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Making Emotions Meaningful: The Power of Mindfulness During Leader Developmental Trigger Events

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Abstract

Making Emotions Meaningful: The Power of Mindfulness During Leader Developmental Trigger Events

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Successful leaders act with a sense of inner meaningfulness that contagiously influences followers to perform at their best. Leaders who purposely engage with emotionally intense developmental experiences (e.g., trigger events) cultivate greater meaningfulness in their work. Negative trigger events may be more impactful than positive trigger events because negative emotions shock beliefs and assumptions about reality. Additionally, due to the emotional intensity, leaders often fail to learn from trigger events that could develop leader meaningfulness. Mindfulness may help leaders appropriately use the emotional intensity of trigger events to produce meaningfulness. The purpose of this study was to empirically test the relationships of emotions, mindfulness, and meaningfulness. I pilot-tested measures and experimental conditions to make needed adjustments before the main study. Through a 2x3 experimental design, 401 participants underwent an intervention condition (mindfulness meditation group or control group) and a trigger event simulation (positive trigger event, negative trigger event, or neutral simulation). Moderated regression was utilized to analyze the predicted relationships. Results indicated that emotional intensity significantly predicts the meaningfulness of the trigger event simulation. Emotional valence significantly moderates that relationship, however in a surprising negative direction such that the neutral condition had the strongest relationship between intensity and meaning. Mindfulness did not significantly moderate, but the study did show how

mindfulness predicts meaningfulness. This research advances understanding of the emotional mechanisms of meaningfulness in the leader development process. Additionally, practitioners can use the findings to understand how to integrate emotions appropriately for leader development learning from experience initiatives.

Keywords: meaning, emotions, mindfulness, leader development

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Table of Contents

Making Emotions Meaningful: The Power of Mindfulness During Leader Developmental Trigger Events

Nelson Mandela, the South African political leader, successfully led the initiative to dismantle apartheid and usher in a new era of democratic freedom (Boehmer & Lodge, 2008). His internal sense of meaningfulness in his activist role enabled him to effectively influence hundreds of thousands of people through external behaviors like inspiring others through a shared vision of the future (Bass, 1999; Burns, 1978). To enact such leadership behaviors, the leaders themselves must feel a sense of meaningfulness in their message. Meaningfulness is the amount of internal significance a person recognizes in something, such as work (Pratt & Ashforth, 2003). Leaders who experience meaningfulness in their work receive well-being benefits that keep them engaged (Hackman & Oldham, 1980; Steger et al., 2012). Furthermore, leaders who have a sense of meaningfulness are better at leadership behaviors because the emotions from their meaningful experiences are contagious, influencing their followers (Bono & Ilies, 2006; Jin et al., 2016). Positive outcomes of meaningfulness are relevant to effective leadership, such as job satisfaction (Steger et al., 2012), organizational commitment (Steger et al., 2012), and work engagement (Geldenhuys et al., 2014). In light of the value of leader meaningfulness for leadership outcomes, how do leaders develop meaning?

Although various reviews of meaning at work have focused on cognitive mechanisms (Pratt & Ashforth, 2003; Rosso et al., 2010), little organizational research has explored how emotions influence the development of meaningfulness. This paper examines how emotions of developmental experiences, or trigger events (Luthans & Avolio, 2003), create leader meaningfulness. The emotional valence of the experience (i.e., positive or negative) and its emotional intensity, or the degree of arousal that an emotion phenomenologically produces

(Kuppens et al., 2013), matter when, if, and to what extent leaders make meaning from that experience. Instead of seeking revenge on his adversaries in response to being sentenced to life in prison for his rebellion against the apartheid government, Nelson Mandela used this experience to reinforce his drive to work towards democratic freedom in South Africa. This emotionally distressing experience was a trigger event that strengthened his sense of meaningfulness in his work. Although they do not have to be as extreme as imprisonment, every day trigger events that provide either positive emotional intensity or negative emotional intensity can be developmentally consequential (Olivares, 2011) and meaningful (Murphy & Bastian, 2019).

Even though approximately 70% of leader learning and development occurs through experiences (Rabin, 2014), experiential development is not guaranteed (Day, 2010). This lack of development is partly due to leaders not always being aware of the learning opportunities or uncertainty surrounding those experiences (Day, 2010). Furthermore, trigger events produce strong emotional reactions, which have the potential to be overwhelming, and that could subsequently deter purposeful engagement with developmental experiences (Walker & Reichard, 2020). Yet, these experiences can become highly developmental if leaders have the right emotional skills (Lord & Hall, 2005).

Mindfulness, the ability to have an awareness of and nonjudgmental acceptance of present moment experiences (Bishop et al., 2004; Brown & Ryan, 2003; Kabat-Zinn, 2009), facilitates the transformation of emotionally intense experiences into meaningful moments. Mindfulness helps leaders reappraise complex emotional information to integrate into adaptive mental models for proactive behavior and fully capitalize on positive emotions to affirm meaning (Garland et al., 2015a). Overall, the goals of the study are to examine the utility of emotional

intensity in the development of leader meaningfulness, test whether negative emotionally valenced trigger events may produce more value than positive trigger events, and outline the positive moderating role of mindfulness as an emotional skill for that developmental process (see Figure 1 for the theoretical model).

--------Insert Figure 1 about here --------

This paper contributes to scientific research by experimentally examining the emotional antecedents of leader meaningfulness and testing if emotional valence and mindfulness moderate those relationships. First, this study answers researchers' call for more research on the emotional processes to complement cognitive approaches to understanding meaningfulness at work (Rosso et al., 2010). Second, although the meaning at work literature contains empirical and theoretical discussions on how employees develop meaning (Dik et al., 2013; Pratt & Ashforth, 2003; Rosso et al., 2010), researchers have yet to explore the mechanisms of how leaders develop meaning. Leader meaningfulness is critical to explicate because leaders have a strong influence on organizational performance (Podolny et al., 2004). Third, I introduce mindfulness as an emotional skill for developing leadership structures, such as, in this case, developing the capacity to translate intensely emotional trigger events into meaningful experiences. If supported, mindfulness interventions for leaders are a practical approach to facilitate the development of leader meaningfulness via experience.

I begin with a literature review on meaningfulness for leaders. I summarize how leaders develop meaning from work experiences. I discuss how the emotional intensity of developmental experiences relates to meaningfulness and how mindfulness influences that relationship. I detail the methodological designs and results, including a series of pilot studies leading up to the main

experimental study design. Last, I describe implications for leader development initiatives within organizations and guidance for future research.

Leader Meaningfulness

The meaning of work literature has two broad areas of research: meaning and meaningfulness. Following recommendations from prior researchers to advance the field, I use terminology consistent in past research to delineate *three* terms regarding leader meaningfulness (for a semantics review, see Rosso et al., 2010). *Meaning of work* encapsulates the general field of the entire meaning-related literature. *Meaning* refers to the type of significance that a leader experiences (e.g., viewing one's work as a spiritual calling versus a merely a job transaction of effort in exchange for financial compensation; Wrzesniewski, 2015); whereas *meaningful* or *meaningfulness* refers to the extent to which a leader experiences work as personally significant (Rosso et al., 2010). Of the terms, this paper focuses solely on the mechanisms by which leaders experience meaningfulness at work.

Benefits of Leader Meaningfulness

Meaning is central to the human experience (Frankl, 1985) and fundamental to psychological well-being (Ryff, 1989). Meaning of work has demonstrated relationships with some of the most critical organizational outcomes, including absenteeism (Wrzesniewski et al., 1997), engagement (May et al., 2004; Mendes & Stander, 2011), job satisfaction (Wrzesniewski et al., 1997), work motivation (Hackman & Oldham, 1980), career development (Dik & Duffy, 2009; Dobrow, 2006), and performance (Hackman & Oldham, 1980; Wrzesniewski et al., 2003). In general, employees with high meaningfulness proactively interpret the significance of the tasks, their role in work, and the context of life around work (Pratt & Ashforth, 2003; Rosso et al., 2010).

More specifically for leaders, meaningfulness supports leaders in being effective in the workplace and navigating leader developmental opportunities. Meaningfulness helps leaders enact effective leadership behaviors like constructing meaning for their followers (Sosik, 2000). Leaders who experience meaningfulness themselves will be better equipped to articulate a cohesive organizational vision to unite followers towards a common goal (Steger & Dik, 2010). Additionally, leaders with high meaningfulness will have contagious emotions (Barsade, 2002; Soane et al., 2013) that support effective leadership strategies (Bono & Ilies, 2006).

In addition, meaningfulness can be considered a proximal leader development outcome that precedes the development of more distal leader development outcomes (e.g., complex schemas, dynamic competencies; Day & Dragoni, 2015). Leaders can intentionally develop the capacity to enact effective leadership behaviors, such as articulating a vision (Bass, 1985), acting in alignment with core values (Luthans & Avolio), and influencing others to achieve a goal (Northouse, 2015). This process is known as leader development, or the expansion of individual-based, intrapersonal competencies (Day, 2000). Meaningfulness contributes to leader development in two ways: cognitive flexibility and self-awareness.

First, leaders with greater meaningfulness have the cognitive flexibility to utilize leader development initiatives. Cognitive flexibility refers to the ability to generate novel cognitive strategies to adapt mental and physical behavior to unexpected situations (Cañas et al., 2003). Meaningfulness helps leaders take advantage of developmental opportunities in the face of disruption (Tugade & Fredrickson, 2004). Leaders with higher meaningfulness can integrate setbacks into a compelling leader development narrative (McLean et al., 2007). For example, a leader who is demoted following a team failure could place this experience into a meaningful narrative for their development. Leaders with higher meaningfulness have the cognitive

flexibility to see through the ambiguity of developmental opportunities to make experiences memorable.

Second, leaders experiencing meaningfulness have a coherent sense of self which aids self-awareness, a critical self-view for the leader development process (Day, 2010; Stegar & Dik, 2009). Self-awareness, concerning leader development, refers to having a deep understanding of one's strengths, weaknesses, and impact on others as a leader (McCauley et al., 2010). Self-awareness provides leaders with knowledge of their developmental needs to inform developmental goals (Reily et al., 2014). Leaders with meaningful experiences behave consistently with personal values, and thus, they have deeper self-awareness of the significance of their values (Gardner et al., 2005; Rosso et al., 2010). In other words, leaders experiencing meaningfulness have self-awareness of their values to help traverse development.

Given the benefits of leader meaningfulness, understanding how it develops will support successful leader behaviors and maximize leader development outcomes. A few theoretical frameworks have explored the sources and mechanisms for the meaning of work (Dik et al., 2013; Pratt & Ashforth, 2003; Rosso et al., 2010; Steger & Dik, 2010). However, the reviews to date have hardly examined leader meaningfulness, specifically. Further, researchers call for deepening the understanding of the role of emotions in predicting meaningfulness at work (Rosso et al., 2010). In the following sections, I review how leaders develop through experience and discuss how the emotional components of leader development experiences are particularly prominent in creating leader meaningfulness.

Leader Development through Experience

Learning within experiential learning theory is the process of creating knowledge through actively interacting with the direct experience itself or an abstract symbolic representation of

experience (Kolb, 2014). Other learning theories emphasize cognition over affect or behavioral over subjectivity. Alternatively, experiential learning theory highlights learning through intimate action with the subjective experience.

According to experiential learning theory, experience plays a central role in learning and development (Kolb, 2014), and engaging with experiences is one of the best methods for leader development (McCall, 2010). Common developmental experiences are challenging assignments, promotions, cross-cultural work assignments, and exceptional personal events (McCauley et al., 2010; Reichard et al., 2015).

Leaders deliberately engaging in experiences can undergo developmental changes following trigger events (Day, 2010). Trigger events are highly emotional events with the potential to stimulate leader development growth (Luthans & Avolio, 2003; Olivares, 2011). In other words, trigger events set off or *trigger* the process of learning from experience by revealing gaps or inadequacies in existing schemas related to leadership. Researchers have used a variety of labels to describe the same overarching term: trigger events (Luthans & Avolio, 2003), transition events (Boyatzis, 2008), tipping points (Holland, 1995), momentous events (Olivares, 2011), or positive jolts (Spreitzer, 2006). I will use the terminology trigger event because of its prevalence in the leader development literature, which sets the present paper's context. Trigger events throughout a lifespan encapsulate potential growth experiences that produce many beneficial leader development outcomes (Luthans & Avolio, 2003). Furthermore, trigger events have multiple characteristics that make them a potential developmental experience (e.g., engagement, novelty, broadened perspective, social resources, and cognitive resources; Reichard et al., 2015). One key characteristic of trigger events is emotions. In the next section, I outline

the research for emotions as an affective mechanism of trigger events creating leader meaningfulness.

Emotions: An Affective Approach to Meaning Making

The emotional nature of trigger events can drive a leader's experience of meaningfulness at work. Whereas a low-level generalized feeling state characterizes mood, emotions are defined as psychophysiological feeling states associated with specific events and are intense enough to disrupt thought processes (Clark & Isen, 1982; Frijda & Mesquita, 1994; Zajonc, 1998; Brief & Weiss, 2002). From the leaders' perspective, emotions are internal information to guide proactive interpretation of the context, enabling more complex situational cognitive structures (Lord & Hall, 2005).

