustion impacts leadership style, I also aim to uncover how leaders' responses to emotional exhaustion can be altered to benefit leaders. Thus, my second research question is: *How can the process of emotional exhaustion be interrupted to improve leader behaviour?* Mindfulness, defined as "a receptive attention to and awareness of present events and experience" (Brown, Ryan & Creswell, 2007, p. 212) has recently been identified as an important resource for leaders' well-being (Roche, Haar, & Luthans, 2014). Mindfulness has been shown to interrupt automatic and controlled responses to unpleasant events at work (e.g., Long & Christian, 2015), and I will extend these ideas to show how mindfulness can improve leader behaviour by interrupting leaders' responses to emotional exhaustion.

Although leader behaviour has important impacts on employees, there is also a need to ensure that followers have the right mindset to be receptive to positive leadership styles, and to protect themselves from negative ones. Research on mindfulness at work has also shown various benefits for employees. In particular, employee mindfulness has been shown to heighten the positive impacts of ethical leader behaviours on employees (Eisenbeiss & van Knippenberg, 2015). However, research has not yet shown how mindfulness can also protect employees from negative leadership styles or how it can similarly heighten positive impacts of transformational leadership. Thus, my third research question is: *What are the positive impacts of employee mindfulness in relation to transformational leadership and abusive supervision?* Given the importance of employee well-being in the workplace, I examine whether and the extent to which mindfulness at the employee level can intensify the positive impacts of transformational leadership on

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various types of well-being for employees, and buffer the negative effects of abusive leadership.

My research is organized around two perspectives regarding mindfulness at work: The leader (Study 1) and the employee (Study 2) perspectives. Study 1, presented in Chapter 2, focuses on leader emotional exhaustion and I outline in detail why leader resource depletion is a significant problem. In Chapter 2 I propose a theoretical framework that integrates mindfulness as a buffer of leaders' emotional exhaustion to subsequently improve leader behaviour. I use Glomb, Duffy, Bono, and Yang (2011)'s framework of self-regulation to choose mediating mechanisms that explain the relationship between leader emotional exhaustion and leadership style that would potentially be influenced by mindfulness. Study 2, presented in Chapter 3, focuses on mindfulness from the employee perspective in relation to supervisory leadership style. Finally, in Chapter 4, I conclude with a general discussion of the benefits of mindfulness from leader and follower perspectives and outline areas for future research.

Chapter 2: Leader stress, leadership styles, and mindfulness

2.1 Theoretical development

As alluded to in my introduction, being in a leadership position is inherently stressful. Yet, very few studies have focused on stress unique to leaders. I define leaders in my research as those "influencing task objectives and strategies, influencing commitment and compliance in task behaviour to achieve those objectives, influencing group maintenance and identification, and influencing the culture of an organization" (Yukl, 1989, p. 253). In today's competitive, global economy, there is a high incidence of stress for business leaders. Campbell, Innis Bates, Marin, and Meddings (2007) reported in a recent survey study that 88% of leaders find their work to be the most stressful part of their lives. Despite the fact that North American organizations invest an estimated 50 billion dollars per year into developing leadership capacity (Raelin, 2004), leaders report not having the tools they need to manage stress at work (Campbell et al., 2007). Getting the most out of what organizations invest in leadership requires directly responding to the inherently stressful nature of these roles.

On an individual level, extant research on employee stress suggests that stressed leaders would experience negative health outcomes such as impaired psychological well-being (Ganster & Rosen, 2013). In addition to the negative health impacts that individual leader stress is likely to predict, it can also have negative effects on the organization as a whole. ten Brummelhuis, Haar, and Roche (2013) found that leaders' family to work conflict predicted leader burnout, which also predicted follower burnout through stress crossover processes. This suggests that leader stress can trickle down to employees,

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thereby widening the negative impacts of individual leader stress for the organization (Aryee, Chen, Sun, & Debrah, 2007). Research has also shown that stressed leaders are less able to make effective decisions (Ganster, 2005). Given that leaders at many levels of an organization may influence a broad range of outcomes, this impaired ability to make decisions can also have negative consequences beyond an individual leader. Furthermore, stressed leaders are also less likely to enact positive leadership styles such as transformational leadership (Byrne et al., 2014), and are more likely to be abusive to followers (Burton, Hoobler, & Scheuer, 2012). Overall, research focusing on stress as an antecedent has shown that leader stress is a significant problem for leaders, followers, and for organizational outcomes.

Processes of leader stress: Integrating COR and dual process theories

It is clear that the inherently stressful nature of leadership is a significant problem that must be addressed, yet few studies have outlined the processes of leader stress and the resulting negative impacts it can have on leader behaviour. Some studies (e.g., Byrne et al., 2014) have used conservation of resources (COR) theory as a framework to explain leader stress as both an outcome and an antecedent of leadership style (Hobfoll, 1989). To align with this emerging research I am integrating COR theory with a dual process model of stress (Strack & Deutsch, 2004) to describe how leader emotional exhaustion, a chronic indication of experiencing stress over time, predicts leadership style. COR theory, as will be discussed below, conceptualizes stress as a form of resource loss, and leader behaviours as a form of coping in response to resource depletion. The value of combining these ideas with a dual system theoretical framework is to highlight *why* leader resource

depletion results in various behaviours, and *when* key resources such as mindfulness can be particularly helpful to disrupt this process and ultimately improve leader behaviour. Specifically, I am utilizing COR theory to conceptualize how emotional exhaustion relates to leadership style, and I combine this with a dual process framework to more fully understand the mediating processes explaining the relationship between leader resource depletion and leadership style. The key here is that leader stress (and its outcomes, such as emotional exhaustion) is largely inevitable and will likely continue to grow, as the global economy continues to grow in complexity and competitiveness. Thus, it is important to focus on how to disrupt emotional exhaustion and its related behaviours, than attempt to eliminate stress at work.

Hobfoll's (1989) COR model is useful for understanding stress as it relates to resources. Resources, defined as "objects, personal characteristics, conditions, and energies that are valued by an individual" (Alarcon, 2011, p. 550), are pertinent to addressing leader stress. The central tenet of COR theory is that people strive to build and maintain a personal reservoir of resources, and that losing resources (i.e. experiencing stress) is threatening and dramatically changes behaviour (Hobfoll, 2001). Other key principles of COR theory are that individuals must invest resources to gain more, and that individuals can experience positive or negative resource spirals based on their current resource trajectories. For example, people with few resources are likely to experience negative resource spirals where they continue to lose resources because they have fewer resources to invest, and are more likely to engage in counter productive coping strategies to conserve their remaining resources. On the other hand, people with many resources

have a secure pool and are able to freely invest them into other resource gaining activities, which is likely to put them on what is known as a positive resource spiral (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014).

For example, resource spirals are central to understanding leader stress. Byrne et al. (2014) found that leaders who were resource depleted were likely to exhibit low transformational leadership, and to demonstrate high levels of abusive supervision. Burton, Hoobler, and Scheuer (2012) similarly found that leader stress predicted the extent to which employees rated their supervisors as abusive. Interestingly, leadership styles themselves can also be a source of resource drain or gain, as some have found that transformational leadership negatively predicts emotional exhaustion (Zopiatis & Constanti, 2010). Furthermore, negative leadership styles also predict burnout (Arnold, Connelly, Gellatly, Walsh, & Withey, 2017), likely due to the toxic environments destructive leaders create. For example, passive leaders increase the likelihood of role conflict and ambiguity (Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007), which may further drain a leaders' resources through dealing with mistakes and performance issues with followers arising from role ambiguity. Taken together, this emerging area of research suggests that there is a cycle of loss (i.e. a negative resource spiral) that is likely for organizational leaders: Resource depletion negatively influences the quality of leadership, and enacting certain leadership styles can further drain a leader, resulting in even more resource depletion.

To understand the processes of leader resource drain in more detail, I use a dual process model that begins with leader resource depletion as a predictor of leadership

styles and integrate Glomb et al. (2011)'s model of mindful self-regulation to explain how

mindfulness can optimize leader behaviour. Dual process models are used in many areas

of social and cognitive psychology to understand human behaviour. The central tenet of

dual process theories is that individual behaviour is determined by two separate processes

that operate in parallel: automatic (also referred to as impulsive) and controlled (also

referred to reflective). The impulsive system is understood as a "system of experiential

primacy, in which affective and non-affective feelings are generated quickly and without

syllogistic processes of inference" (Strack & Deutsch, 2004, p. 224). In other words, the

impulsive system operates with very little conscious awareness, although people can be

aware of parts of its process (e.g., perceiving a pleasant feeling). The reflective system is

a higher order system that complements the impulsive system by performing higher order,

executive functions such as making evaluations and acting against impulse responses.

Together, the interplay of both systems determines, in conjunction with key moderators

(such as mindfulness) individual behaviour (Strack & Deutsch, 2004).

Dual process models have been used in business research to explain reactions to

injustice (unfairness regarding decisions, procedures or interpersonal treatment at work;

Colquitt, 2001) and poor performance in the workplace. For example, Long and Christian

(2015) found that injustice provoked retaliation through negative emotion (automatic) and

ruminative thought (controlled). Tugade (2010) suggests that a similar framework can be

used to conceptualize how individuals respond to and manage stress. In particular,

Tugade (2010) suggests that applying a dual process model to stress responses helps

illustrate how emotions (automatic) and controlled mental processes help individuals cope

with negative stressors. Although dual process models are often used to explain responses to acute events, it is also appropriate to apply dual processes to chronic events as well, such as habituation and impression formation (Brewer, 1988; Groves & Thompson, 1970). Dual process models have also been applied to how individuals react to individuals' chronic internal thoughts such as fear of death and bereavement (Stroebe & Schut, 1999; Pyszczynksi, Greenberg, & Solomon, 1999), Empirical studies have not yet applied this dual process framework to chronic resource depletion (i.e. emotional exhaustion) at work. Thus, I am contributing to the literature by applying a dual process model to explain the processes of leader emotional exhaustion at work. In the next section I outline the dual processes of leader stress in more detail.

The impulsive system: Negative emotion and transformational leadership

Stress can be defined in many ways, and is often used to refer to adverse environmental conditions, or physical and psychological responses to straining conditions (Sulsky & Smith, 2005). In terms of workplace stress, emotional exhaustion is a well-known indicator of chronic resource depletion, and reflects "feelings of being emotionally overextended and exhausted by one's work" (Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1996, p. 4). Emotional exhaustion is one of three dimension of burnout (which also includes cynicism and diminished professional efficacy; Maslach et al., 1996). Many studies have documented the negative effects of emotional exhaustion and most studies using a COR perspective have examined the emotional exhaustion component of burnout (Alarcon, 2011); however, there is a dearth of research examining it in the leader population. Given the inherently stressful nature of leadership discussed earlier, I am

focusing on emotional exhaustion as an indicator of resource depletion that is likely to occur given the high demands and stress placed on leaders. Other studies have similarly used chronic indications of resource depletion in relation to leadership (Byrne et al., 2014), such as depression and anxiety, and I align with this research by using a definition of resource depletion that relates specifically to the workplace. Emotional exhaustion is a significant concern because it has many negative outcomes such as lower levels of safety behaviours (Nahrgang, Morgeson, & Hofmann, 2011). It is also a concern for leaders given that leader emotional exhaustion can trickle down to employees. This tendency for emotional exhaustion to trickle down to followers is a concern, as resource depletion at the follower level also compromises their resources, and could subsequently impair employee performance (ten Brummelhuis et al., 2013).

As discussed earlier, leader resource depletion predicts lower levels of transformational leadership (Byrne et al., 2014). I propose that emotional exhaustion, as an indicator of resource depletion, will similarly predict lower levels of transformational leadership. Transformational leaders inspire followers to perform beyond expectations and to achieve extraordinary outcomes (Bass, 1985). This style of leadership is characterized by four highly correlated dimensions: inspirational motivation, individual consideration, idealized influence, and intellectual stimulation. Inspirational motivation is the degree to which a leader motivates followers by communicating a vision. Individual consideration is characterized by recognizing followers on a personal level and giving them unique development and support. Idealized influence is the degree to which a leader acts as a charismatic role model for followers. Finally, intellectual stimulation is

characterized by encouraging followers to be creative and to think outside the box (Bass & Riggio, 2006).

Not surprisingly, this motivational style of leadership has been associated with many positive outcomes such as follower well-being, and improved safety outcomes (Clarke, 2013; Judge & Piccolo, 2004). Although previous research has not focused on the antecedent of emotional exhaustion in relation to transformational leadership, it is likely that as an indicator of resource depletion, it would similarly decrease the likelihood of transformational behaviours as other forms of resource depletion have (Byrne et al., 2014). Leaders who are emotionally exhausted would be ill-equipped to invest energy into the many positive behaviours transformational leadership requires. For example, transformational leadership requires positive affect (Bono, Foldes, Vinson, & Muros, 2007) and emotional intelligence (defined as the ability to accurately perceive and control one's emotions; Hur, van den Berg, & Wilderom, 2011), which suggest that these positive behaviours require a strong reservoir of personal resources. Thus, I hypothesize:

Hypothesis 1a: Emotional exhaustion negatively predicts transformational leadership

In terms of the dual process of stress, the impulsive response to experiencing emotional exhaustion can explain *why* having lower levels of emotional exhaustion would predict increases in transformational leadership. The primary mediating factor in the impulsive system of interest is negative emotion, given the close link between resource depletion and emotion, in addition to the growing recognition of the role of emotion in

leadership (Lewis, 2000). Lazarus (1999) noted that emotions are closely tied to resource depletion and clarifies how individuals cope when experiencing stressful situations. He noted, for example, that "stress tells us relatively little about the details of a person's struggle to adapt. Emotion, conversely… [increases] the richness of what can be said about a person's adaptational struggle" (Lazarus, 1999, p. 33). In other words, including specific emotional responses (i.e. the feeling of negative emotion in particular) to resource depletion can show how leaders internally adapt to ongoing resource drain.

Considering how the impulsive system is activated can help explain why negative emotions in particular are part of leaders' impulsive reactions to emotional exhaustion, and thus mediate the relationship between emotional exhaustion and leadership style. Experiencing emotional exhaustion can activate the impulsive system in two ways: through automatic activation and by creating implicit goals outside one's awareness. In the first case, experiencing emotional exhaustion can produce negative emotions in a ' bottom up' fashion, where individuals experience resource depletion and feel negative emotions as part of a cyclical response to their lack of personal resources (Tugade, 2010). In other words, emotional exhaustion will increase negative emotions over time without conscious awareness. Lazarus (1999) similarly suggests that negative emotions go hand in hand with stressful situations that are perceived as harmful. Research has supported the idea that negative emotions are closely tied to stress, as experiencing negative events such as injustice predicts negative affect (Long & Christian, 2015). Second, the impulsive system can also be activated by stress through subconsciously setting goals for coping (i.e. priming). Research shows, for example, that subliminally priming individuals to

cope in emotionally positive ways (e.g., by controlling anger) can activate the expected changes in this emotion (Tugade, 2010). Given that work-related emotional exhaustion entails negative thoughts about one's job and energy levels, it is likely that negative emotions would similarly be activated in an implicit way when experiencing emotional exhaustion:

Hypothesis 1b: Leader emotional exhaustion will positively predict negative emotion

In turn, negative emotions are largely incompatible with the style of transformational leadership (Lanaj, Johnson, & Lee, 2016). Some research has shown that transformational leaders instil positive emotions in followers (Bono & Ilies, 2006). Given that positive emotions are often 'contagious' (i.e., trickle down from leaders to followers), this suggests that experiencing a high degree of negative emotion would impede a transformational leader's ability to influence followers' mood in such a positive way (Bono & Ilies, 2006). In addition, transformational leadership improves employee well-being (e.g., Arnold et al., 2007), which would promote ongoing spirals of positive emotion and employee health (Hobfoll, 1989).

There has also been a growing interest recently in the emotional nature of transformational leadership from the leaders' perspective (Humphrey, 2012). Arnold, Connelly, Walsh, and Martin Ginis (2015) found that transformational leaders were likely to genuinely express emotions (instead of regulating or suppressing them). Other research has shown that transformational leadership is closely linked to emotional intelligence

(Hur et al., 2011) and emotion regulation (e.g., faking emotions), as transformational leadership involves creating positive relationships and inspiring followers (Humphrey, Pollack, & Hawver, 2008).

Furthermore, Lanaj et al. (2016) found that transformational leaders experience positive emotions given that enacting positive transformational behaviours on a daily basis allows for the fulfillment of daily needs. Overall, transformational leadership hinges primarily on positive emotions, as it is likely that enacting this style requires feeling or producing (through emotional regulation) positive emotions, in order to enact its positive dimensions (Bono et al., 2007). In contrast, negative emotions would be draining for leaders and would not allow for the positive focus that transformational leaders are known to take.

In summary, it is likely that experiencing emotional exhaustion would reduce the likelihood of transformational leadership given previous findings from a COR perspective. Considering the processes of this relationship in more detail through a dual process perspective, I propose that this relationship would be mediated by the negative emotions that follow emotional exhaustion; Experiencing negative emotion would be an automatic reaction to exhaustion that would be incompatible with a transformational leadership style and would explain why resource depleted leaders are less likely to enact transformational behaviours (Byrne et al., 2014). Thus, I hypothesize:

Hypothesis 1c: The negative relationship between leader emotional exhaustion and transformational leadership will be mediated by negative emotion

The impulsive system: Negative emotion and abusive supervision

As discussed above, leader resource depletion reduces the likelihood of transformational leadership, and perhaps not surprisingly, it also increases the likelihood of abusive supervision (Byrne et al., 2014). Abusive supervision is a type of leadership where followers perceive leaders to "engage in the sustained display of hostile verbal and nonverbal behaviours, excluding physical contact" (Tepper, 2000, p. 178). This type of destructive leadership can create a toxic workplace. Research has shown, for example, that abusive supervision leads to negative outcomes for followers such as feedback avoidance (Whitman, Halbesleben, & Holmes, 2014). In addition to promoting dysfunctional behaviours, abusive supervision also reduces job satisfaction, follower job performance, and increases overall strain for followers (Mackey, Frieder, Brees & Martinko, 2015).

Given the negative outcomes associated with abusive supervision, some research has sought to understand its antecedents. For instance, some studies have suggested that leader-follower dissimilarity and a misalignment of leader and organizational goals promote destructive leader behaviours (Krasikova, Green, & LeBreton, 2013). According to COR theory, abusive supervision may result from a negative spiralling of resources. When individuals have few resources or are experiencing resource loss, COR theory suggests that they are likely to engage in counterproductive coping strategies to conserve their remaining resources (Hobfoll, 2001). For example, research shows that resource depletion predicts safety workarounds, which are thought to save time but actually increase the likelihood of future resource loss in the form of accidents (Halbesleben,

2010). Similarly, leaders who experience multiple forms of resource loss are even more likely to engage in abusive supervision as a form of leadership that helps them to control the workplace, albeit in negative ways (Byrne et al., 2014). Furthermore, the resource of exercise has been shown to buffer the relationship between leader stress and abusive supervision (Burton et al., 2012), which suggests the importance of strong resource reservoirs in predicting low levels of abusive supervision.

Being chronically resource depleted, leaders who are emotionally exhausted are likely to attempt to control their followers in hasty and inefficient ways (i.e. abuse). In contrast, if leaders have more personal resources they are better able to invest in positive behaviours; however, with few resources leaders are more likely to engage in a defensive, counterproductive behaviour to fulfill their roles as leaders. Thus, I hypothesize:

Hypothesis 2a: Leader emotional exhaustion will positively predict abusive supervision

Considering the processes of resource depletion in more detail, it is likely that negative emotion similarly mediates the relationship between leader emotional exhaustion and abusive supervision. A meta-analysis found that experiencing injustice predicts abusive supervision (Mackey et al., 2015). Given that injustice is often associated with negative emotions (Long & Christian, 2015), it is likely that the negative emotion caused by emotional exhaustion could similarly predict abusive supervision. Furthermore, feelings of hostility contribute to abusive supervision, and this type of negative emotion can be caused by sources of resource depletion at work such as poor performing

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subordinates (Liang et al., 2016). As an indication of resource depletion, feeling emotionally exhausted increases negative emotions, which are a key aspect of abusive supervision.

Wang, Sinclair, and Deese (2010), using a dual process model, have also suggested that there are other self-regulatory factors that predict abusive supervision related to negative emotion, such as interpersonal conflict and role overload. These contextual factors similarly produce negative emotion to ultimately increase the likelihood of abusive supervision. Interpersonal conflict, for example, can escalate and compromise leaders' affective processes, which in turn promotes unregulated negative emotions and subsequent destructive leadership behaviours (Wang et al., 2010). Conceptualizing leader emotional exhaustion as an indication of resource depletion that would similarly produce ongoing negative emotion, I hypothesize:

> *Hypothesis 2b: The positive relationship between leader emotional exhaustion and abusive supervision will be mediated by negative emotion*

The reflective system: Empathy and leadership style

In response to resource depletion, the reflective system works in parallel with the impulsive system to control behaviour. As discussed earlier, the reflective system is responsible for higher level, executive functioning. In turn, the impact of emotional exhaustion on leaders' relevant cognitive resources is of interest to understand how emotional exhaustion influences leadership styles through the reflective system. Glomb et al. (2011) suggest that empathy is one cognitive resource that helps improve leadership in

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relation to self-regulation. Although empathy can be defined primarily in terms of the feelings it can create in relation to others, I adopt Glomb et al. (2011)'s definition of empathy as "the ability to see life from another's perspective" (Glomb et al., 2011, p. 132), which characterizes it within the reflective system as a cognitive ability. Although some conceptualizations of empathy include emotional components (e.g., feeling another persons' pain; Davis, 1980), I focus on the cognitive component of empathy to align with Glomb et al.'s (2011) self-regulatory framework.

Research on emotional exhaustion shows that it negatively impacts cognitive resources. For example, burnout, of which emotional exhaustion is a key component, has been linked to cognitive failures in daily life for both working and non-working individuals, such as forgetting and inadvertently insulting people in social situations (van der Linden, Keijsers, Eling, & van Schaijk, 2005). Interestingly, that study also showed that during tasks that require attentional focus, burnout led to inhibition errors and decreases in performance (van der Linden et al., 2005). This suggests that in a leadership role, which similarly requires focus and attention, emotional exhaustion would be likely to compromise cognitive resources. Other research has shown that leaders are less likely to use the cognitive resources they have, such as intelligence, under stress (Fiedler, 1995). In a series of experiments, low stress environments were shown to allow leaders to use cognitive resources to their full capacity and to perform well. In contrast, stressful environments alter how leaders use their intelligence and predict accelerated resource loss for the most intelligent leaders (i.e. high intelligence predicted the most drastic deficits in

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leadership performance; Fiedler, 1995). Overall, research suggests that experiencing emotional exhaustion would similarly impair empathy as a cognitive resource.

Specifically focused on empathy, research has also shown the debilitating effects of resource depletion on this aspect of the reflective system. Martin et al. (2015) found, for example, that emotional contagion is blocked by stress, and that reducing stress can elicit emotional contagion. This finding suggests that stress may contribute to a lack of empathy, as the degree of emotional contagion experienced is closely related to an empathic response to others. Furthermore, in a review of studies of medical students and residents, empathy was shown to decline over training periods because of the distress students experienced as part of the curriculum (Neumann et al., 2011). COR theory would similarly predict that resource depletion would impede one's ability to be empathetic; experiencing resource depletion (i.e. emotional exhaustion) would make leaders less able to put themselves in someone else's shoes because of the cognitive effort this requires. If leaders are experiencing emotional exhaustion they are likely on a negative resource spiral where they adopt a defensive approach to resource conservation, instead of investing into positive behaviours such as empathy. Thus, I hypothesize:

Hypothesis 3a: Leader emotional exhaustion will negatively predict leader empathy

In response to stress, the reflective system is affected by reducing leader empathy, which can help subsequently explain why stress has a negative impact on leadership styles. Considering first the style of transformational leadership, there is evidence to

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suggest that the impaired empathy experienced by leaders would decrease their likelihood of enacting transformational leadership. Although I am not aware of empirical studies finding empathy as an antecedent of transformational leadership, the transformational model is based closely on developing high quality relationships with followers which links closely to empathy for followers. Theoretically, the dimension of individual consideration, for example, requires a leader to recognize followers' needs for development and support at work. Given that empathy requires leaders to think about how others are responding to various situations at work, it is likely that an empathetic leader would more easily be able to enact individual consideration by putting themselves in their followers' shoes. Other dimensions of transformational leadership might similarly require empathy. To effectively communicate a vision, for example, a leader who tailors their message to their followers needs has been shown to be more effective (Stam, van Knippenberg, & Wisse, 2009) and an empathetic leader would be more closely in tune with followers needs. To enact intellectual stimulation an empathetic leader might be more likely to see obstacles at work from their employees' perspectives. By seeing problems from an employees' point of view, a leader would be better able to recognize the resources and limitations an employee faces in solving that problem and would be better equipped to stimulate creativity it appropriate ways.

In addition, the focus on positive relationships within transformational leadership (e.g., through individual consideration) suggests that empathy would predict this style. Empathy is important for positive social functioning behaviours, such as cooperation (Eisenberg & Miller, 1987). Research has consistently shown that transformational

leaders are able to encourage cooperative behaviours and can build positive relationships at work. Transformational leaders have been shown, for instance, to effectively manage diversity in teams (Kearney & Gebert, 2009) and to build team trust (Schaubroeck, Lam, & Peng, 2011). Overall, the positive social climate transformational leaders can build in teams likely hinges on their ability to be empathetic and have concern for individual followers.

Empirical work does support the hypothesis that reduced empathy mediates the relationship between emotional exhaustion and transformational leadership. First, Lombardo, Ruderman, and McCauley (1988) found that managers who are unable to take their followers' perspectives (i.e. empathize with) at work performed poorly. Given the highly effective nature of transformational leadership (e.g., Judge & Piccolo, 2004), this finding suggests that low levels of empathy would be incompatible with a transformational style, which is widely known as being effective in a variety of contexts (Bass & Riggio, 2006). Research showing the strong connection between transformational leadership and follower emotions further supports the role of impaired empathy in the emotional exhaustion-transformational leadership relationship. For example, studies have shown that recognizing followers' emotions predicts transformational leadership behaviour (Rubin, Munz, & Bommer, 2005). Finally, although not specifically focused on empathy, the related construct of perspective taking (a key aspect of empathy; Davis, 1980) was found to partially predict transformational leadership (Gregory, Moates, & Gregory, 2011). Taking these theoretical and empirical arguments into account, I hypothesize the following:

Hypothesis 3b: The negative relationship between leader emotional exhaustion and transformational leadership will be mediated by leader empathy

Similarly considering the relationship between leader emotional exhaustion and abusive supervision, the impaired empathy that occurs in the reflective system might explain why resource depletion results in abusive leadership. Tepper's (2000) conceptualization of abusive supervision specifies that abusive behaviour is sustained over time; in other words, a boss who lashes out at followers on a bad day would not be considered an abusive supervisor. Instead, an abusive supervisor is characterized by enacting hostility on a regular basis. The ongoing nature of abusive supervision is incompatible with empathy, as a leader who is continuously hostile on the basis of subordinates' mistakes or low performance is likely narcissistic and focusing on his or her own goals instead of on ways to improve follower performance or well-being (Tepper, 2007).

Although few studies focused on the antecedents of abusive supervision in comparison to its outcomes, one study has shown that perceived deep-level dissimilarity predicts abusive supervision (Tepper, Moss, & Duffy, 2011). This finding suggests that when abusive supervisors feel little connection to their followers they are less likely to try and understand their feelings or points of view. In turn, they are more likely to act hostile toward followers over time. Research also shows that the degree to which supervisors have a hostile attribution bias predicts higher abusive supervision when leaders experience a psychological contract breach (Hoobler & Brass, 2006). In other words, leaders who tend to attribute negative interactions to hostile motivations of others will be

likely to be abusive. If leaders were empathetic, in contrast, they would be less likely to automatically attribute negative interactions with followers as hostile (e.g., by putting themselves in their followers' shoes) and would subsequently be less abusive. Furthermore, research on aggressive and antisocial behaviour shows that empathy is negatively related to these types of negative behaviours, as the capacity to be empathetic has been shown to be a key factor in positive social functioning (Miller & Eisenberg, 1988).

In summary, I propose that the relationship between leader resource depletion and abusive supervision hinges on the impaired empathy that comes from experiencing ongoing emotional exhaustion in a leadership role. Without the ability to invest resources into being empathic, leaders experiencing ongoing emotional exhaustion are less able to identify with followers and are more likely to behave in antisocial and aggressive ways. As COR theory suggests, a depleted leader is likely to take a counterproductive approach by being less empathic, and subsequently abusive. This reflective process typifies a negative resource spiral, where a leader experiencing emotional exhaustion suffers further resource loss through defensive actions. Taken together, I hypothesize the following:

Hypothesis 3c: The positive relationship between leader emotional exhaustion and abusive supervision will be mediated by leader empathy

Mindfulness as a buffer of leader stress responses

Conceptualizations of mindfulness vary according to research discipline. Rooted in Buddhism, mindfulness meditation practices generally include focusing attention in a

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purposeful way (Brown, Creswell, & Ryan, 2015). As outlined in my introduction, I adopt Brown, Ryan, and Creswell's (2007, p. 212) definition of mindfulness as "a receptive attention to and awareness of present events and experience." As a state of consciousness, mindfulness can be considered a capacity that can vary naturally (i.e. dispositional mindfulness; Brown & Ryan, 2003), and that can also be strengthened through practice (e.g. meditating). In this research I am investigating the benefits of trait mindfulness, which I conceptualize as a tendency toward mindful awareness that can be improved through mindful practices. Research has validated, using samples of Zen practitioners, clinical, and general populations, that trait mindfulness is a distinct form of attention and awareness that can be cultivated through practice (Brown & Ryan, 2003).

Mindfulness has received an abundance of research attention in psychology. Studies consistently show the positive effects of mindfulness training for treating individuals who are could be considered resource depleted, such as those experiencing depression and chronic anxiety (e.g., Brown et al., 2015; Craigie, Rees, Marsh, & Nathan, 2008; Keng, Smoski, & Robins, 2011; Zylowska et al., 2008). Mindfulness training has also been shown to treat physically depleting conditions such as chronic pain (Veehof, Oskam, Schreurs, & Bohlmeijer, 2011) and arthritis (Zautra et al., 2008). In addition to its clinical benefits, there is also a growing interesting in the benefits of mindfulness in relation to emotional benefits, decreasing stereotype-based judgements, and improving performance when experiencing stereotype threat (Arch & Landy, 2015; Daniel, 2014; Kang, Gruber, & Gray, 2012). Many meta-analyses and descriptive reviews highlight the

predictive utility of mindfulness in various contexts (e.g., Grossman, Niemann, Schmidt, & Walach, 2004; Khoury et al., 2013).

A context where mindfulness is receiving increasing attention is within the workplace. Organizations such as Google have brought mindfulness meditation and its benefits to mainstream attention (Shachtman, 2012). Although the practical benefits are becoming evident as more businesses are adopting mindfulness-related training programs, there have been fewer rigorous academic studies that objectively assess the processes and various outcomes of mindfulness at work.

Some accumulating evidence suggests, however, that mindfulness is a useful tool at work. Studies have found mindfulness to be associated with job performance (Dane & Brummel, 2014) and one study found a link between mindfulness and GPA as an indication of performance (Shao & Skarlicki, 2009). Others have found that mindfulness improves performance of health care workers in terms of patient satisfaction and symptom outcomes (Beach et al., 2012; Grepmair et al., 2007). Other research has shown mindfulness to improve personal resources at work. For example, Hulsheger, Alberts, Feinholdt, and Lang (2013) found that mindfulness training reduces emotional exhaustion, which is mediated through decreases in surface acting (i.e. faking emotions). Given that most jobs require specific emotional display rules, the ability for mindfulness to decrease harmful forms of emotion regulation could prove useful in many contexts, such as customer service. Other studies have shown that mindfulness helps employees overcome specific challenges at work, such as injustice (Long & Christian, 2015).

Mindfulness also helps to strengthen the impact of positive experiences at work such as having an ethical leader (Eisenbeiss & van Knippenberg, 2015).

Although less research has focused on leader mindfulness, there are empirical and conceptual arguments to suggest that it may help to improve leadership style. Leader mindfulness has been shown buffer the relationship between hostility toward subordinates and abusive supervision (Liang et al., 2016). Mindful leaders at many organizational levels have also been shown to have higher psychological well-being, which is mediated by increases in psychological capital (Roche et al., 2014). Taken together, these findings suggest that mindfulness allows leaders to react less hastily to negative situations at work, and enables them to build resources that ultimately have a positive impact on their well-being.

In addition to having positive impacts on their own psychological well-being, research also suggests that leader mindfulness predicts positive outcomes for employees. In two studies, it was found that having a mindful leader (i.e., high in trait mindfulness) predicted higher employee performance, which was mediated by increases in employee well-being (Reb, Narayanan, & Chaturvedi, 2012). Although this study did not test the processes of this relationship, it is likely that part of the relationship between mindful leadership and employee well-being hinges on the potential for mindfulness to promote positive leadership styles. Reb, Sim, Chintakananda, and Bhave (2015) illustrate conceptually that mindfulness can help increase a leader's charisma, their authenticity, and servant leadership behaviours. They outlined in detail how linkages between mindfulness and factors relating to leadership styles (e.g. self-awareness, emotion

regulation, positive relationship development) found in past research helps to explain why mindfulness would be closely related to positive leader behaviours.

I suggest that this relationship of mindfulness to leader behaviour is due in part to its ability to disrupt leaders' reactions to ongoing resource depletion. The dual process model of leader stress suggests that the impulsive and reflective systems contribute distinctly to behaviours that follow emotional exhaustion. Glomb et al. (2011)'s self-regulation framework can be integrated with a dual process model of resource depletion to explain how these systems can be interrupted by mindfulness to improve leader behaviour. Glomb et al. (2011) propose that several key factors explain the impacts of mindfulness in the workplace. First, mindfulness inhibits automatic responses to both chronic and acute events. Instead of reacting hastily to negative events such as workplace stressors, mindfulness allows leaders to pause before they react, which produces dampened emotional responses in many cases. As will be discussed further, this is a key mechanism through which the impulsive system will be interrupted. Second, Glomb et al. (2011) suggest that mindfulness allows leaders to separate themselves from thoughts and emotions while simultaneously improving functioning in cognitive areas such as increasing empathy. With an ability to step back from stressors and improved cognitive functioning, the damaging impact of stress on the reflective system also becomes interrupted at the onset of resource depletion to ultimately improve leadership style. Furthermore, by disrupting the impulsive and improving the reflective system, it is likely that mindfulness helps to create a virtuous spiral for leaders, where negative behaviours are reduced, while positive behaviours are simultaneously promoted (Lawler, 2006).