Emotional experiences influence work experiences. Affective Events Theory states that employees' emotional reactions to events form workplace attitudes that ultimately impact crucial organizational outcomes such as job satisfaction, organizational commitment, and productivity (Weiss & Cropanzano, 1996; Ashton-James, & Ashkanasy, 2005). In essence, emotional experiences at work can promote or impede mental states conducive to workplace goals, such as learning from developmental opportunities.

According to the circumplex model of affect, emotional experiences are characterized by two dimensions: intensity and valence (Posner et al., 2005; Russell, 1980). Emotional intensity is the extent to which an emotion has high arousal activation (e.g., excitement) or low arousal deactivation (e.g., boredom; Posner et al., 2005; Russell, 1980). Emotional valence is the extent to which an emotion is pleasant or unpleasant (Posner et al., 2005; Russell, 1980). Thus, trigger events can range in intensity from low (e.g., compliments) to high (e.g., a heart attack) and range in valence from emotionally unpleasant (e.g., losing a job; Luthans & Avolio, 2003) or

emotionally pleasant (e.g., getting promoted; Spreitzer, 2006). The degree of each of these emotional components of trigger events will impact the meaningfulness of the experience.

Emotionally Intense Trigger Events and Leader Meaningfulness

First, the stronger the emotional intensity of the trigger event, the more likely it is to result in a meaningful developmental opportunity. Emotional intensity is a critical dimension of learning from experiences and finding experiences meaningful (Olivares, 2011). Specifically, trigger events characterized by high arousal emotional intensity can create meaningfulness by forcing developing leaders to assess their relationship to the world. Emotional intensity makes individuals stop and pay attention (Wood et al., 2002). When in this alert mode, leaders question their regular operating procedures to understand the emotionally intense experience. In questioning assumptions, beliefs, and values, meaningfulness arises in settling how the leader fits within the world (Tedeschi & Calhoun, 2004).

In addition to theory, research also supports that the intensity of the emotional experience creates meaning by inspiring contemplation of one's life narrative (Murphy & Bastian, 2019). Across three studies, participants either reported one important event in their life or participants specifically reported a negatively valenced significant event and a positively valenced significant event (Murphy & Bastian, 2019). Regardless of valence, the most meaningful events (i.e., self-reported by participants after describing the event) were rated higher on emotional intensity. The emotional intensity provokes a psychological change in mental schemas, or organized knowledge, that provides information processing to inform actions (DiMaggio, 1997; Reichard et al., 2015).

H1. *Emotional intensity of the trigger event will positively relate to leader meaningfulness.*

Positively Valenced Emotionally Intense Trigger Events and Leader Meaningfulness

Second, the valence of the emotionally intense trigger event relates to leader meaningfulness. As mentioned, according to the circumplex model of emotions, valence ranges from pleasant to unpleasant (Posner et al., 2005; Russell, 1980). On the pleasant end of the emotional continuum, pleasant emotions are positively valenced emotions often associated with neural systems of enjoyment feelings (Posner et al., 2005) and result from positive emotional trigger events. Positive emotional trigger events range from brief moments to significant scale events if the experience is memorable and emotionally charged (Olivares, 2011). A positive emotional trigger can be as quick as a leader reading a short, written description from their followers about the leader's strengths and best qualities (i.e., reflected best self exercise; Roberts et al., 2005). In other words, the leader's positive qualities are illuminated to the leader's perception to create a pathway for embodying exceptional leadership. More extended duration events, such as when a leader engages in culturally novel situations or travels abroad, can also positively trigger developmental growth (e.g., broadened cultural competence; Reichard et al., 2015). Even non-work events like visiting a new country, reading a captivating book, or meeting a significant other can be considered positive emotional experiences that have the potential as leader development opportunities for leader meaningfulness (Luthans & Avolio, 2003). Positive emotional experiences like these can infuse leaders with meaningfulness in two different ways.

First, the intensity of the positive emotional experiences provides leaders with an internal feedback system to continue actions that develop meaningfulness. One way meaningfulness is derived is when behaviors align with personal values (Rosso et al., 2010). Positive emotions act as a stability mechanism to ensure behavior is motivated towards actions consistent with interests and values, or self-concordance (Sheldon & Elliot, 1999). For example, the reflected best self

exercise evokes positive emotions in leaders that expand psychological resources for continued best self behavior (Roberts et al., 2005; Spreitzer, 2006). In receiving positive affirmations about the impact of leaders being at their best, leaders feel meaningfulness in the sense of alignment in their leadership values and the successful actions in representing the values (Rosso et al., 2010). The positive emotions prompt the leader to integrate the experience into the self and continue those rewarding acts (Izard, 1977; Fredrickson, 2001). Positive emotions reinforce behaviors that align internal values to external action for greater meaningfulness (King & Hicks, 2009; Murphy & Bastian, 2019)

Second, meaningfulness from social belonging is another critical consequence of positive emotional trigger events. When leaders experience a positive emotional trigger, such as a reflected best self exercise, leaders strengthen their relationship with followers and develop social support (Spreitzer, 2006). A community of greater belongingness is a critical source of meaningfulness at work (Rosso et al., 2010). High-quality connections, or momentary dyadic positive interactions with followers, foster positive experiences (Dutton & Heaphy, 2003). From these positive interactions, leaders will experience a greater sense of group membership, making them feel more embedded in their organizations and, ultimately, to experience higher meaningfulness in work (Pratt & Ashforth, 2003).

In fact, research from both cross-sectional and experimental studies shows that positive emotions enhance the experience of daily meaning. Murphy and Bastian (2019) prompted participants to describe the most pleasant experience in the past year. The positive valence of the experience is positively related to the degree of meaningfulness of that experience. In other words, the more positive the experience, the more meaningful the experience. Throughout six studies, King and researchers (2006) found that positive emotions predicted the experience of

meaning. In specific, a repeated measures diary study in the paper showed that positive emotions were a stronger predictor of a meaningful day than appraisals of goal progress. Furthermore, experimentally inducing positive emotions increased meaning.

In summary, leaders experience meaningfulness from intense positive emotional trigger events because positive emotions trigger leaders to continue behaviors in alignment with their values and create a more profound sense of belonging in the workplace.

H2a. *Positive valenced emotional intensity will positively relate to leader meaningfulness.*

Negatively Valenced Emotionally Intense Trigger Events and Leader Meaningfulness

On the other end of the emotional valence continuum are unpleasant, or negative, emotions. Negatively valenced emotions are unpleasant emotions often associated with neural systems of aversive feelings (Posner et al., 2005). Thus, they relate to leader meaningfulness through a different set of processes than positive emotions.

Leaders experience negative emotions following distressing trigger events, such as giving a performance review to a troubled follower, firing followers, or discussing subpar team performance with a higher leadership stakeholder group. Negative emotional trigger events can range from short minor events (e.g., receiving constructive feedback following a mediocre presentation) to lengthy, major events in life (e.g., death of a loved one). Additionally, a volatile, uncertain working environment can present increased negative emotional experiences (Mack et al., 2015). Challenges like this provoke negative emotions because of the feeling of invalidation in the leader's beliefs about the world and self-concept (Tait & Silver, 1989; Wegner, 1988). Thus, negative emotions threaten the leader's sense of self and force leaders to alleviate the

threat. However, leaders can psychologically transform negative emotional trigger events into meaningful work experiences.

Specifically, the intensity of the negative emotional trigger events creates meaning by prompting leaders to contemplate values. Post-traumatic growth scholars describe the process of positive psychological changes in the aftermath of traumatic events that affect three broad facets of the individual (Tedeschi & Calhoun, 2004). In post-traumatic growth, individuals transform destabilizing disruptions in the perception of self, relationship with others, and philosophy to ultimately derive meaning (Tedeschi & Calhoun, 1996). These disruptions' high emotional intensity induces contemplation of the self (Rimé et a., 1992). By deliberately reflecting on these disruptions, leaders can clarify how specific experiences (i.e., negative emotional trigger events) fit within the broader scheme of their values and life narrative, also known as authentic leadership development (Luthans & Avolio, 2003). The clarity and alignment of values from disruptions create a source for cultivating meaningful experiences (Rosso et al., 2010).

Take, for example, the COVID-19 pandemic prompting drastic shifts for leadership behaviors (Stoker et al., 2019; Kniffin et al., 2020) that have the potential for meaningfulness. First, the distressing change in how a leader views their leadership competencies in the novel remote work environment may provoke contemplation. The intensity of the negative emotional trigger event can cause a positive change in values and identity (Luthans & Avolio, 2003). Contemplating the negative emotional experience can help leaders cultivate authentic leadership styles and thus create greater meaningfulness in their work (Rosso et al., 2010). Second, the change to a virtual working environment could disrupt a leader to rethink the importance of workplace relationships. The leader may make more intentional efforts to develop those relationships. A sense of belonging between the leader and followers is a crucial source of

meaningfulness in work for both the leader and the follower (Rosso et al., 2010). Third, the negative emotional experiences from the pandemic could make leaders rethink work values within their philosophy of life. Leaders may switch from perceiving their work as merely a way to receive a paycheck to a meaning-inducing spiritual, personal calling to draw the best out of others in a dire situation (Rosso et al., 2010; Steger et al., 2010).

Supporting this premise, research indicates that negative emotional events are a source of meaningfulness. Research indicates that people find meaning following a major negative emotional event like a loss of a family member (Davis & Nolen-Hoeksema, 2009). Through interviews and a repeated measure study design, participants with emotional distress in the aftermath of a loss of a family member experienced meaningfulness in making sense of and finding benefit through the negative event. Additionally, Murphy and Bastian (2019) found that extremely painful events were highly meaningful.

In summary, the disruptive quality of negative emotionally intense trigger events motivates leaders to contemplate their sense of self, relationships with others, and values at work. In contemplation, leaders can develop greater authentic leader behaviors in updating their values with a coherent life story (Luthans & Avolio, 2003), creating meaningful work (Rosso et al., 2010). Individuals who have a cohesive alignment of values between self and work create meaningful experiences out of their work (Pratt & Ashforth, 2003).

H2b. *Negative valenced emotional intensity will positively relate to leader meaningfulness.*

Valence Moderates Emotional Intensity to Leader Meaningfulness

The relationship between emotional intensity and meaningfulness is expected to change when a leader has a negative valence experience versus a positive valence experience. Although

both valences have pathways for creating meaningfulness, I argue that the relationship between emotional intensity and meaningfulness is significantly stronger during negative valence compared to positive valence. In other words, negative valence experiences strengthen the relationship between emotional intensity and meaningfulness more so than positive valence experiences. Negative valence emotions make emotional intensity more generative for creating meaningfulness because negative emotions shock personal assumptions about the world (Tedeschi & Calhoun, 2004). Negative emotions are indicative of a foundational human desire to evade the sense of death (Becker, 1997). This ever-present threat of self-preservation and survival makes negative emotional intensity a psychological alarm for meaningful action.

Positive emotional intensity could have a proportional impact on the relationship between emotional intensity and meaningfulness. In that case, positive emotionally intense experiences could be rarer in life, thus overshadowed by the frequent availability of negative emotionally intense experiences. However, positive emotionally intense experiences are fleeting and require greater deliberate effort to make the most from them (Bryant & Veroff, 2017). Compartmentalizing a meaningful appraisal towards negative emotional intense trigger events should be a greater driver of meaningfulness than the affirming value pathway of positive emotional intense trigger events. In summary, the four quadrants of the circumplex model of emotion can provide a framework to understand varying degrees of meaningfulness from the emotional valence and emotional intensity (See Figure 2; Posner et al., 2005; Russell, 1980). The first quadrant (high intensity, negative valence) has the strongest relationship to leader meaningfulness. The second quadrant (high intensity, positive valence) relates to leader meaningfulness, but not as high as the first quadrant. The third quadrant (low intensity, negative

valence) and fourth quadrant (low intensity, positive valence) will have low leader meaningfulness.

H3. *Emotional valence will positively moderate the relationship of emotional intensity to meaningfulness such that negative valence amplifies the effect of emotional intensity to meaningfulness more than positive valence*

--------Insert Figure 2 about here --------

Mindfulness Transforms Emotions into Meaningfulness

Whether positive or negative, learning from emotionally intense experiences is complex, and not every experience will fulfill its developmental potential as a trigger event (Day, 2010). Without the necessary skills, leaders can have difficulty transforming high-intensity emotional experiences into meaningfulness. Emotional skills are crucial to the leader development process (Lord & Hall, 2005). Ideally, leaders would respond to emotionally intense events proactively to experience meaningfulness (Luthans & Avolio, 2003). Furthermore, leaders would also take the fullest advantage of positive emotional events to get the most meaningfulness out of their experience instead of letting it pass by unnoticed. When leaders can't transform emotional intensity into meaning, trigger events' developmental potential is unrealized. Leaders need psychological resources to be able to engage with the challenging features of emotional trigger events (Reichard et al., 2015). Mindfulness helps leaders to properly integrate emotional experiences and compartmentalize emotionally intense experiences as meaningful trigger events.