Negative emotion and mindfulness

As discussed earlier, emotional exhaustion increases the likelihood for leaders to experience negative emotion, which in turn has negative effects on leadership styles (i.e. decreases transformational and increases abusive behaviours). Mindfulness will disrupt this process by buffering leaders' responses to emotional exhaustion within the impulsive system. As Glomb et al. (2011)'s framework suggests, mindfulness will decrease the automatic tendency for emotional exhaustion to create even more negative emotions for leaders. Being mindfully aware will allow leaders to decouple from emotional exhaustion without judgement and rumination, which would lead to less negative emotion following this experience of resource depletion.

Research suggests mindfulness positively impacts emotions through the impulsive system by creating less intense emotional reactions to both aversive stimuli and chronic triggers of negative emotion (Chiesa, Serretti, & Jakobsen, 2013). In a sample of students who were prone to anxiety, a short mindfulness intervention dampened negative affect when watching emotional film clips (Erisman & Roemer, 2010). Other research has similarly showed that mindfulness predicted lower negative emotion from completing anxiety-related tasks (Arch & Craske, 2010). In addition, the emotions generated from chronic stressors such as poorly performing subordinates have also been shown to be interrupted by mindfulness (Liang et al., 2016). In similar vein, Glomb et al. (2011) found that the chronic stress of experiencing harsh environmental conditions at work was agitating for employees, but that practicing mindfulness allowed employees to regulate this ongoing negative emotion. Given that negative emotions naturally follow the

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experience of emotional exhaustion, these findings suggest that mindfulness has the potential to create less intense negative emotions following the experience of chronic resource depletion.

Research within neuroscience also supports the idea that mindfulness disrupts automatic responses to stress. Taylor et al. (2011) compared the neural activity of novice and long-term mindfulness meditators while viewing emotional pictures. It was found that long-term meditators had reduced activity in the amygdala (an area of the brain that is known for generating emotion) when viewing the pictures (Chiesa et al., 2013). With reduced activity in this area while experiencing an emotional stressor, there is compelling evidence that mindfulness could similarly disrupt the impulsive system by weakening a leaders' automatic emotional response to stress. Other studies have similarly shown that mindful individuals have lower brain arousal (measured through brainwave analysis) to negative emotional stimuli (Brown, Goodman, & Inzlicht, 2013). In this study, the differences in arousal between mindful and non-mindful individuals occurred with in the first second of exposure to emotion generating stimuli (Brown et al., 2013). Taken together, these studies suggest that specific areas of the brain, in addition to brainwave activity, are influenced in a positive way by mindfulness; with a strong present moment awareness, impulsive processes following stress are inhibited. For leaders, mindfulness will similarly disrupt the automatic tendency to experience negative emotion when experiencing ongoing emotional exhaustion. Thus, I hypothesize:

Hypothesis 4a: The positive relationship between leader emotional exhaustion and negative emotion will be weaker for individuals who are high in mindfulness

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Empathy and mindfulness

In terms of the reflective system, I have suggested that leader stress will predict lower levels of empathy, which will in turn increase the likelihood of abusive supervision and decrease levels of transformational leadership. I propose that mindfulness will buffer the relationship between emotional exhaustion and empathy by disrupting this response to stress within the reflective system. Glomb et al. (2011)'s framework suggests that in addition to inhibiting automatic mental processes (impulsive system), mindfulness also allows individuals to decouple themselves from immediate experiences and improves cognitive functions such as empathy. With an improved capacity to be empathetic, mindfulness will cause less dramatic decreases in empathy for leaders following stress.

Mindfulness should lead to less drastic decreases in empathy following emotional exhaustion for the following reasons. First, research in neuroscience has shown that mindfulness increases brain activity in areas responsible for empathy (Holzel et al., 2011). Thus, mindful leaders will be more likely to maintain their ability to be empathic under stress in comparison to leaders who are less mindful. Furthermore, medical students under a stressful examination period (Shapiro, Schwartz, & Bonner, 1998) and counselling graduate students (Shapiro, Brown, & Biegel, 2007) also had higher levels of empathy upon completing mindfulness training. Given the compassion and high levels of stress both samples are likely to experience over long periods of time, these findings support the idea that mindfulness can buffer chronic resource depletion to promote higher empathy in leaders.

Second, mindfulness has been shown to increase meta-cognitive awareness (Glomb et al., 2011). Mindfulness-based practices often focus on gaining the ability to merely notice and accept one's thoughts objectively, which creates meta-awareness of one's thoughts and feelings (Glomb et al., 2011). Being able to understand one's internal thought processes can help to gain understanding of the processes of others, which in turn facilitates empathy for others (Teasdale et al., 2002). With a mindful awareness, leaders who are experiencing emotional exhaustion would experience less drastic decreases in empathy, as mindfulness would promote the metacognitive awareness they need to imagine themselves in others' situations despite the stress they feel. Taking these research findings together, I suggest that mindfulness will predict a weakened relationship between leader emotional exhaustion and empathy and hypothesize the following:

> *Hypothesis 4b: The negative relationship between leader emotional exhaustion and empathy will be weaker for individuals who are high in mindfulness*

A key aspect of dual process models is that both the impulsive and reflective systems operate in parallel (Strack & Deutsch, 2004). Given that leader stress is likely to have automatic and reflective consequences that in turn influence leader behaviour, I hypothesize a moderated mediation model where the buffering role of mindfulness not only predicts changes associated with the initial stress response (as in Hypotheses 4a and 4b), but also serves to decrease emotional exhaustion's predicted relations with transformational leadership and abusive supervision through this initial buffering effect. Please see Figure 1 for a visual representation of this moderated mediation model.

Hypothesis 5a-b: Mindfulness moderates the indirect effect of leader emotional

exhaustion on transformational leadership (5a) and abusive supervision (5b)

through negative emotion and empathy, such that the indirect effects are weaker

when mindfulness is higher

2.2 Method

To test the hypotheses outlined above, I conducted a survey (two waves, three weeks apart) of organizational leaders and their direct reports. To reduce common method bias, I collected data on predictors at Time 1 and criteria at Time 2, and I collected data from two sources (supervisors and employees) (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003).

Figure 1-1: Visual summary of Study 1 model
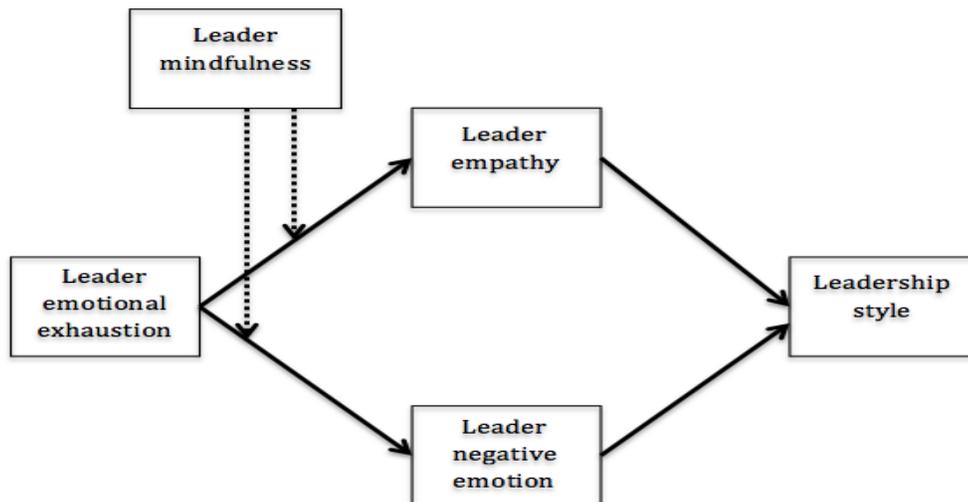
Sample

I recruited leaders using TurkPrime (www.turkprime.com), which is an online recruitment service where participants are recruited for a fee based on demographic needs. This service is similar to Amazon's Mechanical Turk (MTurk), which is used in Study 2. MTurk is a crowdsourcing platform where individuals and businesses can recruit participants to complete tasks (e.g. surveys) for a fee. MTurk is widely accepted as a valid form of recruitment for psychology studies. For example many experiments conducted on MTurk have successfully been replicated in traditional laboratory settings and have high test re-test reliability (Buhrmester, Kwang, & Gosling, 2011; Suri & Watts, 2011). TurkPrime uses the same crowdsourcing techniques as MTurk, except demographic panels can be targeted through larger and more diverse participant pools. I compensated participants $2.00 for each survey. At Time 1, 3300 participants qualified for the study based on being employed full time in a supervisory position or higher where people report directly to him/her. Of 3300 qualified participants, 750 participated at Time 1. Based on past research using Mechanical Turk (Liang et al., 2016) and recommendations from Meade and Craig (2012), I excluded participants based on careless responding, which I assessed using an attention check question ("Please select strongly agree to this question"), and survey durations that were too fast (less than 40% of the median time). I excluded 107 participants based on these criteria, which resulted in 643 participants being invited at Time 2. This percentage of careless responses is similar to other studies using Mechanical Turk (Liang et al., 2016). At Time 2, 536 participants responded (response rate: 83%), and 31 were removed based on careless responding, resulting in a final leader sample of 505. At Time 2, I instructed leaders to send a survey link to followers that assessed leadership style for a chance for the follower to win 1 of 5 $50 Amazon gift cards. Of 505

leaders, 127 followers responded (response rate: 25%). Although leaders could send the survey to as many followers as they wished, only one follower responded for each leader (i.e., there were 127 leader-follower pairs). Using the same standards for careless responding as above, I removed 64 participants, which resulted in a final sample of 63 leader-follower pairs.

Leaders had a mean age of 37.30 years (range 19-69 years) a mean tenure in their current supervisory position of 6 years (range 1-38 years), and a mean of 9.64 years (range 1-40) of total supervisory experience. Sixty percent of the sample were male and were from a broad range of industries. The most popular categories of industry were: IT (11%), education (9%), sales/retail (8%), production/manufacturing (5%), and health care (6%).

Followers had a mean age of 36.50 years (range 20-48) and had a mean tenure in their current job of 8.10 (range 2-36) years. Employees had worked with their current supervisor for a mean of 5.71 (range 1-39) years. Fifty nine percent of followers were male.

Leader measures

All measures used in this study have been found to be reliable and valid in past research. Please see Appendix A for a full list of survey items for Study 1.

Emotional exhaustion (Time 1). I measured emotional exhaustion using 5 items from the Maslach Burnout Inventory (Maslach et al., 1996). I chose this scale as it is the most widely used and has been validated in a wide variety of samples (Alarcon, 2011;

Maslach et al., 1996). This measure is copyright, so a full version has not been included in the appendix. I have received copyright permission to use this measure. I asked participants to rate on a scale from 1 (a few times a year) to 7 (every day) how often they experience the feeling or attitude described. Example items are "I feel emotionally drained from my work" and "I feel used up at the end of the workday." Alpha was .94.

Mindfulness (Time 1). I measured mindfulness using 15 items from the Mindful Attention Awareness Scale (Brown & Ryan, 2003). I chose this scale because it is the most widely used and has been validated with workplace samples (Brown & Ryan, 2003). I asked participants to rate on a scale from 1 (almost always) to 6 (almost never), how frequently they have each experience. Alpha was .94.

Negative emotion (Time 1). I measured negative emotion using 10 negative emotion items from Watson, Clark, and Tellgen (1988)'s Positive and Negative Affect Scale (PANAS). The PANAS asks participants to rate from 1 (very slightly or not at all) to 5 (extremely) the extent to which they felt certain ways in the last three weeks. Alpha was .92

Empathy (Time 1). I measured empathy using 7 perspective taking items from Interpersonal Reactivity Index (Davis, 1980). Participants rated from 1 (does not describe me well) to 5 (describes me very well) their thoughts and feelings in a variety of situations. Alpha was .86.

Transformational leadership (Time 2). Given that follower responses of leadership style could not be guaranteed, I included self-ratings of leadership style in

addition to follower responses. Self-reported transformational leadership was measured using 20 items from the Multifactor Leadership Questionnaire (Bass & Avolio, 2000). Given that this measure is copyright I have not included the full questionnaire in the appendix. I have received copyright permission to use this measure in Studies 1 and 2. Participants were asked to rate from 0 (not at all) to 4 (frequently, if not always) how frequently they exhibit the behaviour in each statement in relation to their direct reports. Sample items are: "I talk optimistically about the future" and "I get others to look look at problems from many different angles." Alpha was .93.

Abusive supervision (Time 2). Self-reported abusive supervision was measured using 15 items from Tepper (2000). Leaders were asked to answer questions about how frequently they engage in various behaviours with their subordinate ranging from 1 (I don't ever use this behaviour with them) to 5 (I use this behaviour very often with them). Alpha was .96.

Follower measures

Transformational leadership (Time 2). I measured follower perceptions of transformational leadership using 20 items from the Multifactor Leadership Questionnaire (Bass & Avolio, 2000). Participants were asked to rate from 0 (not at all) to 4 (frequently, if not always) how frequently each statement fits their immediate supervisor/manager. Sample items are: "Talks optimistically about the future" and "Gets me to look at problems from many different angles." Alpha was .94.

Abusive supervision (Time 2). I measured follower perceptions of abusive supervision using 15 items from Tepper (2000). Participants were asked to answer questions about their boss and response scales ranged from 1 (I cannot remember him/her ever using this behaviour with me) to 5 (he/she uses this behaviour very often with me). Alpha was .96.

Leader member exchange (LMX; Time 2). I measured follower perceptions of LMX using 7 items from (Graen & Uhl-Bien, 1995). Participants were asked to indicate their agreement with each item from 1 to 5. Alpha was .86.

Controls. For each analysis, I controlled for supervisory experience, given that this has been shown to be significantly associated with perceptions of leadership style and leaders' abilities to handle stressors at work (Courtright, Colbert, & Choi, 2014). From the followers' perspective, I controlled for LMX given that it approximates supervisor liking and could affect follower ratings of leadership styles, particularly since there was no way of controlling who the leaders gave the survey link to (Schriesheim, Castro, & Cogliser, 1999).

2.3 Analyses

Before testing my hypotheses, I examined the data to ensure all assumptions of linear regression were met. First, I ensured linearity between predictors and criteria by examining scatter plots. Second, I tested the data for multi-collinearity by examining intercorrelations between variables and calculating the variance inflation factor (VIF) for each variable. The VIFs for each variable did not exceed the maximum level of 10

recommended by Meyers, Gamst, and Guarino (2013). Third, I examined the residuals of predicted scores in each model to ensure homoscedasticity and normality (Tabachnick & Fidell, 2007). The plotted residuals for each model showed that these assumptions were met, so I proceeded with the analyses.

To test the hypotheses outlined in Chapter 1, I used Andrew Hayes' PROCESS macro ([www.afhayes.com; version 2.16.2, 2016](www.afhayes.com)) for SPSS which uses OLS regression to test mediation, moderation, and moderated mediation (in addition to direct effects). Bootstrapping (5000 iterations) was used to test indirect effects, conditional indirect effects, and to produce 95% bias corrected confidence intervals. Emotional exhaustion was input as the predictor, negative emotion and empathy were mediators, and leadership style (transformational leadership and abusive supervision, as measured by followers) were the criteria. Leader mindfulness was the moderating variable. Please see Figure 1 for a visual representation of these relationships.

2.4 Results (Leadership style measured by direct reports)

Means, standard deviations, and correlations between all variables are outlined in Table 1-1. As can be seen from Table 1-1, there is a statistically significant relationship between emotional exhaustion and transformational leadership, as well as abusive supervision and negative emotion. However, I used regression results to test all hypotheses given the need to control for LMX and supervisory experience. Hypotheses 1a-1c predict that emotional exhaustion negatively predicts transformational leadership (a), negative emotion (b), and that the negative relationship between emotional

exhaustion and transformational leadership is mediated by negative emotion (c). As can

be seen from Table 1-2, emotional exhaustion does not have a statistically significant

relationship with transformational leadership ($b = -.06$, ns), but does significantly predict

negative emotion ($b = .29$, $p < .001$), supporting hypothesis 1b. Furthermore, the indirect

effect of emotional exhaustion on transformational leadership through negative emotion is

not significant (point estimate = -.03, CI: -.10 to .04). Thus, hypotheses 1a and 1c are not

supported. Hypotheses 2a and 2b predict that emotional exhaustion positively predicts

abusive supervision (a), and that this relationship is mediated by negative emotion (b). As

can be seen from Table 1-3, leader reported emotional exhaustion does not have a

significant direct ($b = .16$, ns) or indirect effect on abusive supervision as rated by direct

reports (point estimate = .05, CI: -.08 to .18). Thus, hypotheses 2a and 2b are not

supported.

Hypotheses 3a and 3b predict that leader emotional exhaustion negatively predicts

leader (a), empathy and that the relationship between emotional exhaustion and

transformational leadership is (b) mediated by empathy. Hypothesis 3c similarly

predicted that leader empathy mediates the relationship between emotional exhaustion

and abusive supervision. As can be seen from Tables 1-2 and 1-3, emotional exhaustion

does not have significant relationship with leader empathy ($b = -.07$, ns), and in turn the

indirect effects between emotional exhaustion and transformational leadership (point

estimate = -.00, CI: -.05 to .01) and abusive supervision (point estimate = .02, CI: -.00 to

.08) are not significant. Thus, hypotheses 3a-3c are not supported. Given that the

hypothesized indirect effects are not significant, I did not proceed to test for moderated

mediation.

Table 1-1: Means, standard deviations and intercorrelations among Study 1 variables (leader-follower pairs, N = 63)

Variable	M	SD	1	2	3	4	5	6	7
1. Supervisory experience (T1)	9.32	7.19							
2. LMX (T2)	3.75	0.73	.27*						
3. Emotional exhaustion (T1)	3.38	1.55	.03	-.25*					
4. Mindfulness (T1)	4.54	0.87	.11	.25*	-.52**				
5. Negative emotion (T1)	1.70	0.67	-.09	-.30*	.71**	-.53**			
6. Empathy (T1)	3.87	0.67	.22	.22	-.19	.39**	-.33**		
7. Abusive supervision (T2)	1.80	0.87	-.21	-.39**	.46**	-.32*	.46**	-.36**	
8. TFL (T2)	3.60	0.74	.14	.78**	-.38**	.24	-.40**	.23	-.29*

Note: LMX = Leader member exchange. Abusive supervision and Transformational leadership (TFL) are measured by direct reports.

Table 1-2: Direct and indirect effects model coefficients for effects of emotional exhaustion on transformational leadership (TFL) (Leader-follower pairs, N = 63)

	Consequent														
	Negative emotion (T1; M)					Empathy (T1; M)					TFL (T2; Y)				
Antecedent	Coeff	*SE*	*p*	LLCI	ULCI	Coeff	*SE*	*p*	LLCI	ULCI	Coeff	*SE*	*p*	LLCI	ULCI
Negative emotion (T1; M)	-	-	-	-	-	-	-	-	-	-	-.10	.13	.45	-.35	.16
Empathy (T1; M)	-	-	-	-	-	-	-	-	-	-	.06	.09	.53	-.13	.25
Emotional exhaustion (T1; X)	.29	.04	<.001	.21	.38	-.07	.06	.24	-.18	.05	-.06	.05	.23	-.17	.04
Supervisory experience (T1; C)	-.01	.01	.37	-.03	.01	.02	.01	.13	-.01	.04	.01	.01	.36	-.03	.01
LMX (T2; C)	-.09	.09	.32	-.27	.09	.09	.12	.45	-.15	.34	.73	.09	<.001	.56	.90
	R² = .51 F(3, 57) = .19.84, p < .001					R² = .09 F (3, 57) = 1.93, p = .14					R² = .66 F(5, 55), = 20.89, p < .001				

Note: LMX = Leader member exchange. Transformational leadership (TFL) is measured by direct reports. X = independent variable; Y = outcome; M = mediator; C = covariate; LLCI = lower level of confidence interval; ULCI = upper limit of confidence interval; T1 = Time 1; T2 = Time 2

Table 1-3: Direct and indirect effects model coefficients for effects of emotional exhaustion on abusive supervision (Leader-follower pairs, N = 63)

Consequent

Antecedent	Negative emotion (T1; M)					Empathy (T1; M)					Abusive supervision (T2; Y)				
	Coeff	*SE*	*p*	LLCI	ULCI	Coeff	*SE*	*p*	LLCI	ULCI	Coeff	*SE*	*p*	LLCI	ULCI
Negative emotion (T1; M)	-	-	-	-	-	-	-	-	-	-	.16	.21	.45	-.26	.57
Empathy (T1; M)	-	-	-	-	-	-	-	-	-	-	-.26	.15	.09	-.56	.04
Emotional exhaustion (T1; X)	.29	.04	<.001	.21	.38	-.07	.06	.22	-.18	.04	.16	.09	.07	-.01	.33
Supervisory experience (T1; C)	-.01	.01	.54	-.02	.01	.02	.01	.19	-.01	.04	-.01	.01	.32	-.04	.01
LMX (T2; C)	-.10	.09	.27	-.28	.08	.11	.12	.38	-.14	.36	-.25	.14	.08	-.53	.03
	$R^2 = .52$					$R^2 = .09$					$R^2 = .37$				
	$F(3, 56) = .19.84, p < 0.001$					$F(3, 56) = 1.88, p = .14$					$F(5, 54), = 6.28, p < .001$				

Note: LMX = Leader member exchange. Abusive supervision is measured by direct reports. X = independent variable; Y = outcome; M = mediator; C = covariate; LLCI = lower level of confidence interval; ULCI = upper limit of confidence interval; T1 = Time 1; T2 = Time 2

2.5 Post-hoc analyses

Given the small number of leader follower pairs in the analysis above (N = 63), I proceeded by testing the hypotheses with the full sample of leaders (N = 505) using leaders' self-reported leadership style as criteria. The correlations between leaders and followers perceptions of leadership style are fairly high (abusive supervision, $r = .63$, $p < .01$; transformational leadership, $r = .55$. $p < .01$), which suggests that leaders' self-reports of leadership are in line with followers' perceptions. Furthermore, leaders' self-reported leadership style has been used in other studies relating to leader emotion, well-being, and mindfulness (Lanaj et al., 2016; Liang et al., 2016). Before I proceeded with this analysis I tested the larger leader data set for the assumptions of linear regression. All assumptions are met, except the residuals for predicted values of abusive supervision are right skewed, as is often the case for this construct (Mitchell & Ambrose, 2007). Following the recommendations of Tabachnick and Fidell (2007), I performed an inverse transformation on the abusive supervision variable, which corrects this issue. Given that the results using the inverse of abusive supervision remained the same, results using the original abusive supervision variable are reported to facilitate interpretation.

2.6 Post-hoc results (Leader self-reported leadership style)

Means, standard deviations and correlations between all variables of the full leader sample (N = 505) are outlined in Table 1-4. As can be seen in Table 1-5, emotional exhaustion positively predicts negative emotion ($b = .21$, $p < .001$), supporting hypothesis 1b. Although the direct effect between emotional exhaustion and transformational

leadership (1a) is not significant ($b = -.03$, ns), the indirect effect through negative emotion is significant (point estimate: -.02, CI: -.03 to -.00), supporting hypothesis 1c. As shown in Table 1-6, emotional exhaustion does not have a significant direct effect on abusive supervision ($b = .02$, ns), but the indirect effect through negative emotion (point estimate = .05, CI: .03 to .08) is significant. Thus hypothesis 2b is supported, while 2a is not.

Regarding the role of empathy (See Tables 1-5 and 1-6), leader emotional exhaustion negatively predicts empathy ($b = -.04$, $p < .05$), supporting hypothesis 3a. The indirect effect of emotional exhaustion through empathy is significant for the outcomes of transformational leadership (point estimate = -.01, CI: -.02 to -.00) and abusive supervision (point estimate = .01, CI: .00 to .02), supporting hypotheses 3b and 3c.

Hypothesis 4a and 4b predict that the relationships between emotional exhaustion and (a) negative emotion and (b) empathy are moderated by mindfulness, such that the effects are weaker for more mindful individuals. As shown in Table 1-7, the interaction between mindfulness and emotional exhaustion is significant for the outcome of negative emotion ($b = -.05$, $p < .001$) but not empathy ($b = -.02$, ns). Thus hypothesis 4a is supported whereas hypothesis 4b is not. A graph was produced to aid interpretation of the significant interaction. As hypothesized, more mindful leaders reported experiencing lower negative emotion despite their emotional exhaustion. Tests of simple slopes were conducted using Bonferroni adjusted alpha levels of .0166 per test (.05/3), which reveals that this effect is indeed weaker for individuals high in mindfulness ($b = .11$, $t(500) =$

4.98, $p < .001$) than for those lower ($b = .22$, $t(500) = 9.54$, $p < .001$) or average ($b = .17$,

$t(500) = 9.57$, $p < .001$) in mindfulness.

Table 1-4: Means, standard deviations and intercorrelations among Study 1 variables (leaders only N = 505)

Variable	M	SD	1	2	3	4	5	6
1. Supervisory experience (T1)	9.64	7.15						
2. Emotional exhaustion (T1)	3.65	1.69	-.02					
3. Mindfulness (T1)	4.26	1.04	.10*	-.37**				
4. Negative emotion (T1)	1.70	.73	-.01	.48**	-.40**			
5. Empathy (T1)	3.87	.74	.03	-.01*	.24**	-.18**		
6. Abusive supervision (T2)	1.41	.64	-.08	.21**	-.23**	.37**	-.38**	
7. TFL (T2)	3.82	.61	.14**	-.17**	.29**	-.22**	.44**	-.23**

Note: TFL = Transformational leadership; T1 = Time 1; T2 = Time 2

Finally, hypotheses 5a and 5b predict that mindfulness moderates the indirect effects of emotional exhaustion on (a) transformational leadership and (b) abusive supervision through negative emotion and empathy. Hypothesis 5a is partially supported, as the conditional indirect effect between emotional exhaustion and transformational leadership through negative emotion is weaker for leaders high in mindfulness (point estimate = -.01, CI: -.02 to -.00) than for those low in mindfulness (point estimate = -.02, CI: -.03 to -.00). However, given that hypothesis 4b is not supported, the indirect effect through empathy is not moderated by mindfulness. Similarly, hypothesis 5b was partially supported, as the conditional indirect effect between emotional exhaustion and abusive

supervision through negative emotion is weaker for those high in mindfulness (point

estimate = .03, CI: .01 to .06) compared to those low in mindfulness (.05 CI: .03 to .08).

Table 1-5: Direct and indirect effects model coefficients for effects of emotional exhaustion on transformational leadership (TFL) (leaders only N = 505)

							Consequent								
	Negative emotion (T1; M)					Empathy (T1; M)					TFL (T2; Y)				
Antecedent	Coeff	*SE*	*p*	LLCI	ULCI	Coeff	*SE*	*p*	LLCI	ULCI	Coeff	*SE*	*p*	LLCI	ULCI
Negative emotion (T1; M)	-	-	-	-	-	-	-	-	-	-	-.09	.04	.02	-.16	-.01
Empathy (T1; M)	-	-	-	-	-	-	-	-	-	-	.34	.03	<.001	.27	.40
Emotional exhaustion (T1; X)	.21	.02	<.001	.17	.24	-.04	.02	<.05	-.08	-.00	-.03	.02	.09	-.06	.00
Supervisory experience (T1; C)	-.00	.00	.90	-.01	.01	.00	.00	.48	-.01	.01	.01	.00	<.01	.00	.02

<div align="center">

$R^2 = .23$
$F_{(2, 500)} = 74.69$, $p < .001$

$R^2 = .01$
$F_{(2, 500)} = 2.49$, $p = .09$

$R^2 = .23$
$F_{(4, 498)} = 37.98$, $p < .001$

</div>

Note: Transformational leadership (TFL) is measured by leaders. X = independent variable; Y = outcome; M = mediator; C = covariate; LLCI = lower level of confidence interval; ULCI = upper limit of confidence interval; T1 = Time 1; T2 = Time 2.

Table 1-6: Direct and indirect effects model coefficients for effects of emotional exhaustion on abusive supervision (Leaders only N = 505)

					Consequent									
	Negative emotion (T1; M)					Empathy (T1; M)					Abusive supervision (T2; Y)				
Antecedent	Coeff	SE	p	LLCI	ULCI	Coeff	SE	p	LLCI	ULCI	Coeff	SE	p	LLCI	ULCI
Negative emotion (T1; M)	-	-	-	-	-	-	-	-	-	-	.25	.04	<.001	.17	.33
Empathy (T1; M)	-	-	-	-	-	-	-	-	-	-	-27	.03	<.001	-.34	-.21
Emotional exhaustion (T1; X)	.21	.02	<.001	.17	.24	-.04	.02	<.05	-.08	-.00	.02	.02	.33	-.02	.05
Supervisory experience (T1; C)	-.00	.00	.90	-.01	.01	.00	.00	.48	-.01	.01	-.01	.00	.09	-.01	.00

	$R^2 = .23$	$R^2 = .01$	$R^2 = .24$
	$F_{(2, 499)} = 74.56, p < .001$	$F_{(2, 499)} = 2.52, p = .08$	$F_{(4, 497)} = 39.83, p < .001$

Note: Abusive supervision is measured by leaders. X = independent variable; Y = outcome; M = mediator; C = covariate; LLCI = lower level of confidence interval; ULCI = upper limit of confidence interval; T1 = Time 1; T2 = Time 2.

Table 1-7: Regression results for moderated mediation model of emotional exhaustion on leadership style (Leaders only N = 505)

Consequent:

	Negative emotion (T1; M)			Empathy (T1; M)		
Antecedent	Coeff	*SE*	*p*	Coeff	*SE*	*p*
Emotional exhaustion (T1; X)	.38	.06	<.001	.10	.08	.18
Mindfulness (T1; W)	-.01	.06	.83	.25	.07	<.001
Mindfulness x Emotional exhaustion	-.05	.01	<.001	-.02	.02	.16
Supervisory experience (T1; C)	.00	.00	.57	.00	.00	.83
	$R^2 = .30$			$R^2 = .06$		
	$F(4, 498) = 54.62$, p < .001			$F(2, 498) = 8.29$, p < .001		

Consequent: TFL (T2)

	Conditional indirect effects: Negative emotion			
Variable	Indirect effect	SE	LLCI	ULCI
Low mindfulness	-.02	.01	-.03	-.00
Average mindfulness	-.01	.01	-.02	-.00
High mindfulness	-.01	.00	-.02	-.00
	Conditional indirect effects: Empathy			
Low mindfulness	.00	.01	-.01	.03
Average mindfulness	-.00	.01	-.01	.01
High mindfulness	-.01	.01	-.02	.00

Consequent: Abusive supervision (T2)

	Conditional indirect effects: Negative emotion			
Low mindfulness	.05	.01	.03	.08
Average mindfulness	.04	.01	.02	.07
High mindfulness	.03	.01	.01	.06
	Conditional indirect effects: Empathy			
Low mindfulness	-.01	.01	-.02	.01
Average mindfulness	.00	.01	-.01	.01
High mindfulness	.01	.01	-.00	.02

Note: Abusive supervision and Transformational leadership (TFL) is measured by leaders. X = independent; Y = outcome; M = mediator; C = covariate; LLCI = lower level of confidence interval; ULCI = upper limit of confidence interval; T1 = Time 1; T2 = Time 2

Figure 1-2: Moderating effect of mindfulness on the relationship between leader emotional exhaustion and negative emotion
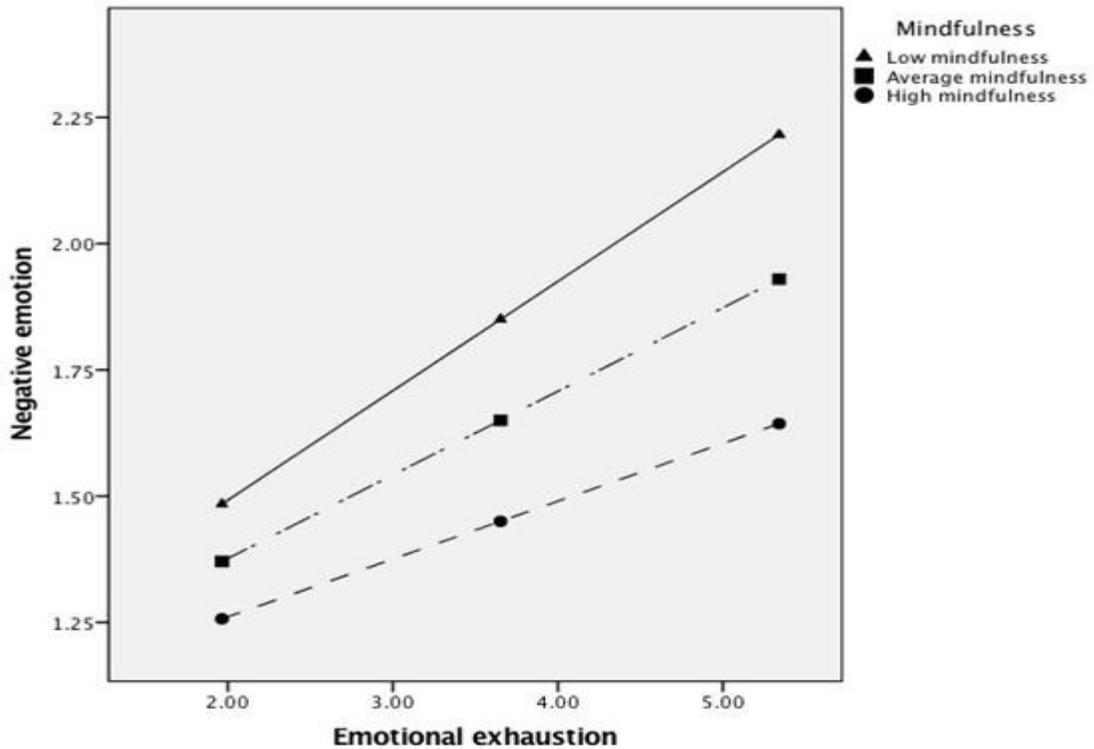
2.7 Discussion

This study investigated the intervening processes that explain the relationship between leader resource depletion and leadership style, and how mindfulness interrupts this process to improve leadership style. Using COR theory and a dual process framework, I tested whether leader emotional exhaustion predicted transformational leadership and abusive supervision, and whether leader empathy and negative emotion mediated these relationships. Despite the null findings from my leader-follower pair sample, post-hoc analysis using the larger sample of leaders showed that the dual process

model of leader resource depletion is supported. Leaders who were emotionally exhausted are more likely to be abusive and less likely to be transformational, which is explained by the impaired empathy and increased negative emotion that follows emotional exhaustion. In addition, mindfulness buffers the impulsive component of the dual process model (i.e. moderates the relationship between emotional exhaustion and negative emotion), but does not buffer the reflective component.