What is Mindfulness?

The concept of mindfulness originated in eastern philosophy as a practice of deepening awareness of moment-to-moment experiences (Hahn, 1976). Despite various modern definitions, the consensus view is mindfulness is a way of purposely paying attention to present experiences,

nonjudgmentally (Kabat-Zinn, 2009; Brown & Ryan, 2003). Individuals can activate a higher momentary mindfulness state-like experience (Thera, 1962). Also, individuals vary on baseline trait levels of mindfulness, regardless of any experience in activating mindfulness (Siegling & Petrides, 2014). Mindfulness state experiences for individuals with higher trait mindfulness (Brown & Ryan, 2003). Mindfulness both expands attentional control of process information (Dane, 2011; Brown & Ryan, 2003) and refines awareness of novel distinctions in present moment experiences (Langer, 2014). Thus, a current understanding is that mindfulness is a metacognitive practice that simultaneously monitors and regulates mental processes (Kudesia, 2019).

Benefits of Mindfulness

Although mindfulness research initially demonstrated benefits in clinical domains (Chiesa & Serretti, 2011) and general well-being domains (Brown & Ryan, 2003), researchers are beginning to explore the workplace benefits (Good et al., 2016; Sutcliffe et al., 2016). Mindfulness benefits the general workplace, leadership behaviors, and leader development.

First, employees with higher mindfulness tend to have more considerable indicators of well-being and performance. Workplace research details the beneficial associations of mindfulness with reduced burnout (Flook et al., 2013), higher job satisfaction (Hülsheger et al., 2012; Reb et al., 2015), improved sleep (Hülsheger et al., 2014), increased work engagement (Leroy et al., 2013; Malinowski & Lim, 2015), and improved task performance (Reb et al., 2015). Coupled with a widened breadth of awareness and stronger attention, mindful employees have increased flexibility to regulate proactive attitudes and behaviors at work (Dane, 2011; Glomb et al., 2011).

Second, research suggests that the benefits of mindfulness extend to the more specific context of leadership in the workplace. Mindfulness benefits leaders' interactions with followers. Leaders' mindfulness positively relates to their employees' well-being and performance (Reb et al., 2014). Mindfulness helps leaders react appropriately without relying on automated stressful threat responses that carry destructive leadership biases (Lange et al., 2018). Mindful leaders also help mitigate followers' stress and increase perceived interpersonal justice (Reb et al., 2019). Results from multi-source studies show that employees notice the impact of mindfulness on their leaders. Leaders with higher mindfulness were rated by others as having greater self-mastery and proactivity in their leadership styles (King & Haar, 2017). Furthermore, leaders' mindfulness was indirectly related to other-rated transformational leadership behaviors through more robust positive affect and leadership self-efficacy beliefs (Carleton, Barling, & Trivisonno, 2018). Additionally, in one study, leader mindfulness was positively related to pivotal servant leadership behaviors like having a non-self-centered motivation to lead and greater humility (Verdorfer, 2016).

Finally, mindfulness assists in the leader development process by creating readiness and removing developmental obstacles. First, mindfulness improves leader developmental readiness, the ability, motivation, and support for integrating new leader knowledge, skills, abilities, and attributes into mental models to enact those new leader capabilities (Hannah & Avolio, 2010; Reichard & Beck, 2017). Leaders with high mindfulness enhance metacognitive learning processes, accept shortcomings as learning opportunities, and widen situational awareness of developmental opportunities (Reichard & Beck, 2017). Second, compared to leaders with lower mindfulness, leaders with higher mindfulness are better equipped to regulate negative emotions that prevent proactive appraisal of situations offering developmental experiences. A leader's low

well-being can be an obstacle in navigating developmental opportunities due to the narrowing attentional effect of negative emotions that elicit survival mechanisms (Fredrickson, 2001). For three different levels of leadership roles (e.g., executive, middle manager, and junior manager), mindfulness was negatively associated with dysfunctions like anxiety and depression that can impede developmental opportunities (Roche et al., 2014). Those leaders with higher mindfulness have well-being advantages in dealing with the challenge of developmental opportunities. Taken together, mindfulness yields many benefits for developing leaders.

Mindfulness and Leader Meaningfulness

Mindfulness helps individuals learn from experience (Kolb, 2014; Yeganeh & Kolb, 2009). Specifically, mindfulness enables leaders to realize the developmental potential of intense emotional experiences, ultimately helping leaders to cultivate higher meaningfulness in their work. In the following sections, I first review the direct connection between mindfulness and leader meaningfulness. Next, I outline specific mechanisms in how mindfulness positively moderates the relationship between emotional intensity and leader meaningfulness.

Theoretical research states that mindfulness facilitates the creation of meaningful experiences. The *Mindfulness-to-Meaning* (MTM) theory bridges the understanding of how heightened awareness and attentional capacity of mindfulness impact meaning processes (Garland et al., 2015a). The mechanisms of mindfulness go beyond merely relieving stress (Bishop et al., 2004; Glomb et al., 2011). Mindfulness influences mental processes that impact how individuals perceive reality for performing at their best and relating to others (Glomb et al., 2011). Failing to acknowledge these additional effects has led previous researchers (e.g., Murphy & Bastian, 2019) to dismiss the potential benefits of mindfulness for meaningfulness. In the

following section, I elaborate and describe MTM within the context of leaders in the workplace using two relevant components of mindfulness: metacognitive awareness and decentering.

Metacognitive awareness. MTM states that mindfulness enhances metacognitive awareness, building resources to create meaningfulness (Garland et al., 2015a). Metacognitive awareness is the extent to which one understands one's own thinking processes (Garland et al., 2015a). Leaders with greater metacognitive awareness are highly sensitive to thought patterns because mindfulness expands the saliency of internal and external experiences (Garland et al., 2015a; Lindsay & Creswell, 2015). In other words, leaders with higher mindfulness are better at paying attention to the mental processing of the mind and stimuli in the environment. When their attention can handle more information, leaders can make better decisions (Dane, 2011), including proactively aligning behaviors with values to create meaningful work (Vago & Silbersweig, 2012; Levesque & Brown, 2007; Shapiro, 2006).

For example, meetings are a facet of the working experience that can trigger negative emotions (e.g., challenging discussions) and positive emotions (e.g., followers giving an expression of appreciation). Imagine a leader who has consecutive meetings, one after the other. This leader will experience reduced cognitive resources available to see their leadership as meaningful due to adverse attention residue, or the persistence of cognitive activity from an old task even after switching to a new task (Leroy, 2009). Unbeknown to the leader, stress will infiltrate actions and increase the probability of acting from a threat response (e.g., yelling) instead of behaviors that could facilitate meaningfulness (e.g., active listening). Leaders experiencing stress in their work can easily let habitual thinking influenced by automatic threat responses dictate their actions (Bargh, 1994). Inversely, because of expanded attention resources from metacognitive awareness (Farb et al., 2010), leaders with greater mindfulness will avoid

harmful effects of attention residue and can devote attention to potential meaning-making opportunities from each meeting. During the consecutive meetings, mindful leaders can prioritize attention on interactions with each unique follower for greater closeness and belonging, a primary source for meaningful work (Rosso et al., 2010). Relevant to a plethora of other types of trigger events in addition to meetings, metacognitive awareness helps leaders avoid costly attention residue and refocus attention on meaningfulness-making areas of work.

Decentering. Another reason mindfulness relates to leader meaningfulness is the beneficial skill of psychological distancing, known as decentering. Decentering is the process of briefly or permanently disidentifying with psychological discomfort (Glomb et al., 2011), often accompanying emotionally intense trigger events. To glean meaning from emotionally intense trigger events, leaders must interact with them (Garland et al., 2015a). However, leaders' default or habitual response to the emotional intensity is to identify with the discomfort and make fear-based decisions (Teasdale et al., 1995). Instead of relying on habitual thinking, leaders can dis-identify with the discomfort and make proactive choices. By decentering, a leader creates a pause in reactions to discomfort and nonjudgmentally accepts experiences (Lindsay & Creswell, 2017). From this decentered psychological lens, leaders can assimilate discomfort from emotionally intense trigger events to create meaningfulness (Garland et al., 2015a; Glomb et al., 2011; Fresco et al., 2007).

Leaders unable to decenter psychological stimuli may have trouble dissociating from intense emotional triggers. Thus, these leaders would be more prone to reactive leadership styles to take quick action to resolve internal discomfort, which prevents leaders from aligning values with behaviors for meaningful leadership (Yammarino & Bass, 1990; Zopiatis & Constanti, 2009). Conversely, nonjudgmental acceptance helps leaders psychologically distance themselves

from discomfort to reappraise situations for meaningful integration (Garland et al., 2015a). For example, a leader facing the failure of compliance from a follower may suddenly react out of anger to discipline harshly. A leader with higher mindfulness will pause and nonjudgmentally observe threat response emotions in themselves and others. From this decentered state of mind, the mindful leader proceeds with the interaction in an intentional way aligned with their values, a source of meaningfulness (Rosso et al., 2010).

Mindfulness Positively Moderates Emotional Intensity and Leader Meaningfulness

A key theme consistent throughout the connection between mindfulness and leader meaningfulness is how mindfulness alters emotional activity's automatic appraisal structures. Leaders with greater mindfulness can take an active role in the emotional appraisal process, thus strengthening the link between emotionally intense trigger events and meaningfulness.

During a trigger event, mindfulness helps leaders emotionally regulate emotional intensity to strengthen the experiential learning processes that ultimately form meaningfulness at work. Theoretical frameworks of mindfulness at work purport that mindfulness's foundational benefits lie within emotional regulation processes (Good et al., 2016; Glomb et al., 2011; Shaprio et al., 2006). Emotional regulation is monitoring and modifying the intensive, temporal characteristics of emotional reactions (Gross, 2015; Thompson, 1991). Mindfulness shortens the cycle of time individuals experience intense arousal following an emotion induction (Keng et al., 2013; Brown et al., 2012). Preliminary qualitative leadership research of a 10-week mindfulness training demonstrated that increased mindfulness improved leader competencies of self-reflection, emotional reactivity, and adaptation to change (Rupprecht et al., 2019). Furthermore, Hulsheger et al.'s (2013) diary study showed that mindfulness is negatively related to emotional exhaustion and positively related to job satisfaction. Emotional regulation strategies mediated

these relationships, demonstrating that workplace emotional skills are responsible for mindfulness's benefits.

Emotional skills gleaned from mindfulness are essential for leadership, but they are challenging to develop (Lord & Hall, 2005). Leader development research needs further exploration of ways that leaders can improve emotional regulation for their leader development. The following section deconstructs how mindfulness moderates emotional trigger events to generate meaningfulness. Specifically, MTM states that mindfulness helps leaders accentuate positive emotions' meaningfulness-building processes (i.e., savoring) and realize the utility of negative emotions (i.e., positive appraisal; Garland et al., 2015a).

H4. *Mindfulness will positively moderate the relationship between emotional intensity and leader meaningfulness, such that the relationship becomes stronger when mindfulness is high.*

Mindfulness Moderators Positive Emotional Trigger Events: Savoring

Mindfulness moderates emotional intensity in two different ways: savoring and positive appraisal. The mechanisms for each path mindfulness moderates emotional intensity will be explained. Positive emotionally intense trigger events are not always fully utilized to their highest potential for generating an upward spiral of psychological resources for meaningfulness at work. Leaders overlook positive emotions due to individuals not being accustomed to focusing on positivity or excess demands overshadowing the positive (Baumeister et al., 2001). However, leaders with greater mindfulness can strengthen their ability to capitalize on positive emotional trigger events for leader meaningfulness.

Leaders with greater mindfulness can prolong positive emotional intensity to make meaningfulness, which promotes positive emotional experiences through the process of savoring

(Lindsay et al., 2018). Savoring is the self-regulatory process of focusing attention on specific momentary experiences to generate, maintain, or enhance positive affect (Bryant, 1989, 2003; Bryant & Veroff, 2017). The enhanced receptive attention of mindfulness helps improve leaders' ability to identify and be present with positive experiences at work worth savoring (Kiken et al., 2017). Furthermore, leaders performing mindful savoring increase their ability to recall positive words, known as positive information processing (Roberts-Wolfe et al., 2012). Leaders with greater mindfulness will have a broader range of and more intimacy with positive emotional experiences. Thus, these mindful leaders will have more frequent instances of positive emotional trigger events to transform into meaningful work experiences.

For example, a leader may receive positive remarks from followers in a reflected best self exercise (Roberts et al., 2005). Although this exercise can be a positive emotional trigger event, leaders can have difficulty fully embracing the positive emotions of positive triggers for development (Spreitzer, 2006). Work environments have a plethora of emotional distractions that can drown out the potential impact of positive emotional trigger events (Jett & George, 2003). Although the leader may feel intense joy in the reflected best self exercise, the experience could be too fleeting and prone to distraction to appropriately integrate into one's life narrative for meaningful developmental impact (McLean et al., 2007). Mindful leaders will use savoring to lengthen the somatic sensations of positive emotional trigger events to create meaningfulness (Kiken et al., 2017; Garland et al., 2009). In other words, mindful leaders will be able to sustain attention extensively during the reflected best self exercise for the positive emotional trigger event to generate a sense of meaningfulness. In summary, leaders high in mindfulness can emotionally regulate themselves to capitalize on positive emotional trigger events in the environment that may otherwise go unnoticed and ultimately create meaningfulness.