Theoretical implications

Theoretically, this study makes several key contributions. First, this study contributes to the growing literature on leadership and emotional exhaustion. Recent stress research has shifted focus to the leader's perspective, as there has been a growing recognition that leaders' experiences at work are distinct from employees and can affect both the individual and team/organization levels. This study further confirms the negative association between leader resource depletion (i.e., emotional exhaustion) and positive leader behaviours, and suggests that leaders who are depleted are less able to invest in transformational leadership, and are more likely to abuse their followers. Overall, a leaders' psychological well-being can make the difference between a work environment where followers are motivated and empowered and one which is toxic where they are mistreated.

Second, this is the first study to my knowledge to apply a dual process model specifically to emotional exhaustion and leadership. This model shows how and why leader resource depletion predicts negative leadership styles and gives a new perspective

on this relationship. Specifically, the support for this model suggests that there are both cognitive and emotional processes at work that explain why a leader is likely to lash out at followers and be abusive when depleted, in addition to why a depleted leader is less able to invest in transformational leadership. An emotionally exhausted leader feels their own negative emotions (impulsive system) and at the same time, the empathic component of their cognitive system becomes compromised. Because of this resource depletion and its subsequent effects on the reflective and impulsive systems, leaders may not be focused closely enough on their followers to be transformational, and are more likely to distance themselves from followers through abusive supervision. By applying a dual process framework, I show that the relationship between leader resource depletion and leadership style hinges on how leaders' related cognitive and emotional resources become compromised.

Third, this study contributes to theories of mindfulness by demonstrating its importance for self-regulation, with subsequent positive impacts on related behaviours (i.e., leadership styles) at work. This supports growing recognition that the positive outcomes of mindfulness found in past research can be explained by its self-regulatory capabilities (Glomb et al., 2011). In terms of emotion, these findings support the many studies that have found mindfulness to allow for individuals to experience less intense negative reactions to environmental or situational cues (Brown et al., 2013; Long & Christian, 2015; Taylor et al., 2011). In turn, leaders are able to behave positively despite the ongoing resource depletion they feel.

However, my results suggest that mindfulness only improves self-regulation of the impulsive system (negative emotion), and not the reflective system (empathy). There are two key theoretical reasons why this may be the case, which raise important questions for future research. First, in comparison to the impacts of mindfulness on emotional processing, relatively few studies have investigated the benefits of mindfulness on aspects of the reflective system that improve interpersonal relationships, such as empathy. Many of the existing studies examining how mindfulness disrupts this component of the reflective system differ from this one in two key ways: 1) They have used MBSR (Mindfulness-based stress reduction) training and have compared recipients of training to wait list controls, and 2) have studied populations of graduate counselling students and medical students, which require compassion as part of their professional goals. Although they did not make buffering hypotheses per se, it is safe to assume that these populations would also be dealing with significant amounts of interpersonal stress, and resulting emotional exhaustion, in their jobs (Neumann et al., 2011). In terms of the first point, this study did not induce mindfulness, which could explain the null findings regarding the role of empathy in disrupting the dual process model of leader resource depletion. Future research using an experimental approach would be useful to understand the effects of mindfulness interventions for leaders when they are currently under stress, rather than experiencing the resource depletion that is an outcome of stress (i.e. emotional exhaustion). Related to the second point above, it is likely that the supervisors in this study did not use empathy as extensively as in other samples where a compassionate focus is needed. It would be helpful for future studies to look at leadership in particular contexts requiring compassionate care to understand how mindfulness may play a more

important role when understanding and recognizing the needs of others is a prominent focus of both the job and ones' leadership role.

Second, empathy is a positive cognitive process that is related to understanding others, whereas applications of dual process models related to mindfulness in business research have often examined negatively focused elements of the reflective system such as rumination and hostility. It could be the case that mindfulness does more to help build resilience toward negative emotions and states of mind by detaching than it does to amplify the more positive elements of these systems. This could differ between levels of leadership as well; in this study the sample was of direct supervisors, so it could be that for higher levels of leadership (e.g. executive), empathy may be something that is more difficult to engage in given the larger span of control within those types of positions. Future research should investigate the role of mindfulness in improving empathy for resource depleted leaders at various levels of organizations to more clearly understand for whom mindfulness may be of the greatest benefit.

Practical implications

This study also brings forward practical implications for addressing leader resource depletion at work. First, the findings from this study further support the importance of leaders' personal resources for leader effectiveness. Although leaders are often encouraged to support employee well-being, this study shows that without a strong reservoir of personal resources, leaders may be poorly equipped to do so. It is thus important for leaders on an individual level to be aware of how their own well-being may

be impacting their behaviours at work, and to seek resources on a personal or organizational level to maintain leadership effectiveness.

Second, organizations should also be aware of the detrimental impact leader resource depletion can have on leadership style, and aid them in building personal resources as well. In particular, mindfulness has been shown to be a resource that helps leaders maintain leadership effectiveness. Mindfulness training programs have been shown to be an effective intervention for improving mindful awareness in many contexts (Brown & Ryan, 2003), so this is one strategy organizations can use to address leader resource depletion and to ultimately improve leader effectiveness. There are also a broad range of mindfulness programs to consider (e.g., weekend retreats, 8 week programs, short smartphone-based guided meditation), so leaders can realistically increase their mindfulness in flexible ways that best fit their lifestyles and needs.

Limitations

This study has some limitations that should be acknowledged. First, the leader follower sample was small and had null findings, so the key findings that have been discussed have relied on self-report data from leaders. Thus, it is possible that common method bias has influenced the results. However, I have followed suggestions from Podsakoff, MacKenzie, and Podsakoff (2012) to minimize common method bias: I collected data on the predictors and criteria at separate times, used an anonymous survey, randomly ordered questions, and used measures that have been validated in previous research (Podsakoff et al., 2003). It is also worth noting that leaders' self-reported

leadership style has been used in other studies focusing on leader emotions and well-being (Lanaj et al., 2016; Liang et al., 2016), which would suggest that when it comes to leader emotional exhaustion and well-being, how a leader perceives him/herself may be particularly relevant. Furthermore, it is plausible that leaders are in a position to elicit reliable judgements of their own behaviour, as followers may not see some of the behaviors a leader is aware of.

Second, the non-experimental nature of the study design does not allow for causal inferences to be made. As discussed above, this may also be an explanation regarding the null findings for leader empathy. Many studies of the dual process model have been experimental (e.g., Long & Christian, 2015), so future research using an experimental approach would address this limitation. This type of approach could allow for more immediate forms of resource depletion (e.g. task stress) to be used in place of chronic forms of resource depletion such as emotional exhaustion to see if results would be comparable. It could be the case, for example, that inducing mindfulness through meditation in a laboratory context could make the reflective system more salient and would offer more robust findings.

Third, I was not able to control which followers the leaders sent the survey to. It is possible that leaders sent surveys to followers who they liked the most, or whom they believed perceived them the most positively. Although I have accounted for this limitation by controlling for LMX, the sample could have been improved through having multiple or random follower responses. Future research within an organization would be

helpful to control this element of recruitment to ensure randomization in the followers who are selected to rate their leaders' style.

Conclusion

Overall, this study sought to examine the relationship between resource depletion (i.e. emotional exhaustion) and leadership style using a dual process framework. Using leader self-reports, I found support for the dual process model of leader emotional exhaustion and leadership style (transformational leadership and abusive supervision), and found that mindfulness buffers the relationship between emotional exhaustion and negative emotion to ultimately improve leadership style. This study demonstrated one way that mindfulness can benefit leaders, both in terms of their own emotional responses and behaviours that impact their organizations and teams.

Chapter 3: Leader behaviour and employee well-being

3.1 Theoretical development

As discussed in my previous chapters, mindful leaders are likely to better deal with emotional exhaustion, which improves leadership style. Although leader behaviour has important impacts on employees, followers also benefit from mindsets that allow them to interact effectively with their supervisors at work. Often, followers are positioned as passive recipients of leadership style, but there is now a growing interest in how follower characteristics interact with leadership style (Eisenbeiss & van Knippenberg, 2015). Given the contrast between transformational and abusive supervision in the previous section, I continue to consider these behaviours, but from the employee perspective. Specifically, I propose that followers will benefit from having a mindset that that is both receptive to positive (i.e. transformational) and protective against negative (i.e. abusive supervision) leadership.

Employee well-being is an ongoing concern for research and practice, as many studies have demonstrated how the workplace can often have negative impacts on employees' psychological health (Lawson, Noblet, & Rodwell, 2009). I define well-being in relation to resources; COR theory suggests that an abundance of resources is indicative of well-being, as resource loss is, in contrast, representative of impaired well-being. Specifically, I define well-being in this study as indicated by four types of resources adapted from the broaden and build theory of positive emotions (Fredrickson, 2001): physical (physical health), social (perceived organizational support), psychological

(vigor; subjective well-being), and cognitive (thriving; experiencing a sense of vitality and learning). The broaden and build theory conceptualizes well-being in terms of personal resources (e.g. social support as an indicator of social well-being). I have adapted this theory by using organizational-specific indicators of well-being that fit within these four categories (Fredrickson, 2001). Although these aspects of well-being are often studied separately, I take a holistic view that considers employees' psychological well-being in addition to other resources within occupational health psychology, such as employees' perceptions of being supported within the workplace in addition to their physical and cognitive well-being (Kelloway & Barling, 2010).

Although conceptualizations of well-being vary, research has shown that many types of personal resources are important for employees at work. Having a high level of personal resources can reduce employee turnover and increase job performance, which is one example of its importance for productive and healthy workplaces (Wright & Huang, 2012). Research has also sought to identify predictors of employee well-being to help contribute to building positive workplaces (Scott, Colquitt, Paddock, & Judge, 2010). Leadership has been shown to be one important factor that predicts employee well-being; given the central role of leaders, their positive or negative behaviours can have trickle down effects in terms of their followers' well-being as measured by many indicators of interest in this study (ten Brummelhuis et al., 2013). According to COR theory, leader behaviours can either be sources of resource gain that allow employees to build strong resource reservoirs, or sources of resource drain that deplete followers' own resources and result in impaired overall well-being (Hobfoll, 1989).

As discussed in Chapter 1, transformational leadership is likely to be a source of resource gain for employees according to COR theory. Transformational leadership is associated with many positive outcomes, including psychological well-being (Arnold, Turner, Barling, Kelloway, & McKee, 2007), physical health (Nyberg et al., 2009), in addition to constructs that are closely related to well-being, such as perceptions of organizational justice (Walsh, Dupre, & Arnold, 2014) and job satisfaction (Judge & Piccolo, 2004). In terms of social well-being, transformational leadership has been shown to predict feelings of both supervisor and co-worker support, which indicates that leaders contribute to individuals' overall feelings of support at work (Liaw, Chi, & Chuang, 2010). Although transformational leadership has not yet been directly linked to thriving, its positive relationships with many related constructs such as creativity (Peng & Rode, 2010) and development (Rafferty & Griffin, 2006) suggest that it would similarly promote this facet of well-being. Given the relationship between transformational leadership and the social, cognitive, physical, and psychological resources in the dimensional definition of well-being that have been found in previous research, I hypothesize:

> *Hypothesis 6a-d: Transformational leadership positively predicts employee a)*
> *psychological well-being (vigor), b) physical health, c) social well being*
> *(perceived organizational support), and d) cognitive well-being (thriving)*

In contrast to transformational leadership, abusive supervision is likely to be resource draining and impair employee well-being. As discussed in Chapter 2, abusive supervision is associated with many negative outcomes for employees such as diminished

job satisfaction, workplace deviance, emotional exhaustion, lower commitment, well-being, and increased psychological distress (Lin, Wang, & Chen, 2013; Mackey et al., 2015; Tepper, 2000). Research on abusive supervision has also demonstrated that abusive supervisors are likely to create negative resource spirals for followers; when employees are depleted from interactions with an abusive supervisor, they are likely to enact the counterproductive strategy of feedback avoidance to avoid further resource depletion (Whitman et al., 2014). Given the overwhelmingly negative impacts of abusive supervision on psychological and attitudinal variables, it is likely that abusive supervisors will similarly inhibit employee thriving and psychological well-being.

Abusive supervisors have also been shown to have negative impacts on physical indicators of employee well-being. Bamberger and Bacharach (2006) found that abusive supervisors predicted high levels of employee physical stress, which resulted in problem drinking. Victims of general workplace harassment have also been shown to have impaired physical well-being (Bowling & Beehr, 2006). Given that abusive supervision is considered a type of workplace harassment, this gives further support to the hypothesis that abusive supervisors would have a negative relationship with employee physical well-being.

Furthermore, research has also linked abusive supervision to impaired perceived organizational support (Mackey et al., 2015). Furthermore, the environments abusive supervisors create further suggest a negative impact on this resource. Abusive supervisors tend to promote feelings of injustice in followers (Tepper, 2000). Given that a key part of organizational support is feeling as though the workplace fairly recognizes and rewards

you (Eisenberger, Huntington, Hutchison, & Sowa, 1986), having an abusive supervisor would be likely to negatively perceptions of fairness within the organization overall and contribute to an overall perception of low support. Taking the above evidence together, I hypothesize that abusive supervision will negatively predict physical, psychological, cognitive, and social resources as indicators of employee well-being:

> *Hypothesis 7a-d: Abusive supervision negatively predicts employee a) psychological well-being (vigor), b) physical health, c) social well being (perceived organizational support), and d) cognitive well-being (thriving)*

Employee mindfulness as a booster/buffer of leadership style

As discussed in Chapter 2, mindfulness has been shown to have many positive impacts on physical and psychological well-being, and is being recognized as important for well-being at work. I have outlined in the previous study the important impacts leaders can have on various facets of employee well-being; leaders are central to many employees' experiences at work, and can affect employees' resource pools accordingly. However, employees are also active contributors to their own well-being and are not merely passive recipients of leaders' behaviours. Followers' own attitudes and cognitive resources can have important impacts on how leadership styles translate into employee outcomes (Eberly & Fong, 2013). Considering mindfulness as an important state of consciousness that influences social relationships (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007), I suggest that mindfulness can both protect employees from abusive behaviours and increase the positive outcomes of transformational behaviours.

Specifically, I suggest that mindfulness has the potential to act as a *key resource* that facilitates optimal responses to leadership behaviour from the employees' perspective. COR theory has identified key resources as specific sub-types of resources that allow individuals to more effectively implement and change other resources (ten Brummelhuis & Bakker, 2012). Optimism, for example, is a key resource because it mobilizes other resources that are central to well-being such as social support and promotes effective stress responses (ten Brummelhuis & Bakker, 2012). Given the broad range of positive outcomes mindfulness can have in various settings, it is likely that it is a key resource for employee well-being. For example, mindfulness promotes increases in psychological capital and decreases in surface acting at work (Hulsheger et al., 2013; Roche et al., 2014), which suggests that it allows employees to build positive resources and avoid depleting activities (such as surface acting), ultimately allowing them to have a stronger overall resource reservoir. As a key resource, mindfulness will moderate the relationship between sources of resource drain/gain (i.e., leadership style) and well-being, by allowing employees to conserve resources when necessary (i.e., when experiencing abusive supervision) and to further invest resources to promote positive resource spirals (i.e., when experiencing transformational leadership; ten Brummelhuis & Bakker, 2012).

Theory supports the hypothesis that mindfulness would 'boost' the positive relationship transformational leadership has with various facets of employee well-being. A recent study found that follower mindfulness strengthened the relationship between ethical leadership and follower extra effort and helping (Eisenbeiss & van Knippenberg, 2015). The authors speculated that mindful followers were more attuned to information

conveyed by their leaders this allowed them to process ethical information consciously. In terms of COR theory, these findings might also suggest that mindfulness, as a key resource, mobilizes employees' ability to listen and respond effectively to their leader at work and gives extra strength to ethical leadership's positive outcomes.

Given the wide-ranging positive benefits of transformational leadership, mindful followers should similarly be receptive to a transformational leader's behaviours. Considering the dimensions of transformational leadership separately further suggests that employee mindfulness would allow for more pronounced impacts on employee well-being. In relation to inspirational motivation, employee mindfulness would increase followers' ability to be focused toward their leader's vision for the future. Research shows, for example, that mindfulness increases individuals' abilities to set specific goals, and also increases their confidence in achieving those goals (Crane, Winder, Hargus, Amarasinghe, & Barnhofer, 2012). Thus, a more mindful employee would be able to internalize their leaders' vision for their organization or team, and would invest resources in achieving this goal. In turn, this investment would promote a positive resource spiral which would promote overall well-being (Hobfoll, 1989).

The transformational dimension of individual consideration requires building strong relationships with followers. Mindful employees would be more receptive to building relationships with their leaders at work, as prior research has shown that mindfulness improves interpersonal relationships (Barnes et al., 2007). The dimension of intellectual stimulation requires transformational leaders to encourage followers to be creative and think in new ways to solve problems. Again, employees who are mindful

would have even more significant benefits from a leader who uses this behaviour, as mindfulness has been shown to increase creativity and problem solving (Ostafin & Kassman, 2012). With an ability to be more creative, a mindful employee would likely have more productive interactions with their transformational leader, which would help build resources for both the leader and the employee. Thus, mindfulness at the employee level would promote further resource investment and increases in well-being.

Finally, the transformational dimension of idealized influence refers to a leaders' ability to act as a positive role model. Mindfulness facilitates learning (Langer, 2000), so mindful employees would be able to get the most out of having a positive role model by being receptive and well-prepared to learn from them. Again, this would facilitate positive resource spirals for employees as their heightened attention to their leader would promote positive behaviour for which the employee is likely to feel good about, and be rewarded for (Hobfoll, 1989).

Overall, mindful employees are likely to have many qualities that allow them to make the most out of having a transformational leader and would increase the effects of this style on well-being. Having mindfulness as a key resource, the benefits of transformational leadership on employee well-being are heightened for employees who are high on mindfulness. Taken together, I hypothesize:

Hypothesis 8a-d: Employee mindfulness will moderate the positive relationships between transformational leadership and employee a) psychological well-being (vigor), b) physical health, c) social well being (perceived organizational

support), and d) cognitive well-being (thriving) such that higher mindfulness will intensify the positive relationship between transformational leadership and these outcomes.

Abusive supervision and other forms of deviance are alarmingly common at work (Whitman et al., 2014), which means identifying mindsets that protect employees from abusive supervision's negative effects is becoming increasingly important. As a key resource, mindfulness at the employee level will mitigate the decreases in well-being that follow abusive supervision and will allow employees to maintain their resources. While theory suggests that employee mindfulness will facilitate positive resource spirals, it will also help employees build a strong reservoir of resources that allow them to maintain well-being and avoid further resource loss, despite experiencing abusive supervision (Hobfoll, 1989).

Research in clinical psychology has consistently shown that individuals suffering from major sources of resource depletion (such as chronic diseases, depression, etc.) experience improvements in well-being when undergoing mindfulness training (Craigie et al., 2008; Khoury et al., 2013). The fact that mindfulness training can help individuals facing resource depletion suggests that trait mindfulness is also a key resource that can mobilize other resources, such as confidence and hope, to help improve the experience of resource-depleted individuals. Thus, mindful employees who experience a resource-draining supervisor would be able to maintain their resource-reservoir despite this form of harassment at work.

Mindfulness has also been linked to psychological capital (Roche et al., 2014), which is constituted of optimism, hope, resiliency (able to overcome difficulties) and self-efficacy (an individual's belief that they will succed or accomplish a goal/challenge; Luthans, Avolio, Avey, & Norman, 2007). The link between mindfulness and optimism and hope could allow mindful employees to focus on the positive aspects of their work despite abuse from their leader, and to remain hopeful that the situation may improve. Furthermore, the link between mindfulness and resiliency shows that mindful employees are able to be resilient against an abusive supervisor and that the mobilization of this resource through mindfulness could protect them from abusive supervision's negative outcomes. Interpreting these findings through the lens of COR theory suggests that mindful employees are likely to have a strong resource reservoir that will lessen the threat of resource drains such as abusive supervision.

Another study found that employees with high core self-evaluations were able to maintain creativity when experiencing abusive supervision (Zhang, Kwan, Zhang, & Wu, 2012). Distinct from the concept of mindfulness, core-self evaluations are closely linked to confidence and efficacy. Again, given the relationship between mindfulness and the related construct of self-efficacy (Roche et al., 2014), Zhang et al. (2012)'s findings suggest mindful employees may have more confidence and similarly be able to maintain well-being in the face of abusive supervision. Taken together, I hypothesize:

Hypothesis 9a-d: Employee mindfulness will moderate the negative relationship

between abusive supervision and employee a) psychological well-being (vigor), b)

physical health, c) social well being (perceived organizational support), and d)

cognitive well-being (thriving) such that these relationships will be weaker for

employees who are high on mindfulness

3.2 Method

To test the hypotheses outlined above (see Figure 2-1 for a visual representation), I conducted a survey (two waves) of employees in a broad range of industries. To minimize common method bias, I collected data on predictors at Time 1 and data on criterion at Time 2 (Podsakoff et al., 2003). Data was collected two months apart.

Figure 2-1: Visual summary of Study 2 model
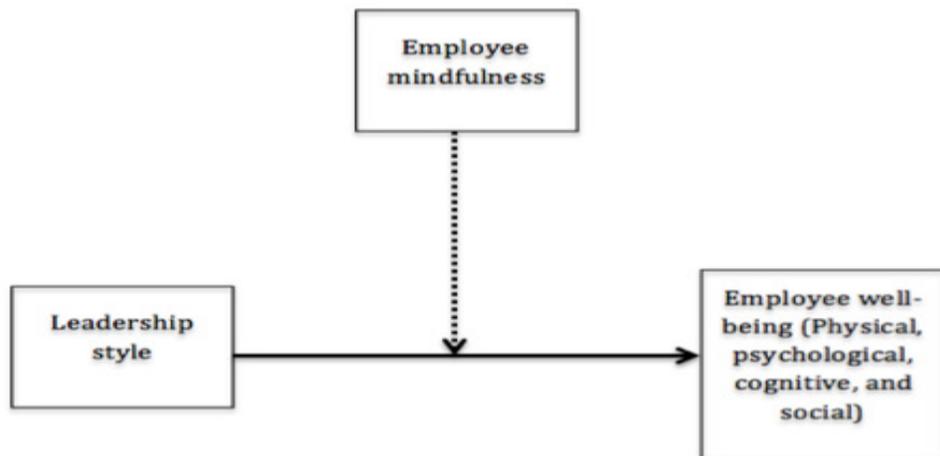
Sample

Participants were recruited via Amazon's Mechanical Turk (MTurk). Please see Study 1 for a description of this recruiting platform. Participants were pre-screened on the basis of being a full-time employee who regularly interacts face to face with his or her supervisor. At Time 1, 486 employees who interacted face to face with their supervisor on a regular basis took part. Based on the same criteria as Study 1, participants were

excluded based on careless responding, which was assessed using an attention check question ("Please select strongly agree to this question"), and survey durations that were too fast (less than 40% of the median time). 101 participants were excluded based on these criteria, which resulted in 385 participants at Time 1. As in Study 1, this percentage of careless responding was found to be acceptable based on previously published work (Liang et al., 2016). At Time 2 (two months later), all 385 participants from Time 1 were invited to take part in another survey. 269 responded (response rate of 70%), and 23 of these were excluded based on the same criteria used at Time 1. The final sample thus consisted of 246 participants. Participants were paid $1.50 for each survey.

Participants had a mean age of 34.77 years (ranging from 18-70) and had a mean tenure in their current job of 7.01 years (range 1-39). Employees had worked with their supervisor for a mean of 4.53 years (range 0.3-26). 59% of the sample were male, and overall the sample represented a broad range of industries. The most popular industries within the sample were: Retail/sales (10%), IT (10%), finance (8%), manufacturing (8%) and health care (7%).

Measures

Please See Appendix B for a full list of survey items for Study 2. All measures have been shown to be reliable and valid in previously published research.

Transformational leadership (Time 1). I measured transformational leadership using 20 items from the Multifactor Leadership Questionnaire (Bass & Avolio, 2000). Given that this measure is copyright I have not included the full questionnaire in

Appendix B; I have copyright permission to use this measure. Participants were asked to rate from 0 (not at all) to 4 (frequently, if not always) how frequently each statement fits their immediate supervisor/manager. Sample items are: "Talks optimistically about the future" and "Gets me to look at problems from many different angles." Alpha was .96.

Abusive supervision (Time 1). I measured abusive supervision using 15 items from Tepper (2000). Participants were asked to answer questions about their boss and response scales ranged from 1 (I cannot remember him/her ever using this behaviour with me) to 5 (he/she uses this behaviour very often with me). Alpha was .96.

Mindfulness (Time 1). I measured mindfulness using 15 items from the Mindful Attention Awareness Scale (Brown & Ryan, 2003). Participants were asked to rate on a scale from 1 (almost always) to 6 (almost never), how frequently they have each experience. Alpha was .93.

Physical health (Times 1 and 2). I measured physical health using the Physical Health Questionnaire (Schat, Kelloway, & Desmarais, 2005). This scale has 13 items and asks participants to rate from 1 (not at all) to 7 (all of the time) how they have been feeling physically during the last 2 months. Alpha was .90 (Time 1) and .90 (Time 2).

Thriving (Times 1 and 2). I measured thriving using 10 items from (Porath, Spreitzer, Gibson, & Garnett, 2012). Participants were asked to reflect on their experiences at work and indicate from 1 (strongly disagree) to 7 (strongly agree) their level of agreement with each statement. Alpha was .93 (Time 1) and .93 (Time 2).

Perceived organization support (Times 1 and 2). I measured perceived organizational support using 8 items from (Eisenberger et al., 1986). Participants were asked to rate from 1 (strongly disagree) to 7 (strongly agree) their level of agreement or disagreement with various statements about their perceptions of their organization. Alpha was .93 (Time 1) and .94 (Time 2).

Psychological health (Times 1 and 2). I measured psychological health using 12 items from the Shirom-Melamed Vigor scale (Shirom, 2005). Participants were asked to rate from 1 (never or almost never) to 7 (always or almost always) how often they felt various ways at work. Alpha was .93 (Time 1) and .95 (Time 2).

Negative affectivity (Time 1). I measured negative affectivity using 10 items from Watson et al., 1988). Participants were asked to rate from 1 (very slightly or not at all) to 5 (extremely) to what extent they had felt various ways during the last two months. Alpha was acceptable at .91.

Controls. For each analysis, I used the corresponding Time 1 measure of well-being to control for baseline well-being. In addition, I have controlled for negative affectivity and the length of relationship between leader and follower given that these constructs have been shown in past research to influence followers' perceptions of leadership, particularly in relation to well-being outcomes (Burton et al., 2012)

3.3 Analyses

Before analyzing the data, I ensured all assumptions of linear regression were met. First, I examined the scatterplots between my predictors and criteria to ensure linearity.

Second, I tested the data for multi-collinearity. I calculated the variance inflation factor (VIF) for each variable in my regression models to ensure the correlations between them were not increasing the magnitude of estimated regression coefficients. The VIFs in each model did not exceed the maximum level of 10 recommended by (Meyers et al., 2013). Third, I examined the residuals of predicted scores in each model to ensure homoscedasticity and normality. The plotted residuals for each model showed that each of these assumptions was met. Thus, I proceeded with analyses.

Means, standard deviations and correlations between all variables are outlined in Table 2-1. As can be seen from Table 2-1, there is a statistically significant relationship between each leadership style (transformational leadership and abusive supervision) and each facet of well-being (thriving, POS, vigor, physical health). However, as in Study 1, regression is used to test each hypothesis given the need to control for theoretically relevant variables. Each hypothesis was tested using hierarchical stepwise regression analysis. In the first step, control variables (Time 1 well-being, negative affectivity and length of relationship with leader) were entered. In the second step, the predictors [leadership style (transformational leadership or abusive supervision) and mindfulness] were entered, and in the third step the interaction term (leadership style x mindfulness) was entered[1]. Following Hayes (2013) recommendation, I did not mean center the predictors.

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[1] Although the broaden and build theory suggests each well-being category is distinct (Fredrickson, 2001), I also conducted a confirmatory factory analysis (using Mplus version 7.2) to confirm that these categories were not explained by a latent variable. A one-factor model provided a poor fit to the data ($\chi2 = (905, N = 246) = 5932, p < .001$ CFI = .42; RMSEA = .15).

3.4 Results

Results of hypotheses 6a-d, which predicted the positive relationship between transformational leadership and various facets of employee well-being, are outlined in Tables 2-2 to 2-5. Transformational leadership positively predicts employee vigor (i.e. psychological well-being) ($b = 0.16$, $p < .05$), perceived organizational support (i.e. social well-being) ($b = 0.33$, $p < .001$) and thriving (i.e. cognitive well-being) ($b = 0.16$, $p < .01$). These results support hypotheses 6a, 6c, and 6d. However, hypothesis 6b was not supported, as transformational leadership does not have statistically significant relationship with physical health ($b = 0.01$, ns).

In contrast, hypotheses 7a-d predict that abusive supervision negatively predicts employee well-being. As can be seen in Tables 2-6 to 2-9, abusive supervision negatively predicts employee vigor ($b = -0.16$, $p < .05$), physical health ($b = -0.15$, $p < .05$), and perceived organizational support ($b = -.22$, $p < .05$). These results support hypotheses 7a, 7b and 7c. However, hypothesis 7d was not supported, as there is not a significant relationship between abusive supervision and employee thriving ($b = 0.01$, ns).

Table 2-1: Means, standard deviations and intercorrelations among Study 2 variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Negative affectivity (T1)	1.61	0.73												
2. Length of relationship with supervisor (T1)	4.53	3.91	.18**											
3. Vigor (T1)	4.98	1.06	-.42**	.17**										
4. POS (T1)	4.87	1.45	-.42**	.17**	.52**									
5. Thriving (T1)	5.38	1.09	-.37**	.16*	.69**	.57**								
6. Physical health (T1)	5.22	1.07	-.55**	.18**	.29**	.35**	.33**							
7. TFL (T1)	3.31	0.9	-.26**	.14*	.56**	.71**	.51**	.22**						
8. Abusive supervision (T1)	1.64	0.8	.48**	-.06	-.28**	-.56**	-.26**	-.50**	-.45**					
9. Mindfulness (T1)	4.24	1.08	-.28**	.16*	.19**	.15*	.21**	.30**	.06	-.20**				
10. Vigor (T2)	4.83	1.16	-.28**	.17**	.68**	.42**	.54**	.25**	.47**	-.27**	0.10			
11. POS (T2)	4.86	1.46	-.40**	.20**	.55**	.77**	.49**	.36**	.65**	-.53**	.14*	.52**		
12. Thriving (T2)	5.38	1.07	-.37**	.16*	.66**	.52**	.75**	.29**	.49**	-.22**	.16*	.63**	.58**	
13. Physical health (T2)	5.27	1.03	-.50**	.20**	.32**	.36**	.32**	.79**	.20**	-.50**	.24**	.40**	.39**	.38**

**. Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Note: POS = Perceived organizational support; TFL = Transformational leadership; T1 = Time 1; T2 = Time 2

Table 2-2: Moderating effect of mindfulness on the relationship between transformational leadership and vigor

| | DV: Vigor (T2) | | |
Variable	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.02	.02	.02
Negative affectivity	.03	.03	-.03
Vigor (T1)	.74***	.67***	.69***
Transformational leadership		.16*	-.52*
Mindfulness		-.02	-.57**
TFL x Mindfulness			.15**
R^2	.47	.48	.50
ΔR^2		.01	.02**

Note: TFL = Transformational leadership; T1 = Time 1; T2 = Time 2; DV = Dependent variable

Table 2-3: Moderating effect of mindfulness on the relationship between transformational leadership and physical heath

| | DV: Physical health (T2) | | |
Variable	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.01	.01	.02
Negative affectivity	-.13	-.13	-.16*
Physical health (T1)	.70***	.70***	.70***
Transformational leadership		.01	-.30
Mindfulness		-.01	-.26
TFL x Mindfulness			.07
R^2	.63	.63	.63
ΔR^2		.00	.01

Note: TFL = Transformational leadership; T1 = Time 1; T2 = Time 2; DV = Dependent variable

Table 2-4: Moderating effect of mindfulness on the relationship between transformational leadership and perceived organizational support

Variable	DV: Perceived organizational support (T2)		
	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.02	.02	.02
Negative affectivity	-.15	-.17	-.18
Perceived organizational support (T1)	.74***	.59***	.59***
Transformational leadership		.33***	.19
Mindfulness		.00	-.11
TFL x Mindfulness			.03
R^2	.61	.63	.63
ΔR^2		.02**	.00

Note: TFL = Transformational leadership; T1 = Time 1; T2 = Time 2; DV = Dependent variable

Table 2-5: Moderating effect of mindfulness on the relationship between transformational leadership and thriving

Variable	DV: Thriving		
	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.01	.01	.01
Negative affectivity	-.15*	-.14*	-.14*
Thriving (T1)	.71***	.65***	.65***
Transformational leadership		.16**	.13
Mindfulness		-.01	-.04
TFL x Mindfulness			.01
R^2	.58	.60	.60
ΔR^2		.01*	.00

Note: TFL = Transformational leadership T1 = Time 1; T2 = Time 2; DV = Dependent variable

Table 2-6: Moderating effect of mindfulness on the relationship between abusive supervision and vigor

Variable	DV: Vigor (T2)		
	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.02	.02	.30
Negative affectivity	.03	.09	.05
Vigor (T1)	.74***	.74***	.73***
Abusive supervision		-.16*	.63*
Mindfulness		-.04	.23*
AS x Mindfulness			-.19**
R^2	.47	.48	.50
ΔR^2		.01	.02**

Note: AS = Abusive supervision; T1 = Time 1; T2 = Time 2; DV = Dependent variable

Table 2-7: Moderating effect of mindfulness on the relationship between abusive supervision and physical health

Variable	DV: Physical health (T2)		
	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.01	.02	.02
Negative affectivity	-.13	-.08	-.09
Physical health (T1)	.70***	.66***	.67***
Abusive supervision		-.15*	.14
Mindfulness		-.01	.09
AS x Mindfulness			-.07
R^2	.63	.64	.64
ΔR^2		.01*	.00

Note: AS = Abusive supervision; T1 = Time 1; T2 = Time 2; DV = Dependent variable

Table 2-8: Moderating effect of mindfulness on the relationship between abusive supervision and perceived organizational support

Variable	DV: Perceived organizational support		
	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.02	.03	.03
Negative affectivity	-.15	-.08	-.10
Perceived organizational support (T1)	.74***	.69***	.68***
Abusive supervision		-.22*	.08
Mindfulness		-.02	.08
AS x Mindfulness			-.07
R^2	.61	.62	.62
ΔR^2		.01	.00

Note: AS = Abusive supervision; T1 = Time 1; T2 = Time 2; DV = Dependent variable

Table 2-9: Moderating effect of mindfulness on the relationship between abusive supervision and thriving

Variable	DV: Thriving		
	Step 1, *b*	Step 2, *b*	Step 3, *b*
Length of relationship with supervisor	.01	.01	.01
Negative affectivity	-.15*	-.17*	-.19*
Thriving (T1)	.71***	.71***	.72***
Abusive supervision		.01	.46
Mindfulness		-.02	.13
AS x Mindfulness			-.11
R^2	.58	.56	.59
ΔR^2		.00	.01

Note: AS = Abusive supervision; T1 = Time 1; T2 = Time 2; DV = Dependent variable

Hypotheses 8a-d predict that employee mindfulness amplifies the positive

relationship between transformational leadership and employee well-being. As can be

seen from Table 2-2, the interaction term is significant for the outcome of vigor ($b = 0.15$,

$p < .01$), which supports hypothesis 8a. However, mindfulness does not significantly

moderate the relationships between transformational leadership and physical health ($b =$

0.07, ns), perceived organizational support ($b = 0.03$, ns) or thriving ($b = 0.01$, ns). Thus,

hypotheses 8b, 8c, and 8d are not supported (See Tables 2-3 to 2-5).