H4a. *Mindfulness will positively moderate the relationship between positive emotional intensity and leader meaningfulness, such that the relationship becomes stronger when mindfulness is high.*

Mindfulness Moderates Negative Emotional Trigger Events: Positive Appraisal

In addition to positive emotional trigger events, mindfulness accentuates the impact of negative emotional trigger events on leader meaningfulness using a different mechanism of positive appraisal. Intense negative emotional trigger events may overwhelm leaders, which prevents the cultivation of meaningfulness. Following an emotional challenge from the negative emotional trigger, initial appraisals influenced by threat responses can constrain attention to further focus on dysphoric circumstances (Teasdale et al., 1995). For example, leaders in a difficult performance review meeting with a quarrelsome follower can lose sight of the situation as a potential trigger event for their leader development. At this moment, leaders need to use mindfulness to broaden attention to their internal sensory information to improve cognitive interpretive flexibility and increase the ability to choose where their attention goes to draw meaningfulness from the trigger event (Farb et al., 2010; Garland et al., 2009).

Mindfulness helps leaders adapt to negative emotional trigger events and cultivate meaningfulness through positive appraisal. Positive appraisal is the "adaptive process through which stressful events are re-construed as benign, meaningful, or even growth-promoting" (Garland et al., 2009, p. 5; Lazarus & Folkman, 1984). This process starts with deconstructing habitual thought patterns and reactions (Glomb et al., 2011). Mindfully observing experiences reduces habitual patterns related to disruptive emotional stimuli (Garland et al., 2009). Leaders can then perceive negative emotional intensity as a growth opportunity that fosters approach orientation to a situation, rather than labeling it as a threat, which creates avoidance (Naidoo,

2005). In the above example of the difficult performance review, the mindful leader will expand attention to suspend habitual thoughts that ensue unnecessary arguing with the follower. Mindfulness will help the leader shift attention towards reappraising the intensity of the complex interaction with the follower as a developmental opportunity.

For example, a leader has the opportunity for a negative emotional trigger when experiencing a dip in self-efficacy after receiving jarring 360-degree feedback from others (Bandura & Locke, 2003; Petriglieri, 2011). On the one hand, the leader may squander the developmental opportunity. Due to the overwhelming negative emotions, the leader could dismiss the feedback as nonfactual or feel stuck worrying about follower judgments of their leadership behaviors. On the other hand, the leader can utilize the positive appraisal approach by mindfully accepting the negative emotional trigger and shifting attention to the opportunities in the mental sensations of distress. In doing so, the leader welcomes the negative emotional trigger event's benefits to alter behavior to experience greater meaningfulness (Garland et al., 2009). By using mindfulness to slow down and dismantle threatening habitual thinking, leaders can utilize the negative emotional trigger to experience meaningfulness from the initially jarring feedback (Olivares, 2011).

The mindful leader can prevent perseverative responses to negative intense emotional trigger events, allowing for a quicker return to their emotional baseline (Desbordes et al., 2015). In this process, leaders do not ignore emotional intensity; instead, the process operates oppositely. In a less vulnerable state of emotional baseline, leaders can then interact with the negative emotional experience. Mindfulness is psychologically resourceful and helps leaders decrease the emotional demands of overwhelming negative emotions (Grover et al., 2017). Leaders will proactively react to negative emotional experiences with a sense of deliberate

reflection to inform blending actions with personal values (Luthans & Avolio, 2003). In other words, leaders fully accepting the presence of the negative emotionally intense trigger events with appropriate psychological distancing will then assimilate negative emotional information into meaningful structures (Garland et al., 2009). Thus, mindfulness helps negative emotional experiences blossom into developmental trigger events of meaningful experiences.

H4b. *Mindfulness will positively moderate the relationship between negative emotional intensity and meaningfulness, such that the relationship becomes stronger when mindfulness is high.*

Methods

To examine the hypotheses, I conducted two pilot studies and one main study. The main study was a 2x3, randomly assigned, experimental design with two intervention groups (mindfulness meditation group and control group) and three trigger event simulation conditions (positive emotional intensity, negative emotional intensity, and neutral emotion intensity). Before the main study, I conducted two pilot studies to ensure both the mindfulness intervention and trigger event simulations intervention had their designed effect. Pilot studies are an excellent way to conduct diverse manipulation checks to test both effectiveness and the extent to which the participants stay fully engaged in the study (Hauser et al., 2018). Below, I detail the two pilot studies and then outline methods used in the main study.

Pilot Study 1 Methods

The first pilot study tested the mindfulness meditation intervention to ensure it effectively induced a state of mindfulness. Additionally, I tested the adapted meaningfulness scale to examine internal consistency and convergent validity.

Recruitment

I recruited participants on Amazon Mechanical Turk (MTurk), a crowdsourcing marketplace for securing research participants. Data collected from MTurk sufficiently meets psychometrics standards of published organizational psychology research given appropriate inclusion criteria (Buhrmester et al., 2018; Landers & Behrend, 2015). Furthermore, compared to in-person college students, MTurk participants were better at following instructions, completing manipulation checks, and passing attention checks (Hauser & Schwarz, 2016).

To ensure high-quality responses, I employed several inclusion criteria. Only workers with at least a 95% approval rating were allowed to participate in the study (Peer et al., 2014). I restricted country inclusion only to receive responses from the United States. The age requirement was 18 years and older. I compensated participants based on federal minimum wages ($0.70 for the brief survey); a minimum level of compensation does not negatively affect MTurk data collection completion (Buhrmester et al., 2018). Because the main study examines leader development experiences, participants were restricted to individuals with leadership experience. Specifically, to qualify for participation, participants must indicate they had at least one year of formal supervisory experience with at least three direct reports.

At the beginning of the survey, I set a captcha verification question to deter automatic bots from completing the study. I also included an attention check in the survey requesting the participant to indicate a specific response. If they failed the attention check, the participant was moved to a disqualified ending page.

The experimental pilot study was within a survey on the Qualtrics platform. At the beginning of the survey, participants completed an informed consent document approved by the institutional review board. I informed the participants that the survey was voluntary, and they could discontinue it at any time. On the next page, I restricted participation for the leader

inclusion criterion. A prompt asked whether participants have had a leadership role supervising at least three people for one year. Participants indicating no were redirected out of the survey.

After consenting, all participants completed the trait mindfulness scale. The trait mindfulness measurement was earlier in the survey to prevent the following segments of the survey from influencing trait mindfulness responses. Furthermore, to reduce common method bias (Podsakoff et al., 2012), participants completed a distractor task between the trait mindfulness measure and the mindfulness meditation manipulation. Temporal strategies, such as a distractor task, are recommended to create psychological distance between variables and limit common method bias (Podsakoff et al., 2012). The distractor task gave participants five simple arithmetic problems to complete.

Participants were then randomly assigned to one of two conditions: the intervention mindfulness meditation group or the control group. The intervention group was given written instructions for the mindfulness meditation activity which included an overview of the concept of mindfulness, how to practice mindfulness, instructions to be attentive to the next page, and a prompt to click continue once they were ready to begin the guided practice. After clicking continue, participants were guided through a ten-minute audio mindfulness meditation practice. The mindfulness meditation practice is a standard breath concentration practice designed for all levels of practice experience (Wallace, 1999; Wallace, 2006). The audio prompted participants to place their attention on the rhythm of their breath in their body, acknowledge distractions as they naturally arrive, and gently bring attention back to the present experience of their breath. The length was chosen because prior research shows that ten minutes of a mindfulness meditation intervention is enough dosage to evoke state mindfulness (Erisman & Roemer, 2010). Similar to prior brief mindfulness meditation experiments, the control group went through a ten-minute

activity listening to an educational excerpt about economic theories (Erisman & Roemer, 2010). Like the intervention group, the control group participants were given approximately similar lengthened written instruction to be attentive while listening to the audio clip.

Following the mindfulness or control intervention, participants completed a series of self-report measures: state mindfulness, meaningfulness, personal growth, evaluative measures about the mindfulness meditation experience, social desirability, and several demographic questions. Upon completing the survey, all participants were given the option to listen to the mindfulness meditation-guided audio. This functioned as a debrief for the control group.

Participants

The sample size for a pilot study should be at least ten percent of the total sample for the main study (Connelly, 2008). The intended sample size was 100 participants recruited on Amazon's Mechanical Turk (MTurk) to protect against missing data and incomplete data. The final dataset contained 99 total responses: 49 participants in the mindfulness meditation group and 50 participants in the control group. The participants' average age was 41.07 (SD = 12.00). They were majority female (50% were female, 49% were male, 1% reported as "other") and white (68.7% White, 12.1% Asian, 9.1% Black or African American, 6.1% Hispanic or Latino, 2.0% Other, and 2.0% Native American or American Indian). The average span of control, or the average number of direct reports, was 10.07 followers (SD = 9.974). The average number of years of management experience was 8.58 years (SD = 6.40). Most participants have had no more than minimal mindfulness meditation experience (23.2% Never, 37.4% Rarely - maybe once a month or so, 25.3%, Sometimes - few times a month, 11.1% Often - couple times a week, 3.0% All the time - Every single day). There were no significant differences between the mindfulness meditation group and the control group on any of the demographics.

Measures

Trait Mindfulness

I measured trait mindfulness using the 15-item Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003). The MAAS is a reverse-scored, single-dimension measure of trait mindfulness used in prior leadership and mindfulness at work research (Reb et al., 2014; Roche et al., 2014). A sample item includes, "I rush through activities without being really attentive to them." Items are on a 6-point Likert scale, ranging from (1) *almost always* to (6) *almost never*. The final composite score is an average of all 15 items.

The MAAS has demonstrated strong internal consistency within many different levels of leadership (i.e., junior managers, middle managers, senior managers/CEOs, entrepreneurs; α = .81, .81, .72, and .84; Roche et al., 2014). Research in developing the scale supports both convergent and divergent validity (Brown & Ryan, 2003). Convergent validity was supported by positive associations with openness to experience (r = .18, p < .01) and a trait mood scale (r = .37-.46, p < .01). Furthermore, trait mindfulness had expected negative associations with rumination (r = -.29 - .39, p < .01) and social anxiety (r = -.19 - .36, p < .01). A replicated validation study examined the psychometric properties of the MAAS and found similar strong measures of reliability (MacKillop & Anderson, 2007). The reliability of this scale in the current study was strong (α = .96).

State Mindfulness

Participants responded to the 21-item State Mindfulness Scale (SMS; Tanay & Bernstein, 2013). I used this state mindfulness measurement because, unlike other state mindfulness measurements, the SMS measures the experience of a mindfulness meditation practice (Tanay & Bernstein, 2013). The SMS can be used as a single dimension for state mindfulness, or it can be

split into two subscales for mindfulness of the mind and mindfulness of the body. A sample item of the mindfulness of the mind factor is, “I was aware of different emotions that arose in me.” A sample item of the mindfulness of the body factor is, “I felt in contact with my body.” All items are on a 5-point Likert scale, ranging from (1) *not at all* to (5) *very well.* I used the total score instead of the subscales because the nuances between the two are not relevant for emotional processes of meaningfulness (i.e., both subscales contain language around emotions). The final composite score is an average of all 21 items.

The SMS has demonstrated strong internal consistency across four different samples for both the SMS-total score (α = .94, .92, .97, and .95; Tanay & Bernstein, 2013). Convergent validity is supported by positive associations with a similar state-mindfulness scale, the Toronto Mindfulness Scale (r = .43, p < .01; Tanay & Bernstein, 2013). Furthermore, when used as a manipulation check in prior experimental mindfulness meditation research; the SMS successfully captured significant differences between intervention and control groups (Lueke & Gibson, 2016; Tanay & Bernstein, 2013). The reliability of the SMS in the current study was strong (α = .97).

Leader Meaningfulness

Because of the lack of existing measures of leader meaningfulness, I measured it by adapting 5-item scale measuring meaningfulness to the leader development context (see Table 1; Murphy & Bastian, 2019). I adapted 3-items by adding the words ‘development’ or ‘leadership’ to each item. Additionally, I created two more items inspired by the original 3-item scale to capture additional variance in the leader meaningfulness construct. Sample items include, “How meaningful was the experience for your development?” “To what extent was this experience an important moment in your life for your leadership?” and “How significant was the experience for

developing your leadership?" To help contextualize meaningfulness to leader development and ensure participants interpreted the questions similarly, I provided them with the study's definition of leader meaningfulness immediately before they completed the meaningfulness scale. The definition, adapted from Rosso and colleagues' (2010) work, read, "Meaningfulness in the circumstance refers to the extent to which a leader experiences an event as personally significant towards their development." All items are on a 10-point Likert scale ranging from (1) *not at all* to (10) *extremely*. Prior research demonstrated satisfactory internal consistency of the original 3-item scale (α = .87; Murphy & Bastian, 2019). The reliability of this scale in the current study was strong (α = .97).