To interpret the significant interaction further, a graph was produced (See Figure

2-2). Tests of simple slopes were conducted using Bonferroni adjusted alpha levels of

.0166 per test (.05/3). As can be seen from the graph, there is a positive relationship

between transformational leadership and vigor for employees who are high in

mindfulness ($b = 0.29$, $t(234) = 3.48$, $p < .001$). A simple slope analysis revealed that for

employees with average ($b = 0.13$, $t(234) = 1.76$, ns) or low mindfulness ($b = -0.04$,

$t(234) = -.39$, ns), there is no relationship between transformational leadership and vigor.

Figure 2-2: Moderating effect of mindfulness on the relationship between transformational leadership and vigor
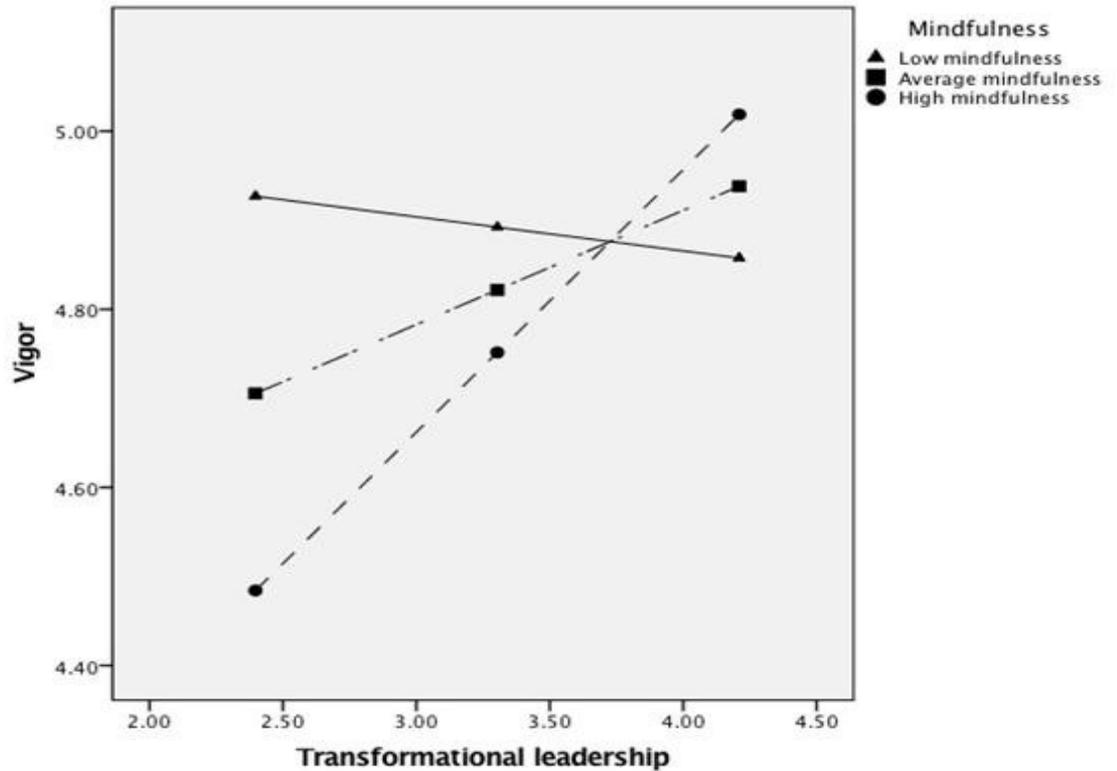
Hypotheses 9a-d predict that employee mindfulness would buffer the relationship between abusive supervision and employee well-being. As can be seen in Tables 2-6 to 2-9, employee mindfulness did not significantly moderate the relationships between abusive supervision and physical health ($b = -0.07$, ns), perceived organizational support ($b = -0.07$, ns), or thriving ($b = -0.11$, ns). Thus, hypotheses 9b, 9c, and 9d are not supported.

The interaction term for the outcome of vigor (Table 2-6) was significant ($b = -0.19$, $p < .01$), and a graph was produced to aid interpretation (Figure 2-3). Tests of

simple slopes were conducted using Bonferroni adjusted alpha levels of .0166 per test

(.05/3). Contrary to the buffering hypothesis, the relationship between abusive

supervision and vigor is negative for employees who are high on mindfulness (b = -0.39,

t(234)=-3.58, p < .001). For employees who are average (b = -0.18, t(234)=-2.31, ns) or

low on mindfulness (b = 0.03, t(234)= 0.26, ns), there is no relationship between abusive

supervision and vigor. Thus, the findings partially support hypothesis 9a in that the

moderation was significant, but in an unexpected direction.

Figure 2-3: Moderating effect of mindfulness on the relationship between abusive supervision and vigor
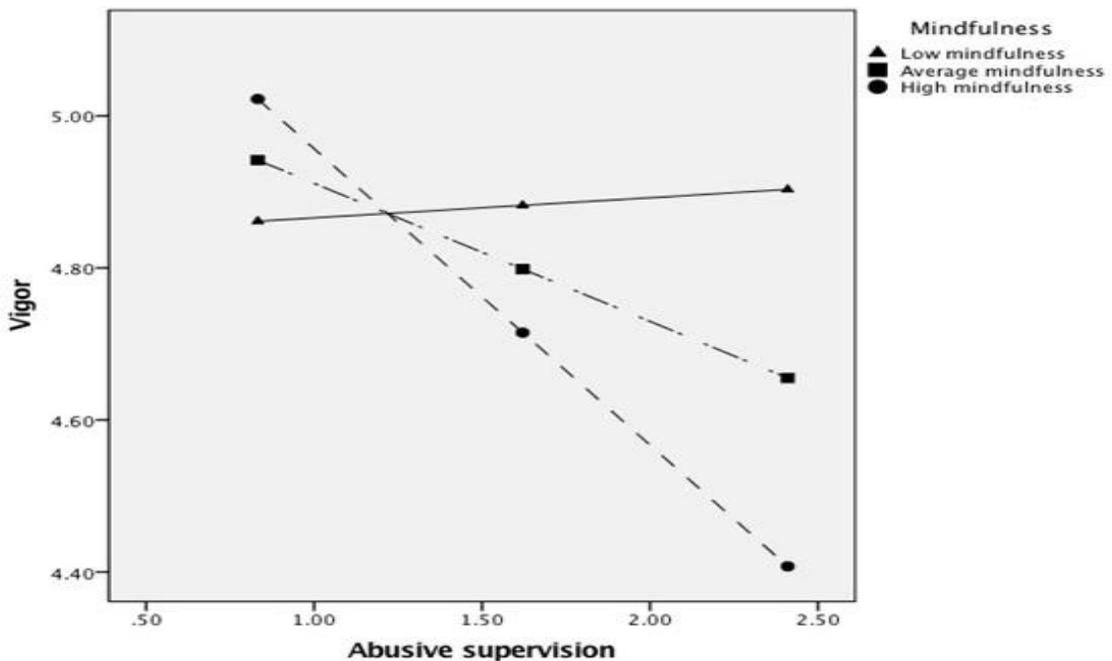
3.5 Discussion

This study tested how employee mindfulness moderates the relationship between

supervisory leadership style and employee well-being. I proposed that employee

mindfulness would buffer the negative effects of abusive supervision and would boost the positive impact of transformational leadership and employee well-being. I found that both leadership styles had direct relationships in expected directions with most facets of well-being; transformational leadership positively predicted psychological (vigor), social (perceived organizational support) and cognitive (thriving) well-being, but did not predict physical health. Abusive supervision negatively predicted physical, psychological and social well-being, but did not have a significant relationship with cognitive well-being. As expected, employee mindfulness boosted the positive impact of transformational leadership on psychological well-being, but contrary to expectations it did not significantly moderate the relationships between transformational leadership and the other forms of well-being. Employee mindfulness moderated the relationship between abusive supervision and psychological well-being; however, employee mindfulness unexpectedly amplified abusive supervision's already negative effect on this facet of well-being. Employee mindfulness did not moderate the relationship between leadership style and other facets of employee well-being.

Theoretical implications

This study brings forward several key theoretical contributions. First, this study shows the potential for mindfulness to act as a resource to improve employee well-being under certain conditions. COR theory suggests that personal resources are central to well-being, and that with more resources individuals are able to further invest and build positive resource spirals. In this study, it is evident that individuals who have the resource of mindfulness can derive greater benefit from having a transformational leader, which

suggests that mindfulness enables employees to optimize resources to improve their own well-being. It is likely that these employees would be positioned on a positive resource spiral where having the resource of psychological well-being would allow for even further investment into positive interactions with their effective leader. Future research should investigate these relationships over a longer time span with methods such as experience sampling to more fully understand the within-person processes that underlie these findings.

However, there may also be situations where being mindful can be harmful to one's own well-being. In this study, being more mindful heightened the negative effects on psychological well-being of having an abusive supervisor, which makes a theoretical contribution by showing one potential 'dark side' of mindfulness at work. Given the many studies showing the beneficial impacts of mindfulness, I had suggested that it creates strong resource reservoirs that enable resilience against interpersonal mistreatment. There are, however, alternative perspectives that help explain this surprising result.

First, this study shows that there are important boundary conditions to mindfulness as a resource that should be considered from a COR perspective. In the context of abuse from a supervisor, it is likely that an increasing awareness of the present moment acts as a resource drain as the increasing awareness of one's own emotional discomfort heightens the effects of abuse on employees. A key aspect of how mindfulness improves relationships is through improved communication quality and sustained attention in interactions (Barnes et al., 2007). In an abusive context, however, greater

attention and more communication could create even opportunities for mistreatment. Furthermore, as an employee it is unlikely that there is any choice in one's supervisor, and in the traditional workplace there are certain amounts of time that an employee may have to spend with their abusive supervisor. This in contrast with the benefits of mindfulness found in personal relationships, where there is typically more control (in many cases). Without an ability to step away from the mistreatment, mindful employees may become increasingly aware of the abuse and be less able to detach from negative emotions as they would in more positive situations. Thus, mindfulness could become a resource drain in this specific context.

Second, it may also be the case that less mindful employees report higher psychological well-being because they are in denial of the reality of the abuse they are experiencing, whereas employees high in mindfulness may be processing those negative feelings to a greater degree. As Hayes-Skelton and Wadsworth (2015) note, experiential avoidance (as may be happening with the less mindful employees) can manifest in greater deficits in well-being over time so it is plausible that if these employees were surveyed again after another two month period or longer, the results may change. Another possibility is that employees who are lower in mindfulness may not be remembering their psychological well-being as clearly as those who are more mindful, as the survey had asked them to recall their well-being over a period of two months. Research has shown, for example, that mindful individuals have improved memories (van Vugt, 2015), so it may be that less mindful individuals are simply paying less attention to their own emotional experiences.

Although these explanations are speculative, this counterintuitive finding opens many areas for future research. It would be fruitful for future studies to replicate these findings in relation to other forms of workplace mistreatment to see if other forms of mistreatment at work interact negatively with mindfulness, and if the source of mistreatment plays a role. For example, would mindfulness similarly exacerbate abuse from a co-worker or customer? Given the findings of the current study, it would be likely that being mindful of co-worker abuse may have similarly negative effects, but results may also differ from this study given the difference in status and expectation of coworkers versus supervisors (Spence Laschinger, Leiter, Day, & Gilin, 2009). In contrast, abuse from a customer may be more fleeting allowing mindfulness to act as a positive resource as it most often does. Furthermore, lower level forms of mistreatment would be worth exploring as well. Given the high incidence of incivility, for example, it would be helpful to understand whether mindfulness would act as a resource or if it would intensify the effect of this type of mistreatment (Cortina, Magley, Williams, & Langhout, 2001).

Given that mindfulness predicts increases in related positive constructs such as resilience, hope and self-efficacy (e.g. Roche et al., 2014), it would also be fruitful to measure these constructs in future to studies to better understand these counterintuitive findings. For example, it could be the case that in this study participants may have been low in self-efficacy, which could have affected how they deal with an abusive supervisor. Being highly aware of the mistreatment, while simultaneously lacking self-efficacy, could result in detrimental impacts on well-being. Furthermore, a lack of hope in combination

with this heightened awareness could promote feelings of helplessness and vulnerability. Finally, studies should explore these findings over a longer time frame to understand whether the 'dark side' of mindfulness is ongoing, or whether these findings shift over time.

There are also important theoretical questions to consider in relation to why mindfulness did not moderate the relationship between leadership and the other three facets of well being (cognitive, physical and social). For physical well-being, there are many individual differences beyond interpersonal relationships that may affect this outcome more strongly than either leadership or mindfulness, such as smoking and drinking, physical activity and diet (Belloc & Breslow, 1972). Thus, there may be other resources that may play more of a role in physical health that might be considered in future research, such as hours of sleep, which could be indirectly related to the workplace. Social well-being is considered within the broaden and build theory to relate to social support in all aspects of life (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008), whereas in this study POS was used as an organizationally specific form of social support. It is likely that an organizationally specific conceptualization of social well-being may be too narrow to capture the full spectrum of feeling socially supported; it may be that the combination of work and family/friend support work together to make individuals feel balanced and connected to others. Future studies could use a broader form of social support as an indication of well-being to understand how leadership and mindfulness interact to predict individuals' full sense of being supported in both work and non-work domains. Finally, it is possible that mindfulness plays a bigger role in affect-related aspects of well-being in

comparison to cognitive well-being. In Study 1, mindfulness did not significantly interact

with leader resource depletion to improve empathy, whereas it did affect negative

emotion. In Study 2, psychological well-being was operationalized as vigor, which has

affective components such as emotional energy. Taken together, these findings suggest

that mindfulness may be more significantly related to emotions rather than cognitions.

Research has also focused much more heavily on the relationship of mindfulness and

emotions. In contrast, its role in cognition is not as well-established. It would be fruitful

for future research to look at other types of cognition to better understand the role of

mindfulness at work.

Practical implications

In this study I have found that mindfulness can allow employees to make the most

of their transformational leader. This shows the importance of both leadership and

employee mindsets in promoting well-being. Although employees will benefit from a

transformational leader, it is clear that with increased attention and focus they are able to

gain even more resources and thrive in their roles. To improve well-being, it would be

useful for organizations to focus on both promoting employee mindfulness and positive

leadership. I discuss this further in the next chapter in relation to how mindfulness at

leader and follower levels is complementary.

In relation to abusive supervision, there are implications for organizations to keep

in mind as well. Most importantly, organizations should not blindly select a mindfulness

intervention for employees based on the fact that it does tend to work in most contexts.

Indeed, mindfulness has gained popularity in recent years and has received criticism for

being commercialized without proper understanding of its processes (Safran, 2014). It is important for decision makers to keep in mind that a proper needs analysis should precede any intervention to ensure it will be received appropriately. The findings of this study suggest that a key part of needs analysis should be to understand how leaders are performing before implementing changes for employees.

Furthermore, it could be the case that specific aspects of mindfulness that were not included in my definition/operationalization (but that are included in other studies of mindfulness), such as non-reactivity, would need to be focused on in mindfulness training programs for this type of population. Mindfulness training programs, like the definition of mindfulness itself, vary widely. Thus, having a program tailored specifically to a context where mistreatment is happening could allow for a greater ability for individuals to deal with the troubling thoughts and emotions they may be experiencing at work.

Limitations

There are limitations to this study worth noting. First, as in Study 1, self-report data was used, so it is possible that common method bias impacted results. However, I took the same steps as Study 1 to mitigate this limitation, such as separating predictor and criterion measures in time, randomizing question order, using well-validated scales, and ensuring anonymity to participants (Podsakoff et al., 2003). Furthermore, self-report data was appropriate given that employees themselves can appropriately assess all the constructs of interest. With that being said, it would be useful for future research to consider objective measures to bolster the findings of this study. For example,

mindfulness can be assessed neurologically through identifying mindfulness networks within the brain (Holzel et al., 2011), which would give an added perspective that does not rely on self-reported mindfulness scores.

Second, the study is non-experimental, so no conclusions about cause and effect can be drawn. Many studies of mindfulness have used experimental approaches, which also have drawbacks. For example, many mindfulness studies have been criticized for not using appropriate control group comparisons (Dimidjian & Segal, 2015). However, future research with appropriately randomized control groups, in addition to active control groups, would complement the current study and give increasing confidence in the findings.

Conclusion

In summary, this study shows that mindfulness at the employee level can improve psychological well-being when one has a transformational leader. However, if employees receive mistreatment from their supervisor, mindfulness can exacerbate the negative impact this leadership has on psychological well-being. Overall, this study shows the potential benefits of mindfulness within certain situations, and contributes to the literature by showing one potential dark side of mindful awareness at the employee level.

Chapter 4: General discussion

The studies described in the previous chapters have examined the role of mindfulness for leaders and employees' experiences at work. In Study 1, I found that leaders' negative emotion and empathy mediated the relationships between leader emotional exhaustion and leadership style (transformational leadership and abusive supervision), and that mindfulness buffered the indirect effects for negative emotion only. In Study 2, I found that transformational leadership and abusive supervision predicted various facets of well-being, and that mindfulness boosted the positive relationship between transformational leadership and psychological well-being, while it exacerbated the negative relationship between abusive supervision and employee well-being. In the previous chapters I have discussed theoretical and practical implications arising from these findings, and here I will discuss more broadly the implications of this research on the role of mindfulness at work.

First, taken together, these two studies show the value of mindfulness at two complementary levels. At the employee level, I found that mindfulness helps to boost the positive effects of effective leadership, but that it can also amplify the negative effects of abusive supervision. However, mindfulness at the leader level also helps to improve transformational leadership and mitigate abusive supervision, which highlights how mindfulness at both levels can work together for the benefit of teams and organizations. Given that trait mindfulness correlates highly with meditative practice (Brown & Ryan, 2003), there are implications for organizations to consider. Training mindfulness at only the employee level, for example, could have disastrous implications if leaders are

resource depleted and lashing out at followers as a result. Training mindfulness at higher

levels, however, can help leaders to create environments where both they and their

followers can thrive. Thus, it would be most beneficial for organizations that are

considering mindfulness interventions to implement them at various levels of the

organization to gain the greatest benefit, and to also carefully consider the existing

performance of leaders to protect against unintended negative consequences.

The way mindfulness has shown to work together at both the leader and follower

level in these studies also brings forward implications for COR theory. As discussed

earlier, COR theory has identified many *key resources*, such as optimism, that optimize

other related resources to create overall resource gain (ten Brummelhuis & Bakker, 2012).

Although mindfulness has been found to be positive in the majority of contexts, the

findings from Study 2 suggest that mindfulness may not be a key resource in that it can

interact in a negative way with sources of resource drain. Mindfulness may instead act to

heighten resource signals within organizations. The COR literature distinguishes between

"resources and signals that a resource is available and/or worth pursuing" (Halbesleben et

al., 2014, p. 1347), and suggests that individuals will most often invest resources when

they perceive signals that investment will lead to positive outcomes. At the leader level,

mindfulness acts as a traditional resource by disrupting the impulsive reactions a leader

has to their own resource drain to promote a positive investment in transformational

leadership and a greater avoidance of abusive supervision. Knowing that their own

emotional exhaustion is largely under their control, leader mindfulness operates as we

would expect. However, things that are not under one's immediate control, such as trust

(Halbesleben et al., 2014), are beginning to be recognized as signals that influence resource reservoirs. At the employee level, with positive signals from a transformational leader, mindful employees will expect greater resource gains and will experience positive resource trajectories. Mindfulness would, however, also heighten the negative signals they receive from an abusive supervisor, and would promote a greater susceptibility to resource loss. They may begin to expect even more mistreatment and may be even less likely to invest resources into other resource gaining activities. Given that the core of mindfulness is heightened awareness and attention, it is likely that when considering behaviours of others (i.e. leaders) as predictors of employee well-being, mindfulness operates in a different way than when one's own resource drain is the predictor of interest.

Beyond COR theory, there are further theoretical implications arising from these studies regarding the construct of mindfulness itself. Good et al. (2016) have recently suggested that part of mindfulness' effectiveness at work could be due to its ability to facilitate shared mental models (i.e. schemas) that help individuals expect, recognize, and explain situations in similar ways. Although these types of thought processes have not specifically been studied here, the dependency of the benefits of employee mindfulness to ultimately rely on leader behaviour (i.e. transformational leadership) brings forward the possibility that mindfulness at both the leader and follower level may be creating shared mental models at work. For example, given that leaders who are highly abusive are less likely to be high on mindfulness, the negative impacts they have on mindful employees may be due in part to a disconnect between how they are perceiving the workplace in

comparison to their followers. Without the heightened attention and awareness of mindfulness, abusive supervisors are less likely to be on the same page as employees who are mindful, which could lead to varying expectations of how tasks should be completed and within-team roles. This could lead to conflicts and further resource drain on both parties, which would further explain the counterintuitive findings from Study 2. In contrast, mindfulness helps to increase transformational leadership, and these leaders are thus more aware of the workplace and relevant expectations for behaviour. Their more mindful employees would similarly have a heightened focus, which would help them work together more effectively in a team, share success, and ultimately contribute to both leader and follower well-being. As Good et al., (2016) suggest, a productive way forward in this area would be to study leaders and their teams to understand if mindfulness at both levels increases the similarity of individual mental models.

Given that transformational leadership links the benefits of mindfulness for both employees and leaders, these studies also bring important questions forward for future research on this leadership style. The dimensions of transformational leadership were quite highly correlated in both studies, and this is similar to many other studies of transformational leadership. However, Van Knippenberg and Sitkin (2013) have also suggested that studying transformational leadership's dimensions separately may be helpful to better understand the antecedents and consequences of this leadership style. While this was not possible with the MLQ in these studies, it does raise important questions for future research on transformational leadership and mindfulness. For example, does employee mindfulness interact differently with some components of

transformational leadership in comparison to others? It would be interesting for future studies to test this type of idea with measures that can more effectively be disentangled, to understand whether there a specific elements of transformational behaviour that are most relevant to mindfulness from both leader and employee perspectives.

Conclusion

In summary, I investigated the benefits of mindfulness at work for leaders and followers. I found that mindfulness disrupts the dual process model of leader resource depletion through the impulsive system, which allows leaders to increase transformational leadership and mitigate abusive supervision. Furthermore, mindful employees get an added 'boost' from transformational leaders in terms of improved psychological well-being, but may become vulnerable to abusive supervisors. I have highlighted key theoretical and practical contributions and outlined various ways these findings can move research forward in this area. Overall, the studies that form this dissertation show that mindfulness can be valuable at both leader and employee levels, but can also have potential negative consequences in toxic situations.

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Appendix A: Study 1 Measures

Mindful Attention Awareness Scale (Brown & Ryan, 2003)

Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what *really reflects* your experience rather than what you think your experience should be.

1 Almost Always	2 Very frequently	3 Somewhat frequently	4 Somewhat infrequently	5 Very infrequently	6 Almost never

I could be experiencing some emotion and not be conscious of it until some time later	1	2	3	4	5	6
I break or spill things because of carelessness, not paying attention, or thinking of something else	1	2	3	4	5	6
I find it difficult to stay focused on what's happening in the present	1	2	3	4	5	6
I tend to walk quickly to get where I'm going without paying attention to what I experience along the way	1	2	3	4	5	6
I tend not to notice feelings of physical tension or discomfort until they really grab my attention	1	2	3	4	5	6
I forget a person's name almost as soon as I've been told it for the first time	1	2	3	4	5	6
It seems I am 'running on automatic' without much awareness of what I'm doing	1	2	3	4	5	6
I rush through activities without being really attentive to them	1	2	3	4	5	6
I get so focused on the goal I want to achieve that I lose touch with what I am doing right now to get there	1	2	3	4	5	6
I do jobs or tasks automatically, without being aware of what I'm doing	1	2	3	4	5	6
I find myself listening to someone with one ear, doing something else at the same time	1	2	3	4	5	6
I drive places on 'automatic pilot' and then wonder why I went there	1	2	3	4	5	6
I find myself preoccupied with the future or the past	1	2	3	4	5	6
I find myself doing things without paying attention	1	2	3	4	5	6
I snack without being aware that I'm eating	1	2	3	4	5	6

Empathy (Davis, 1980)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number on the scale at the top of the page (1-5). Answer as honestly as you can.

1 Does not describe me well	2	3	4	5 Describes me very well

I sometimes find it difficult to see things from the "other guy's" point of view	1	2	3	4	5
I try to look at everybody's side of a disagreement before I make a decision	1	2	3	4	5
I sometimes try to understand my employees better by imagining how things look from their perspective	1	2	3	4	5
If I'm sure I'm right about something, I don't waste much time listening to my employees' arguments	1	2	3	4	5
I believe that there are two sides to every question and try to look at them both	1	2	3	4	5
When I'm upset at an employee, I usually try to 'put myself in his shoes' for a while	1	2	3	4	5
Before criticizing an employee, I try to imagine how I would feel if I were in their place	1	2	3	4	5

Negative emotion (Watson et al., 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then select the appropriate answer. Indicate to what extent you have felt this way during the last three weeks.

1 Very slightly or not at all	2 A little	3 Moderately	4 Quite a bit	5 Extremely				

Interested					1	2	3	4	5
Distressed					1	2	3	4	5
Upset					1	2	3	4	5
Strong					1	2	3	4	5
Scared					1	2	3	4	5
Hostile					1	2	3	4	5
Irritable					1	2	3	4	5
Ashamed					1	2	3	4	5
Nervous					1	2	3	4	5
Jittery					1	2	3	4	5
Afraid					1	2	3	4	5

Abusive supervision (Leader self-report; Tepper, 2000, adapted from Liang et al. (2016)

How often do you plan to engage in the following behaviours with your subordinates in general:

1 I don't ever use this behaviour with them	2 I seldom use this behaviour with them	3 I occasionally uses this behaviour with them	4 I use this behaviour very often with them	5 I use this behaviour very often with them

Ridicule them	1	2	3	4	5
Tell them their thoughts or feelings are stupid	1	2	3	4	5
Give them the silent treatment	1	2	3	4	5
Put them down in front of others	1	2	3	4	5
Invade their privacy	1	2	3	4	5
Remind them of their past mistakes and failures	1	2	3	4	5
Not give them credit for jobs requiring a lot of effort	1	2	3	4	5
Blame them to save myself embarrassment	1	2	3	4	5
Break promises I make to them	1	2	3	4	5
Express anger at them when I am mad for another reason	1	2	3	4	5
Make negative comments about them to others	1	2	3	4	5
Be rude to them	1	2	3	4	5
Not allow them to interact with other coworkers	1	2	3	4	5
Tell them they're incompetent	1	2	3	4	5
Lie to them	1	2	3	4	5

Abusive supervision – Follower perceptions (Tepper, 2000)

Please answer the following questions about your boss using the following scale:

1 I cannot remember him/her ever using this behaviour with me	2 He/she very seldom uses this behaviour with me	3 He/she occasionally uses this behaviour with me	4 He/she uses this behaviour moderately often with me	5 He/she uses this behaviour very often with me

My boss:

Ridicules me	1	2	3	4	5
Tells me my thoughts or feelings are stupid	1	2	3	4	5
Gives me the silent treatment	1	2	3	4	5
Puts me down in front of others	1	2	3	4	5
Invades my privacy	1	2	3	4	5
Reminds me of my past mistakes and failures	1	2	3	4	5
Doesn't give me credit for jobs requiring a lot of effort	1	2	3	4	5
Blames me to save himself/herself embarrassment	1	2	3	4	5
Breaks promises he/she makes	1	2	3	4	5
Expresses anger at me when he/she is mad for another reason	1	2	3	4	5
Makes negative comments about me to others	1	2	3	4	5
Is rude to me	1	2	3	4	5
Does not allow me to interact with my coworkers	1	2	3	4	5
Tells me I'm incompetent	1	2	3	4	5
Lies to me	1	2	3	4	5

Leader member exchange (Graen & Uhl-Bien, 1995)

This questionnaire contains items that ask you to describe your relationship with your direct supervisor. For each of the items indicate the degree to which you think the item is true for you by selection one of the responses.

1. Do you know where you stand with your leader… and do you usually know how satisfied your leader is with what you do? (1=Rarely to 5=Very often)

2. How well does your leader understand your job problems and needs? (1=Not a bit to 5=A great deal)

3. How well does your leader recognize your potential? (1=Not at all to 5=Fully)

4. Regardless of how much formal authority your leader has built into his or her position, what are the chances that your leader would use his or her power to help you solve problems in your work? (1=None to 5=Very high)

5. Again, regardless of the amount of formal authority your leader has, what are the chances that he or she would 'bail you out' at his or her expense? (1=None to 5=Very high)

6. I have enough confidence in my leader that I would defend and justify his or her decision if he or she were not present to do so (1=Strongly disagree to 5=Strongly agree)

7. How would you characterize your working relationship with your leader? (1=Extremely ineffective to 5=Extremely effective)

Appendix B: Study 2 measures

(Leadership styles and mindfulness same as Study 1)

Physical health (Schat et al., 2005)

The following items focus on how you have been feeling physically during the last two months. Please answer using the scale below

1 Not at all	2 Rarely	3 Once in a while	4 Some of the time	5 Fairly often	6 Often	7 All of the time

How often have you had difficulty getting to sleep at night?	1	2	3	4	5	6	7
How often have you woken up during the night?	1	2	3	4	5	6	7
How often have you had nightmares or bad dreams?	1	2	3	4	5	6	7
How often have you experienced headaches?	1	2	3	4	5	6	7
How often has your sleep been peaceful and undisturbed?	1	2	3	4	5	6	7
How often did you get headaches when there was a lot of pressure on you to get things done?	1	2	3	4	5	6	7
How often did you get a headache when you were frustrated because things were not going the way they should have?	1	2	3	4	5	6	7
How often have you suffered from indigestion or upset stomach?	1	2	3	4	5	6	7
How often do you have to watch what you eat to avoid an upset stomach?	1	2	3	4	5	6	7
How often did you feel sick to your stomach? (nauseated)	1	2	3	4	5	6	7
How often were you constipated or suffer from diarrhea?	1	2	3	4	5	6	7
How many times have you had minor colds that made you feel uncomfortable but did not keep you	0 times	1-2 times	3 times	4 times	5 times	6 times	7 + times

sick in bed or make you miss work?							
How many times have you had respiratory infections more severe than minor colds that 'laid you low' ? (such as bronchitis, sinusitis, etc.)	0 times	1-2 times	3 times	4 times	5 times	6 times	7 + times

Psychological well-being (Vigor) (Shirom, 2005)

Below are a number of statements that describe different feelings that you may feel at work. Please indicate how often, in the past two months, you have felt each of the following feelings:

1 Never or almost never	2 Very infrequently	3 Quite infrequently	4 Sometimes	5 Quite frequently	6 Very frequently	7 Always or almost always

I feel full of pep	1	2	3	4	5	6	7
I feel I have physical strength	1	2	3	4	5	6	7
Feeling vigorous	1	2	3	4	5	6	7
I feel energetic	1	2	3	4	5	6	7
Feeling of vitality	1	2	3	4	5	6	7
I feel I can think rapidly	1	2	3	4	5	6	7
I feel I am able to contribute new ideas	1	2	3	4	5	6	7
I feel able to be creative	1	2	3	4	5	6	7
feel able to show warmth to others	1	2	3	4	5	6	7
I feel able to be sensitive to the needs of coworkers and customers	1	2	3	4	5	6	7
I feel I am capable of investing emotionally in coworkers and customers	1	2	3	4	5	6	7
I feel capable of being sympathetic to co-workers and customers	1	2	3	4	5	6	7

Cognitive well-being (Thriving; Porath et al. (2012)

Please answer the following questions by reflecting on your experiences at work using the following responses:

1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neutral	5 Somewhat Agree	6 Agree		7 Strongly agree

I find myself learning often	1	2	3	4	5	6	7
I continue to learn more and more as time goes by	1	2	3	4	5	6	7
I see myself continually improving	1	2	3	4	5	6	7
I am not learning	1	2	3	4	5	6	7
I have developed a lot as a person	1	2	3	4	5	6	7
I feel alive and vital	1	2	3	4	5	6	7
I have energy and spirit	1	2	3	4	5	6	7
I do not feel very energetic	1	2	3	4	5	6	7
I feel alert and awake	1	2	3	4	5	6	7
I am looking forward to each new day	1	2	3	4	5	6	7

Perceived organizational support (Eisenberger et al., 1986)

Listed below are a series of statements that represent possible feelings that individuals might have about the company or organization for which they work. With respect to your own feelings about the particular organization for which you are now working, please indicate the degree of your agreement or disagreement with each statement by checking one of the seven alternatives below.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree

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