Personal Growth

I measured personal growth with a 2-item scale from previous meaningfulness research (Murphy & Bastian, 2019). The items included, "This experience shaped me as a person" and "This experience made me a better person." The scale originally had a third item ("This experience made me the person I am today"). However, I dropped it due to the lack of relevance (i.e., the scale will be used in reference to the mindfulness meditation activity and not in reference to a major life event from the past). All items were measured on a 7-point Likert scale ranging from (1) *strongly disagree* to (10) *strongly agree*. Prior research demonstrated satisfactory internal consistency with the full 3-item scale (α = .87; Murphy & Bastian, 2019). The reliability of this scale in the current study was strong (α = .95).

The inclusion of this scale was used to assess the convergent validity of the adapted meaningfulness scale. Prior research suggests that personal growth and meaningfulness have a significant positive relationship and should relate to one another (r = .35, p < .05; Murphy & Bastian, 2019).

Intervention Engagement

To understand the degree of participant engagement with the mindfulness meditation activity, I designed a single item to assess a participant's engagement and commitment to the activity. The item read, 1-item, "Please be honest with the next question. Your honesty here will not harm your compensation for the study. To what extent were you distracted from external sources during the activity?" The item was on a 7-point Likert scale consisting of anchors (1) *I did not follow the instructions at all. I was actively distracted looking at other material outside of the survey (e.g., watching television, playing on my phone, talking to someone)* to (7) *I completely followed the instructions, only listening to the guided audio, and my mind naturally wandered at times, with a mid-point anchor of* (4) *I somewhat followed instructions, but I did actively pull my attention away from the computer to do something unrelated.* This item helped me determine whether participants gave their full attention when attempting the activity or whether they were distracted by an external source such as talking to a friend or looking at news on their phone. A mindfulness meditation practice naturally consists of mental distraction while striving to stay focused on one's breath.

Quantitative Mindfulness Intervention Feedback

To further understand how to improve the intervention, I asked participants for feedback on the mindfulness intervention experience. The three items included, "I prefer a video (not audio) of a person guiding the mindfulness meditation," "I prefer a longer mindfulness meditation," and "I would recommend this activity to a friend for helping relieve stress." The last item is a variation of the net promoter score, which is a general, organizational indicator of intervention success (Reichheld, 2003). Participants responded to items on a 7-point Likert scale

from (1) *Strongly disagree* to (7) *Strongly agree*. I examined each item separately and made decisions on whether to implement different strategies for the main study manipulation.

Qualitative Mindfulness Intervention Feedback

I also asked an open-ended qualitative question to explore how the mindfulness meditation intervention could be more effective or more accessible for participants. The item read, "We are interested in participants fully engaging with the guided meditation audio activity. How can we make this more effective so that participants pay attention and stay engaged during the guided meditation audio?" If the pilot results demonstrated that the intervention is unsatisfactory, I would be able to use this information to improve the mindfulness meditation intervention.

Social Desirability

I measured the control variable of social desirability using the 13-item short-form Marlowe-Crowne Social Desirability scale (Reynolds, 1982). Prior research indicates the shortened version, used to minimize survey fatigue, is an adequate substitution for the longer version (Loo & Thorpe, 2000). An example is, "I'm always willing to admit it when I make a mistake." All items are rated on a true/false response scale, scored (0) *False* and (1) *True,* and aggregated into a final sum score. The initial reliability was not adequate ($\alpha = .499$). Given the lack of an alternative means of controlling for social desirability bias, I decided to include the measure and deleted items to improve the reliability of the scale. To improve the scale, I examined the corrected item-total correlation and the Cronbach's Alpha if item deleted. If the Cronbach's Alpha if item deleted indicated a higher total Cronbach's Alpha than the original reliability, I removed the item. I removed seven items that would improve Cronbach's Alpha. Afterward, the reliability of this scale in the current study was acceptable ($\alpha = .77$).

Demographics

I collected demographic information including gender, age, leadership experience, and ethnicity.

Pilot Study 1 Results

Below, I describe the procedure for checking the requisite independent sample t-test assumptions, the steps for the intervention effectiveness analyses, and convergent validity for the adapted meaningfulness scale.

Data Preparation and Assumptions

A total of 111 participants originally consented to the study. I first checked the data for automatic bot influence infiltrating the data and participants not paying sufficient attention to completing the survey. I also looked through the data for suspicious response patterns, such as repeating the same response for every item, and determined no issues. Two participants failed the attention check. Lastly, the captcha verification at the start of the survey disallowed participants from continuing the study if failed. I confirmed that any participants that failed the captcha verification item were deleted from the dataset.

The inclusion criteria questions asked participants if they were leaders and if they had the necessary one year of leadership experience with at least 3 followers. I removed 3 participants who indicated they were not leaders. I removed 7 participants who reported less than 3 followers.

I checked the dataset for missing data by checking the responses for each item. No missing data were identified. I identified no univariate outliers exceeding three standard deviations from their mean. To identify multivariate outliers, I first calculated each participant's Mahalanobis distance and confirmed all values fell within three standard deviations of the average Mahalanobis distance. There was no evidence of multivariate normality violation by

using chi-square .001 as the cutoff in assessing the cumulative probability that a value is in the chi-square distribution (Field, 2018; Tabachnick & Fidell, 2007). I ran Harman's single-factor test to assess common method bias (Podsakoff et al., 1984; Podsakoff et al., 2003). The total variance explained was 38.033%, far below the 50% cut-off for common method bias influence.

All statistical assumptions were met (i.e., linearity, homogeneity of variance, and independence). I examined normality by checking if the absolute value of skewness or kurtosis was above two; the skew and kurtosis values were below the threshold and thus considered appropriate (Howell, 2012).

The final dataset contained 99 total responses: 49 participants in the mindfulness meditation group and 50 participants in the control group.

Data Analysis

To determine the effectiveness of the intervention, I ran an analysis of covariance comparing the average state mindfulness of the mindfulness meditation group to that of the control group while controlling for trait mindfulness and social desirability (Howell, 2012). The results indicated a significant difference between groups (F (1, 95) = 10.56, $p < .01$; see Table 5). Specifically, the mindfulness meditation group (M = 3.37, SD = .99) had higher state mindfulness than the control group (M = 2.73, SD = .91) while controlling for trait mindfulness and social desirability. There was a moderate effect ($\eta^2 = 0.10$).

I then looked at the intervention feedback items to glean additional information on the effectiveness of the intervention. I looked at intervention engagement, the extent participants were distracted by external sources, for all 99 participants regardless of group. Intervention engagement had a mean of 6.59 (out of 7), indicating high engagement and low distractions. I then looked specifically at the 49 participants in the mindfulness meditation group for the video,

activity length, and net promoter scores. Participants did not necessarily prefer video guidance over audio guidance for the mindfulness meditation (the mean was 3.04 out of 7). The activity length item showed participants were satisfied with the length of the audio clips and not interested in a longer or shorter mindfulness meditation (the activity mean length was 3.33 out of 7).

As a last indicator of intervention success, I examined the net promoter score. In general, a score above 4.9 out of 7 (roughly 70%) indicates participants found the intervention satisfactory (Owen, 2019). For the 49 participants in the mindfulness intervention, the results showed the net promoter score had a mean of 4.98, indicating satisfactory recommendation for the net promoter score.

Lastly, I examined the internal consistency and convergent validity of the adapted meaningfulness scale. The Cronbach's alpha for meaningfulness was .97, demonstrating strong internal consistency (Howell, 2012). Additionally, no items were below the threshold of .4 on the corrected item-total correlation to suggest removing any items (Gliem & Gliem, 2003). To check convergent validity, I examined the correlation between the adapted meaningfulness scale and personal growth. The meaningfulness scale was significantly related to personal growth, furthering support for the validity of the adapted meaningfulness scale ($r = .87$; $p < .001$).

Pilot Study 1 Discussion

Results indicated that the mindfulness meditation condition demonstrated higher state mindfulness than the control condition, while controlling for trait mindfulness and social desirability. Additionally, all other measures of intervention effectiveness (intervention engagement, video/audio preference, activity length, and net promoter score) supported the intervention to be effective at manipulating state mindfulness and ensuring participant

engagement. The qualitative feedback asking for recommended improvements did not contain any substantive suggestions. As such, no changes were made to the mindfulness intervention before the primary study.

Pilot Study 2 Methods

The second pilot study tested the trigger event simulations to evaluate whether the manipulation effectively generates emotional intensity and emotional valence. This randomly assigned experimental study had three simulation conditions (i.e., positive trigger event simulation, negative trigger event simulation, and neutral simulation). This pilot study informed any needed alterations to the intervention to guarantee an efficacious trigger event simulation for the main study.

Recruitment

To ensure high-quality responses, I integrated similar recruitment and survey procedures as pilot study 1, such as leader inclusion criteria, country inclusion criteria, approval rating criteria, captcha verification, and attention check. Furthermore, I compensated participants based on federal minimum wages ($2.00 to complete the survey).

Participants

The sample size for a pilot study should be at least ten percent of the total sample for the main study (Connelly, 2008). The intended sample size was 100 participants recruited on Amazon's Mechanical Turk (MTurk) to protect against missing data and incomplete data. After data cleaning, the final dataset contained 89 total responses: 29 participants in the positive trigger event simulation, 29 in the negative trigger event simulation, and 31 participants in the neutral simulation. The participants' average age was 40.76 (SD = 13.36). They were majority female (55.1% were female, 44.9% were male) and white (67.4% White, 12.4% Black or African

American, 7.9% Hispanic or Latino, 7.9% Asian, 3.4% Other, and 1.1% Native American or American Indian). The average span of control was 11.25 followers (SD = 14.40). The average number of years of management experience was 9.49 years (SD = 8.59). Most participants have had no more than minimal mindfulness meditation experience (27.0% Never, 28.1% Rarely - maybe once a month or so, 27.0%, Sometimes - few times a month, 6.7% Often - couple times a week, 11.2% All the time - Every single day). There were no significant differences between the simulation conditions on any of the demographics.

Study Procedures

After completing the consent to participate, a prompt detailed a short cover story about the purpose of the study. Cover stories reduce common method bias and prevent previous responses from informing subsequent responses (Podsakoff et al., 2012). The cover story helped separate the mindfulness meditation activity from the trigger event simulation. Then participants were randomly assigned into one of three conditions: positive trigger event simulation, negative trigger event simulation, and control condition (i.e., neutral). Below, I describe the three conditions in detail.

The structure of each trigger event simulation was arranged similarly (see Table 2 for the list of prompts for each trigger event simulation). The trigger event simulations were an affect induction procedure within a leader development context. An affect induction procedure is a technique to momentarily evoke a specific emotion in a controlled way to mimic naturally occurring emotions (Joseph et al., 2020; Westermann et al., 1996). This study used a reflection-based autobiographical recall affect induction procedure, which is one of the more successful types of affect induction procedures (Baker & Gutterfreund, 1993; Joseph et al., 2020). Each

simulation prompted participants to write for 10-minutes, sufficient time to induce emotional valence and intensity (Jallais & Gilet, 2010).

----- INSERT TABLE 2 ABOUT HERE -----

For the positive trigger event simulation, I used the best-self activation (Cable et al., 2013; Cable et al., 2015; Roberts et al., 2005). Best-self activation consists of reflection (either individually or with another person) along with writing about specific episodes when they felt they were at their best. Self-reflection does produce sustained positive emotions (Sheldon & Lyubomirsky, 2006). Engaging leaders to reflect on the positive aspects of their leadership increases positive emotions and builds developmental resources (Fredrickson, 2001; Lanaj et al., 2019).

For the negative trigger event simulation, I adapted the best-self activation into a negative emotional context encompassing failures, weaknesses, and developmental areas as a leader called The Serious Reflection. Autobiographical reflection in this manner can induce strong negative emotional intensity (Vuoskoski & Eerola, 2012). Furthermore, previous theorizing suggests that reflecting on one's failures, weaknesses, and developmental needs is crucial to leader development (McCauley et al., 2010). The Serious Reflection aimed to induce negative emotional intensity.

Lastly, in the control group (i.e., neutral emotion condition), participants completed a "Normal Day Reflection," where they wrote about ordinary, routine moments during their day to induce neutral emotional arousal (Cable et al., 2015; Krauth-Gruber & Ric, 2000).

Furthermore, I played positive and negative music during each respective simulation to enhance the emotional valence and intensity of the experience. I used no music for the neutral condition. Research suggests that music is a functional affect-inducing procedure for both

positive and negative valence emotions (Joseph et al., 2020; Westermann et al., 1996). Music has been used in conjunction with other affect induction procedures to significantly boost both the valence of the intended emotion and the emotional intensity (Mayer et al., 1990; Juslin & Sloboda, 2001; Vuoskoski & Eerola, 2012). In alignment with past research using music as an affect induction procedure, I used instrumental music selected from prior tested research (see Västfjäll, 2001 for review of emotion induction music). For the positive valence music, I used 'Pachelbel's Canon' by Johann Pachelbel and 'The Marriage of Figaro' by Wolfgang Mozart. For the negative valence music, I used 'Adagio for Strings' by Samuel Barber.

Subsequently, participants completed self-report measures regarding their trigger event experience (described below). At completion, due to the potential emotional intensity of the trigger event simulation, I carefully debriefed participants in all three groups regarding the purpose of the study and how to find meaningfulness in emotional intensity. I also provided a concluding mindfulness meditation for all participants to provide emotional balance. Even a brief mindfulness meditation practice can reduce physiological indicators of intense, overwhelming emotions in both experienced meditators and novice meditators (Fennelle et al., 2016).

Measures

All measures were collected after the simulation. In addition to the measures listed below, I included the meaningfulness scale ($\alpha = .97$) and demographics from pilot study 1.

Emotional Intensity

I measured the emotional intensity of the prompted event with a 3-item scale used in Murphy and Bastian (2019): "This experience was emotionally intense," "This experience was very emotional," and "This experience made me feel strong emotions." Participants responded to all items on a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*

(Murphy & Bastian, 2019). Composite scores were calculated by averaging the three items. Prior research demonstrated satisfactory internal consistency with the original scale (α = .87; Murphy & Bastian, 2019). The reliability of this scale in the current study was acceptable (α = .97).

Emotional Valence

I employed 3 measures to assess whether the manipulation resulted in the intended trigger event valence.

Pleasant Emotional Valence and Painful Emotional Valence. I measured the emotional valence of the prompted event by asking participants to rate the extent the event was pleasant and painful (two separate items), both on a 7-point Likert scale ranging from (1) *not at all* to (7) *very* (Murphy & Bastian, 2019). Prior studies indicate the two valence measures are highly related ($\beta = -.88$, $p < .001$; Murphy & Bastian, 2019). Initially, the final score was to be calculated by reverse scoring the painful item and averaging both items into a single composite measure such that higher scores indicate a more pleasant, positive emotional experience. However, the reliability of the scale was poor using the Spearman-Brown coefficient as the appropriate indicator of a two-item scale (Eisinga et al., 2013; $r_s = .344$). Thus, the two items were used as separate indicators of valence.

Open-ended Emotional Valence. I asked participants the following open-ended question: "*What emotion were you feeling during the experience? Please only use one word to describe the emotion (e.g., happy, sad, positive, negative, etc.).*" Responses were coded into three categories: positive, negative, and neutral.

Writing Valence. I checked if the valence of their writing matched with the intended valence of the simulation. Participants indicated the extent of their emotional valence in response to the question, "*Emotions can be positive (joy, happy, grateful), negative (sadness, frustration,*

anger), or even neutral (lack of emotion). Please think about the main emotion (positive/negative/neutral) you experienced while writing in the previous activity. What was the main emotion you experienced?" on a 7-point Likert scale from (1) *Strongly Negative* to (7) *Strongly Positive*. The middle point will be (4) *Neutral*. Results gave insight into the type of emotional valence induced during the activity.

Music Emotional Valence

I asked participants to rate the main emotions felt for the music played during the activity on a bipolar dimension of valence, similar to prior research (Vuoskoski & Eerola, 2012). Participants responded to the item, "Please indicate the emotion of the music played during the activity." The single item was on a 7-point Likert scale from (1) *strongly Negative* to (7) *strongly Positive*. Additionally, participants could also indicate, "I did not notice the emotional quality of the music," "I did not hear any music," and "My volume was off, so I did not hear music."

Reflection Engagement

To understand the degree of participant engagement with the mindfulness meditation activity, I designed a single item to assess a participant's engagement and commitment to the activity. The item read, "Please be honest with the next question. Your honesty here will not harm your compensation for the study. To what extent were you distracted from external sources during the activity?" The item was on a 7-point Likert scale consisting of anchors (1) *I did not follow the instruction at all. I was actively distracted looking at other material outside of the survey (e.g., watching television, playing on my phone, talking to someone, etc.)* to (7) *I completely followed the instructions writing as much as I could and I spent the entire time writing* with a midpoint anchor (4) *I followed the instructions somewhat and I spent only some of the time writing*. This item helped me determine whether participants gave their full attention

when attempting the activity or whether they were distracted by an external source such as talking to a friend or looking at news on their phone.

Quantitative Simulation Feedback

Like pilot study 1, I used the net promoter score as one indicator of intervention success (Reichheld, 2003). The item, "I would recommend this activity to a friend for developing leadership skills," will be on a 7-point Likert scale from (1) *Strongly disagree* to (7) *Strongly agree*. The item informed decisions on whether to implement different strategies for the manipulation.

Open-ended Simulation Feedback

I asked two open-ended qualitative questions to explore how the trigger event simulation activity could be more effective. First, I asked a question to explore how the activity can be more engaging and easier for participants to complete by asking, "We are interested in participants fully engaging with the writing activity. How can we make this more effective so that participants pay attention and stay engaged during the writing activity?" Second, I asked the following open-ended question exploring how the intervention could be more emotionally intense: "We are interested in how the activity can create an emotional reaction for participants. How can we make this more effective so that participants feel stronger emotions while completing the activity?*"*

Results Pilot Study 2

Below, I describe the procedure for checking the requisite one-way between-groups analysis of variance (ANOVA) assumptions and the steps for the trigger event simulation effectiveness analyses. I conducted the same data cleaning process as in pilot one, including looking at the attention checks and checking for assumptions for the analysis.

Data Cleaning and Manipulation Checks

The dataset initially contained 120 participants consenting to the study. I first checked the data for automatic bot influence infiltrating the data and participants not paying sufficient attention to completing the survey. I looked through the data for suspicious response patterns, such as repeating the same response for every item and determined no issues. The attention checks were programmed to automatically kick out participants who fail the attention checks. I looked through the data at specific points of the survey in which data stops at the attention check, indicating failed attention checks, and deleted the case. Three participants failed the attention check. Lastly, the captcha verification at the start of the survey disallowed participants from continuing the study if failed. I confirmed that any participants that failed the captcha verification item were deleted from the dataset.

The inclusion criteria questions asked participants if they were leaders and if they had the necessary one year of leadership experience with at least three followers. I removed 10 participants who indicated they were not leaders. I removed 7 participants who reported less than 3 followers.

I looked at the manipulation check for the music to discover what percentage of participants had their volume on to hear the music in the activity. I removed two participants in the negative simulation because they stated they did not hear the music, and thus did not take part in the study correctly. Several participants in the neutral condition, which does not have any music playing, stated that they heard music (6 participants indicated neutral valence music, 1 indicated slightly positive valence music, 5 indicated positive valence music, 10 indicated they did not notice the music's emotional valence, and 12 did not hear the music as intended). I ultimately decided to keep these participants in the proceeding main analyses because the neutral

condition instructions should be sufficient at limiting any emotional induction that music might incur, and the condition needs sufficient participants for the analyses.

Finally, I removed nine participants because their reflection writing in the condition was evidently done to intentionally undermine the survey (e.g., participants copied the survey instructions, participants copied grammar advice from an artificial intelligent grammar bot, participants explicitly stated they wanted to ruin the quality of data).

As noted, the final dataset contained 89 total responses: 29 participants in the positive trigger event simulation, 29 in the negative trigger event simulation, and 31 participants in the neutral simulation.

Statistical Assumptions

I identified no univariate outliers that exceeded three standard deviations from the mean. I identified no multivariate outliers by checking data outside three standard deviations of Mahalanobis distance; there was no evidence of multivariate normality violation by using chi-square .001 as the cutoff in assessing the cumulative probability that a value is in the chi-square distribution (Field, 2018; Tabachnick & Fidell, 2007). I ran Harman's single-factor test to assess common method bias (Podsakoff et al., 1984; Podsakoff et al., 2003). The total variance explained was 47.22%, below the 50% cut-off for common method bias influence.

All statistical assumptions were met (i.e., linearity, homogeneity of variance, and independence). I examined normality by checking if the absolute value of skewness or kurtosis was above two; the skew and kurtosis values were below the threshold and thus considered appropriate (Howell, 2012). I checked the dataset for missing data by checking the responses for each item. No missing data were identified.

Data Analysis

I conducted a series of one-way between-groups analysis of variance (ANOVA) testing for significant differences between the three simulation conditions following dependent variables: meaningfulness, emotional intensity, emotional valence variables, and reflection engagement. All significant ANOVA results were followed by posthoc pairwise comparisons using Tukey's Honest Significant Difference procedure to control for inflated family-wise error rate (Howell, 2012). Table 6 contains the results for all ANOVAs.

----- INSERT TABLE 6 ABOUT HERE -----

First, I tested for meaningfulness, in which I expected the positive and negative conditions to be significantly higher in meaningfulness than the neutral condition, and not significantly different from one another. Then I tested for emotional intensity, in which I expected the positive and negative conditions to be significantly higher in emotional intensity than the neutral condition, and not significantly different from one another.

Then I tested for a series of emotional valence variables including pleasant positive valence, painful negative valence, writing valence, three reflection writing linguistic variables, an open-ended emotional valence response, and the music valence. For all of the emotional valence variables, I expect the positive condition to be significantly higher on positive emotional valence than the other two conditions, the negative condition to be significantly higher on negative emotional valence than the other two conditions, the neutral condition to be significantly higher on positive emotional valence condition than the negative, and the neutral condition to be significantly higher on negative emotional valence condition than the positive condition.

Lastly, I examined the reflection word count, reflection engagement, and the net promoter score to further evaluate the trigger event simulation conditions.

Meaningfulness

For meaningfulness, the results indicated a significant difference between groups ($F(2,94) = 20.15$, $p < .01$). Specifically, both the positive ($M = 5.43$, $SD = 1.42$) and negative condition ($M = 4.95$, $SD = 1.05$) had significantly greater meaningfulness than the neutral condition ($M = 3.38$, $SD = 1.73$), giving support to the validity of the intervention manipulation. The positive condition did not significantly differ in meaningfulness from the negative condition.

Emotional Intensity

For emotional intensity, the results indicated a significant difference between groups ($F(2,94) = 20.662$, $p < .01$). Specifically, both the positive ($M = 5.17$, $SD = 1.42$) and negative ($M = 4.65$, $SD = 1.46$) conditions had significantly greater emotional intensity than the neutral condition ($M = 2.82$, $SD = 1.93$), giving support to the validity of the intervention manipulation. The positive condition did not significantly differ in emotional intensity from the negative condition.

Pleasant Positive Valence

For the pleasant positive valence measure, the results indicated a significant difference between groups (F (2,94) = 12.202, $p < .01$). Specifically, participants in the positive condition ($M = 5.41$, $SD = 1.60$) experienced significantly greater positive emotions than the negative condition ($M = 3.52$, $SD = 1.65$), but did not significantly differ from the neutral condition ($M = 4.68$, $SD = 1.15$). The negative condition had significantly fewer positive emotions than the neutral condition. The results give partial support to the validity of the intervention manipulation.

Painful Negative Valence

For the painful negative valence measure, the results indicated a significant difference between groups (F (2,94) = 18.665, $p < .01$). Specifically, the positive condition had

significantly less negative emotions (M = 5.41, SD = 1.60) than the negative condition (M = 3.52, SD = 1.65), but did not significantly differ from the neutral condition (M = 2.41, SD = 1.86). The negative condition had significantly more negative emotions than the neutral condition. The results give partial support to the validity of the intervention manipulation.

Writing Valence

For writing valence (i.e., higher indicates positive valence and lower indicates negative valence), the results indicated a significant difference between groups (F (2, 94) = 16.118, p < .01). Specifically, the positive condition had greater positive writing valence (M = 6.09, SD = 1.33) than both the negative (M = 3.9, SD = 1.70) and neutral conditions (M = 4.76, SD = 1.39). The negative condition did not significantly differ on writing valence from the neutral condition. The results give partial support to the validity of the intervention manipulation.

Reflection Writing - Three Linguistic Analyses

I used the Linguistic Inquiry and Word Count (LIWC) software to run content analysis on each participant's written reflection. LIWC is an online qualitative analysis technique that creates a positive emotional valence score and a negative emotional valence score for each qualitative response (Alpers et al., 2005; Tausczik & Pennebaker, 2010). I used these scores to test significant differences in emotional valence in the reflection writing between each group.

I ran a similar ANOVA as mentioned previously for the three simulation conditions as independent variables looking at the qualitative emotional valence LIWC score as the dependent variable (positive valence, negative valence, and total emotional tone). See Table 6 for full ANOVA results. For LIWC positive valence, the results indicated a significant difference between groups (F (2,86) = 30.258, p < .01). Specifically, the positive condition (M = 5.46, SD = 2.37) had greater positive valence than both the negative (M = 2.84, SD = 2.01) and neutral

conditions (M = 1.59, SD = 1.41). The negative condition had greater positive valence than the neutral condition. The results give support to the validity of the intervention manipulation.

For LIWC negative valence, the results indicated a significant difference between groups (F (2,86) = 25.651, p < .01). Specifically, the negative condition (M = 2.37, SD = 1.56) had greater negative valence than both the positive (M = .93, SD = .99) and neutral conditions (M = .39, SD = .45). The positive condition did not significantly differ from the neutral condition on negative emotional valence. The results give partial support to the validity of the intervention manipulation.

For LIWC emotional tone (i.e., higher is positive, lower is negative), the results indicated a significant difference between groups (F (2,86) = 4.956, p < .01). Specifically, the positive condition (M = 82.13, SD = 25.73) had greater emotional tone than both the negative condition (M = 37.59, SD = 33.62), but not significantly different from the neutral condition (M = 61.04, SD = 79.56). Furthermore, the negative condition was not significantly different from the neutral condition on emotional tone. The results give partial support to the validity of the intervention manipulation.

One Emotion Word Analysis

I also assessed the differences between the three conditions using the open-ended emotional valence response (i.e., one emotion word per participant). I coded the responses into four categories for emotional valence: positive (43), negative (26), neutral (10), and unknown (10). The unknown code was designated for responses that had non-emotional words (e.g., dutiful), multiple words (e.g., too long), or muddled mixed emotions (e.g., mixed). I decided to not use the unknown coded responses for the one-word analysis due to little relevance of emotional tone. A chi-square test of independence revealed a significant relationship between

trigger event valence and the emotional valence of the one word provided, χ^2 (6) = 37.57, p < .01. Because chi-square is an omnibus test, I looked at the frequencies table to check which group had significantly higher levels of emotional valence responses. I looked at the differences between the observed and expected counts; I determined all the mismatching between observed and expected counts aligned with the speculated manipulation of the conditions (see Table 7). In other words, as expected, the conditions differed on their respective one-word emotional coding (i.e., positive, negative, and neutral), which gives support to the validity of the intervention manipulation.

----- INSERT TABLE 7 ABOUT HERE -----

Music Valence

To test the effectiveness of the background music inducing the appropriate emotional valence for each simulation, I conducted an independent sample t-test to compare group means of the positive valence music and negative valence music. The results indicated a significant difference between the positive condition and the negative condition ($t(56)$= 4.49, p <.01), such that the positive condition (M=5.38; SD = 1.45) had greater positive emotions than the negative condition (M=3.69; SD = 1.42). The results give support to the validity of the intervention manipulation.

Reflection Writing Word Count

I compared the average number of words between the three groups to test whether a simulation draws significantly more writing than other simulations. Word count ranged from 18 to 408, and the results indicated no significant difference between groups (F (2,86) = .502, p < .607). The results are as expected such that the three different trigger event simulation conditions do not differ in the amount of writing between the conditions.

Reflection Engagement

For reflection engagement, the results indicated no significant difference between groups (F (2,86) = .139, p = .871). As expected, this gives support that the conditions did not differ on the degree of engagement in avoiding external distractions while participating. Furthermore, to ensure active engagement with the simulations, I looked at the mean scores and histogram charts for the reflection engagement item. The reflection engagement item had a negative skew over 2 (-2.31), indicating that participants were on average, not distracted and stayed engaged with the simulation conditions. These results lend support to effective simulation conditions.

Net Promoter Score

The net promoter score was not skewed and the overall average was 4.48, slightly below the satisfactory threshold of 4.9. Results indicate that there were significant differences between groups on the net promoter score (F (2,86) = 4.23, $p < .05$), such that the positive condition (M = 5.24, SD = 1.573) had significantly better net promoter score than both the negative condition (M = 4.14, SD = 1.66) and the neutral condition (M = 4.10, SD = 1.87). The negative condition did not significantly differ from the neutral condition. These results indicate that the negative condition and the neutral condition are inadequate interventions and require adjustment to improve their effectiveness. Furthermore, the results give support for the effectiveness of the positive condition.

Pilot Study 2 Discussion

To verify the strength of the intervention, I expected a significant difference such that the two trigger simulation conditions demonstrate higher meaningfulness than the neutral simulation condition, the positive trigger event simulation has higher positive valence than the other conditions, and the negative trigger event simulation has higher negative valence than the other

conditions. Most of the results of the second pilot study indicate that the trigger event simulations were effective at inducing the appropriate meaningfulness, emotional intensity, and emotional valence. Results indicated that the meaningfulness and emotional intensity significantly differed based on conditions as expected, such that positive and negative conditions were significantly greater in both meaningfulness and emotional intensity compared to the neutral condition. Additionally, as expected, there were no significant differences in either meaningfulness or emotional intensity between positive and negative conditions. Furthermore, results suggest that the positive condition was significantly more pleasant than the negative condition and had a significantly greater positive writing valence than the negative and neutral condition. The negative condition was significantly more painful than the positive and neutral condition as well as significantly more negative writing valence than the positive condition. Other measures of intervention effectiveness (i.e., intervention engagement, music valence, and net promoter score) supported the effectiveness of the intervention.

However, some operationalizations of emotional valence suggested that slight adaptations needed to be implemented in the primary study to improve trigger event simulation effectiveness for participants in the neutral condition. In some instances, the positive condition was not significantly more positive than the neutral condition, thus suggesting that the neutral condition might have high positive emotions. Similarly, the negative condition needs to be adapted to induce the appropriate emotions in relation to the neutral condition. The negative condition was not significantly more negative than the neutral condition on the writing valence measure. In one indicator, the negative condition had more positive emotions than the neutral condition. In sum, the main insight from the pilot study is that the neutral condition was not neutral enough and the negative condition needs to be more negatively valenced.

In response to these findings and additional participant suggestions, I implemented the following changes to the simulation for the primary study. First, for the neutral condition instructions, I emphasize removing any music playing in the background; hopefully, that will reduce participants from listening to their own music. I also emphasize for participants to write about tasks that 'do not stir up any emotions.' Second, for the negative condition, I reworded the instructions to prompt a greater connection between leadership failures and leadership weaknesses (see Table 3 for main study simulation instructions). To retain consistency across conditions, I also made the mirrored changes to the positive condition instructions. Third, due to the poor reliability for the prior emotional valence measure (i.e., the experience of pleasant and painful emotions), I changed the 2-item emotional valence wording to focus on the experience of positive and negative emotions (see methods of the main study for the new items).

Finally, I decreased the required time on the writing simulation page from 10 minutes to 7 minutes. Word count averages suggest that participants were writing for less than the 10-minute allotted time. Additionally, the qualitative feedback had consistent themes to reduce the required writing time. Seven minutes still offers plenty of time to induce the appropriate emotion and allows participants to contemplate the emotions for a few moments if they finish writing before the timer is complete.

Main Study Methods

The main study aimed to build upon the previous emotional intensity research to examine if emotional valence and mindfulness matter for creating meaningful moments. I implemented a 2x3 experimental design. The study had two intervention conditions for manipulating mindfulness (i.e., mindfulness meditation condition and a control condition) and three trigger event writing simulation conditions for manipulating emotional intensity and emotional valence

(i.e., positive emotional intensity condition, negative emotional intensity condition, and neutral emotional condition). In all, this randomly assigned, experimental design tested the effects of emotional intensity, mindfulness, and emotional valence on leader meaningfulness.

Recruitment

Because the study examined leader development experiences, participants were restricted to individuals currently in a leadership role. To qualify for participation, potential participants must currently have had at least one year of formal managerial experience with at least three direct reports.

The recruitment plan and inclusion criteria were identical to that of the pilots except for the data source. I recruited participants on Prolific, a data sourcing site that has sophisticated pre-screening procedures and higher minimum wage requirements (Palan & Schitter, 2018). Like the pilot studies, I only recruited participants from the United States, 18 years and older, and had at least a 95% survey approval rating (Peer et al., 2014). I compensated participants based on federal minimum wages ($3.55 for the brief survey). The sample size was based on an a priori power analysis conducted using G*Power with the following parameters: ANCOVA fixed effects, main effects, and interaction, a small to medium effect size $f = .20$, power = .90, numerator $df = 2$, number of groups = 6, and number of covariates = 1 (Faul et al., 2009). Based on theoretical reasoning earlier, the relationships of the model are expected to have small to medium effect sizes (Murphy & Bastian, 2019). The results of the G*Power suggested collecting 350 participants. This sample size is also large enough to secure statistical power for the additional moderation analyses (Kline, 2015). The final sample of 401 was adequate to detect an effect.

See Figure 3 for a complete visual of the conditions and timing of each study measure.

--------Insert Figure 3 about here --------

Participants

The final dataset contained 401 total responses. A total of 136 participants were in the positive trigger event simulation, 133 were in the negative trigger event simulation, and 132 were in the neutral simulation. A total of 193 participants were in the meditation condition and 208 participants were in the control condition. To separate participant breakdowns further into each of the 6 experimental groups: 65 were in the meditation positive group, 64 were in the meditation negative group, 64 were in the meditation neutral group, 71 were in the control positive group, 69 were in the control negative group, and 68 were in the control neutral group.

The participants' average age was 33.00 (SD = 8.93). They were majority male (54.1% were male, 45.1% were female, .8% reported as "other") and White (68.8% White, 20.4% Black or African American, 4.2% Asian, 3.2% Hispanic or Latino, 2.0% Other, and 1.2% Native American or American Indian). The average span of control was 10.65 followers (SD = 11.03). The average number of years of management experience was 6.99 years (SD = 4.90). Most participants have had no more than minimal mindfulness meditation experience (25.7% Never, 25.4% Rarely - maybe once a month or so, 26.2%, Sometimes - few times a month, 17.5% Often - couple times a week, 5.2% All the time - Every single day). There were no significant differences between the six groups on the demographics except for managerial experience, $F(5,395) = 2.26$, $p < .05$. Specifically, the control positive group ($M = 8.07$, $SD = 6.48$) had significantly greater managerial experience than the control negative group ($M = 5.62$, $SD = 2.86$). No other groups had significant differences in managerial experience. Despite this, I chose not to include managerial experience as a control because only two groups had significant

differences, and total managerial experience was not significantly related to meaningfulness (see data analysis section later in the paper).

Study Procedures

I collected data through Qualtrics online survey software. Like the pilot studies, I followed informed consent protocols approved by the institutional review board, and I followed the same protocols to ensure high-quality data (i.e., captcha verification and attention checks). I applied a pre-screening requirement on the Prolific platform to restrict participants to those who indicated having leadership duties (i.e., participants had to respond yes to, "At work, do you have any supervisory responsibilities? In other words, do you have the authority to give instructions to subordinates?"). Furthermore, two questions restricted participation for the leader inclusion criterion. First, a prompt asked whether participants have an active leadership role supervising at least three people. Participants indicating no were redirected out of the study. Second, participants were prompted to write the number of current followers. If a participant indicated a number lower than three subordinates, then the participant exited the study.

After completing the inclusion criterion question for a leadership role, participants responded to a trait mindfulness measurement. Following this, participants completed a distractor task (i.e., five simple arithmetic problems) to shift attention temporarily away from mindfulness-oriented concepts. Because the next part of the survey was a mindfulness intervention (or a control condition), participants needed a psychological break in the survey to minimize common method bias in the survey (Podsakoff et al., 2012).

Participants then were randomly assigned into two groups: the mindfulness intervention group or the control group. The mindfulness intervention group consisted of a mindfulness meditation audio recording to guide participants through a mindfulness meditation practice. The

control group was similar to the pilot study 1 control group: a 10-minute activity listening to an educational excerpt and completing a word search puzzle (Erisman & Roemer, 2010).

Following the mindfulness intervention/control conditions, all participants went through a trigger event simulation. Within each primary group (i.e., mindfulness intervention and control), participants were randomly assigned into one of three sub-groups for a positively-valenced trigger event simulation, a negatively-valenced trigger event simulation, or a neutral-valence reflection prompt. Thus, in total, participants were in one of six conditions: positive trigger event mindfulness intervention, positive trigger event control, negative trigger event mindfulness intervention, negative trigger event control, neutral reflection mindfulness intervention, or neutral reflection control.

Following the simulation, participants completed study measures about the simulation experience (i.e., emotional valence, emotional intensity, meaningfulness). After the survey, participants were debriefed the same as pilot study 2 with a description of the purpose of the study, how to find meaningfulness in emotional intensity, and a concluding mindfulness meditation to relieve any lasting effects from the trigger event simulations (Fennelle et al., 2016). Participants were also able to download the guided mindfulness meditation material for further use.

Measures

I used the same measurements as in pilot studies for the following variables: trait mindfulness ($\alpha = .938$), state mindfulness ($\alpha = .958$), emotional intensity ($\alpha = .949$), meaningfulness ($\alpha = .963$), control variable of social desirability, and demographics. I detail the new 2-item emotional valence item. Also, I describe additional control variables.

Emotional Valence

I measured the emotional valence of the prompted event by asking participants to rate the emotions of the experience (i.e., two separate items). The positive valence item was, "To what extent did the experience have positive emotions?" and the negative valence item was, "To what extent did the experience have negative emotions?" Both items were on a 7-point Likert scale ranging from (1) *not at all* to (7) *very*. The two items were used as separate indicators of valence. Additionally, the items were aggregated into a composite variable labeled 'Pure Valence,' measuring the extent of emotion valence of the experience, regardless of which type of valence. For the reliability analysis, I reverse-scored the negative valence item (Eisinga et al., 2013). Using the Spearman-Brown coefficient as a reliability indicator of a two-item scale, the composite variable's reliability was strong ($r_2 = .542$).

Additional Control Variables

Social Desirability. I measured social desirability the same as in the previous study. Because the initial reliability was below the acceptable range (.47), I removed five items that would increase Cronbach's Alpha if the item were deleted. The reliability of this scale in the current study was acceptable ($\alpha = .747$).

Managerial Experience. The managerial experience of a leader may influence the results in two ways. First, prior empirical research found that a leader's formal position positively related to their mindfulness levels (Roche et al., 2014). The foremost explanation is that as leadership experience accrues (in this case, in the form of managerial experience), the ability to be present with mindfulness becomes more beneficial due to being able to better leverage leadership skills gained thus far (Dane, 2011). Second, leadership experience may impact descriptions of trigger events. To isolate the relationships examined in this particular

study, I controlled for managerial experience with the question, "How many years of management experience do you have (including outside of your current organization)?"

Span of Control. The number of followers that a leader has may influence the types of trigger events available to the leader. For example, a leader with a team of ten followers will have different trigger event opportunities than a leader with only two followers. I controlled for the number of followers with the inclusion criteria question at the beginning of the survey asking participants to write the number of current followers.

Meditation Experience. Prior meditation experience may impact the mindfulness manipulation activity. To isolate the relationships between state mindfulness, emotional intensity, and meaningfulness, I controlled for prior meditation experience with the question, "We would like to know about your experience practicing mindfulness meditation. We define mindfulness meditation as a formal sitting session of at least 10 minutes at a time. How often do you practice mindfulness meditation?". The response options included (1) *never*, (2) *rarely - maybe once a month or so*, (3) *Sometimes - few times a month*, (4) *Often - couple times a week*, and (5) *all the time - every single day*.

Results Main Study

Below, I described the process for preparing the data, checking the required assumptions, and manipulation check for intervention and simulations. Then, I detailed hypothesis testing using hierarchical regression.

Data Preparation

A total of 467 participants originally consented to the study. I first checked the data for automatic bot influence infiltrating the data and participants not paying sufficient attention to completing the survey. I looked through the data for suspicious response patterns, such as

repeating the same response for every item. I detected three responses that indicated nearly identical quantitative responses and all had the exact same reflection writing responses. After contacting the users on the Prolific platform, I concluded a single participant had three accounts to get paid quickly. I removed the three cases from the dataset. Twenty participants failed the first attention check and four failed the second attention check. Lastly, the captcha verification at the start of the survey disallowed participants from continuing the study if failed. I confirmed that any participants that failed the captcha verification item were deleted from the dataset.

Next, the inclusion criteria questions asked participants if they were leaders and if they had the necessary one-year leader experience with at least three followers. I removed 12 participants who indicated they were not leaders. I removed 31 participants who reported less than three followers.

I checked the dataset for missing data by checking the responses for each item. No missing data were identified.

Statistical Assumptions

I identified no univariate outliers that exceeded three standard deviations from the mean. I identified three multivariate outliers by checking data outside three standard deviations of Mahalanobis distance; there was evidence of multivariate normality violation by using chi-square .001 as the cutoff in assessing the cumulative probability that a value is in the chi-square distribution (Field, 2018; Tabachnick & Fidell, 2007). Three cases were identified and I removed those participants. Then I rechecked multivariate normality and I identified no multivariate outliers. I ran Harman's single-factor test to assess common method bias (Podsakoff et al., 1984; Podsakoff et al., 2003). The total variance explained was 44.05%, below the 50% cut-off for common method bias influence.

All statistical assumptions were satisfactory and acceptable for the main hierarchical regression analyses (i.e., multicollinearity, homoscedasticity, normality, linearity, homogeneity of variance, and independence). Specifically, the VIF was under five and the inverse of tolerance was below .2, indicating no multicollinearity. For homoscedasticity, the scatterplots looked appropriate (i.e., cloud-shaped). The P-P plot of regression standardized residual demonstrated the data hugging the line normally, indicating multivariate normality.

I examined normality by checking if the absolute value of skewness or kurtosis was above two; the skew and kurtosis values were below the threshold and thus considered appropriate (Howell, 2012).

As indicated, the final dataset contained 401 total responses.

Manipulation Checks

Before analyzing the data for hypothesis testing, I conducted the same set of analyses as in the pilot studies to test the efficacy of the interventions.

To determine the effectiveness of the intervention, I ran an analysis of covariance comparing the average state mindfulness of the mindfulness meditation group to that of the control group while controlling for trait mindfulness and social desirability (Howell, 2012). The results indicated a significant difference between groups (F (1, 397) = 21.31, $p < .01$; see Table 8). As expected, the mindfulness meditation group (M = 3.63, SD = .74) had higher state mindfulness than the control group (M = 3.24, SD = .93) while controlling for trait mindfulness and social desirability. There was a moderate effect ($\eta^2 = 0.05$).

To determine the effectiveness of the trigger event simulation interventions, I ran an ANOVA comparing the group differences for the three trigger event conditions looking at the following dependent variables: meaningfulness, emotional intensity, emotional valence. If the

ANOVA indicated a significant difference for any of the prior listed dependent variables, then I ran Tukey's Honest Significant Difference post hoc test comparing the group means between each level (Howell, 2012). Results indicated all relationships were as expected; see Table 9 for a complete description of ANOVA values.

For meaningfulness, the results indicated a significant difference between groups (F (2,398) = 11.47, $p < .001$). Specifically, the positive (M = 4.85, SD = 15.55) and negative conditions (M = 4.87, SD = 1.42) were both significantly greater on meaningfulness than the neutral condition (M = 4.02, SD = 1.93). The positive condition was not significantly different from the negative condition on meaningfulness. For emotional intensity, the results indicated a significant difference between groups (F (2,398) = 22.39, $p < .001$). Specifically, the positive (M = 4.46, SD = 1.68) and negative conditions (M = 4.73, SD = 1.47) were both significantly greater on emotional intensity than the neutral condition (M = 3.42, SD = 1.88). The positive condition was not significantly different from the negative condition on emotional intensity. For emotional valence, the results indicated a significant difference between groups (F (2,398) = 68.37, $p < .001$). All conditions differed from one another. Specifically, the positive condition (M = 5.50, SD = 1.15) had significantly greater positive emotions than both the negative condition (M = 3.74, SD = 1.59) and the neutral condition (M = 5.11, SD = 1.08). The negative condition had significantly greater negative emotions than the neutral condition.

In conclusion, these results suggest an improvement over the simulation conditions from the pilot study. All the trigger event simulation conditions were inducing meaningfulness, emotional intensity, and emotional valence in the expected direction. The manipulations (both mindfulness meditation intervention and trigger event simulations) were deemed effective and valid.

Data Analysis

I first ran correlation analyses to examine the linear relationship between study variables, including how the expected control variables (i.e., trait mindfulness, managerial experience, span of control, and meditation experience) relate to the dependent variable of meaningfulness. From the list of possible control variables, only the following were significantly correlated with meaningfulness and therefore entered into all further analyses as control variables: trait mindfulness, meditation experience, and gender. See Table 10 for the correlation matrix of all control variables and Table 11 for the correlation matrix of main study variables).

---------- INSERT TABLE 10 AND 11 ABOUT HERE ----------

Additionally, I ran a correlation analysis to examine the linear relationships between the study variables and each of the six group conditions (meditate positive, meditate negative, meditate neutral, control positive, control negative, and control neutral). Some relationships to note are that emotional intensity did not significantly relate to either the meditation positive condition nor the control positive condition (whereas the other conditions have relationships as expected). Although the manipulation checks demonstrated appropriate differences between each condition, there is a no relationship for the positive conditions. Additionally, state mindfulness was not significantly related to state mindfulness, however the other two mindfulness conditions were significantly related. The positive conditions seem to have weak or no desired relationship with emotional intensity or state mindfulness inductions. However, the positive conditions had expected relationships with the positive valence measures).

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Hypothesis Testing

Hierarchical regression was used to assess all hypotheses. Before proceeding with the primary analyses, all variables were mean-centered to improve the interpretability of the intercept and reduce issues of multicollinearity in specifying moderation terms. In the following section, I restate each hypothesis, describe the analyses conducted to test it, and report the results to determine whether the hypothesis was supported.

Hypothesis 1: Emotional Intensity. Hypothesis 1 predicted that the emotional intensity of the trigger event positively relates to leader meaningfulness. To test this hypothesis, I employed a hierarchical regression predicting the dependent variable of leader meaningfulness. In model 1, I entered the control variables of trait mindfulness, gender, and meditation experience. This model was significant ($F(3, 396) = 34.21$, $p < .001$, $R2 = .21$; Table 13). Examining the model coefficients, variables were significant predictors of meaningfulness. In model 2, I added the hypothesized predictor variable of emotional intensity to the model. This model was also significant, $F(4, 396) = 101.348$, $p < .001$, $R^2 = .51$. The addition of emotional intensity resulted in a model that explained significantly more variance in meaningfulness than a model with only controls, $\Delta R2 = .30$, $p < .01$. In model 2, all control variables remained significant, except for gender which was rendered insignificant after introducing emotional intensity, $\beta = -.08$, $p = .06$. Examining the model coefficients in model 2, emotional intensity was a statistically significant and positive predictor of meaningfulness ($\beta = .57$, $p < .01$), indicating support for hypothesis 1.

---------- INSERT TABLE 13 ABOUT HERE ----------

Hypothesis 2: Emotional Valence. Hypothesis 2a predicted that positive emotional valence positively relates to leader meaningfulness and hypothesis 2b predicts that negative emotional valence positively relates to leader meaningfulness. To test these hypotheses, I

employed a hierarchical regression predicting the dependent variable of leader meaningfulness. I used many different measurements of emotional valence to test these hypotheses.

First, I used the categorical emotional valence dummy code of the group conditions. I dummy coded valence with neutral valence as the reference code. I created two new variables (i.e., PVd for positive emotional valence and NVd for negative emotional valence). These two new variables represented the move from neutral towards one of the two; PVd represented the shift from neutral to positive emotional valence; and NVd represented the shift from neutral to negative emotional valence. In model 3, I added the hypothesized predictor variable of PVd to the model. This model was significant ($F(5, 395) = 82.73$, $p < .001$, $R^2 = .512$; Table 14). The addition of PVd resulted in a model that explained more variance in meaningfulness than a model with only controls and emotional intensity ($\Delta R^2 = .006$, $p < .05$). In model 3, the control variables remained the same significance as model 2. Examining the model coefficients in model 3, PVd was statistically significant and a positive predictor of meaningfulness ($\beta = .08$, $p < .05$), indicating support for hypothesis 2a. In model 4, I added the hypothesized predictor variable of NVd to the model. This model was significant ($F(6, 394) = 98.419$, $p < .001$, $R^2 = .516$; Table 14). However, the addition of NVd did not result in a model that explained more variance in meaningfulness than a model with controls, emotional intelligence, and PVd ($\Delta R^2 = .005$, $p = .052$). In model 4, all control variables were significant, including gender, which became significant after introducing NVd, $\beta = -.08$, $p < .05$. Examining the model coefficients in model 4, NVd was not a statistically significant predictor of meaningfulness ($\beta = .08$, $p = .052$), indicating no support for hypothesis 2b.

---------- INSERT TABLE 14 ABOUT HERE ----------

Second, I used the single-item continuous emotional valence variables (positive valence and negative valence) to test hypotheses 2a and 2b. In model 5, I added the hypothesized predictor variable of positive valence to the variables in model 2. This model was significant ($F(5, 395) = 95.11$, $p < .001$, $R^2 = .546$; Table 15). The addition of positive valence resulted in a model that explained more variance in meaningfulness than model 2 with only controls and emotional intensity ($\Delta R^2 = .04$, $p < .01$). In model 5, the control variables remained the same significance as model 2. Examining the model coefficients in model 5, positive valence was statistically significant and a positive predictor of meaningfulness ($\beta = .22$, $p < .01$), indicating support for hypothesis 2a. In model 6, I added the hypothesized predictor variable of negative valence to the variables in model 5. This model was significant ($F(6, 394) = 83.78$, $p < .001$, $R^2 = .561$; Table 15). The addition of negative valence resulted in a model that explained more variance in meaningfulness than a model with the controls, emotional intensity, and positive valence ($\Delta R^2 = .01$, $p < .01$). In model 6, the control variables remained the same significance as model 5. Examining the model coefficients in model 6, negative valence was statistically significant and a positive predictor of meaningfulness ($\beta = .15$, $p < .01$), indicating support for hypothesis 2b.

---------- INSERT TABLE 15 ABOUT HERE ----------

Third, I used the aggregated pure valence variable, measuring the extent of emotion valence of the experience regardless of the direction of the valence, to test hypotheses 2a and 2b. In model 7, I added the hypothesized predictor variable of pure valence to the variables in model 2. This model was significant ($F(5, 395) = 92.43$, $p < .001$, $R^2 = .734$; Table 16). The addition of pure valence resulted in a model that explained more variance in meaningfulness than model 2 with only controls and emotional intensity ($\Delta R^2 = .03$, $p < .01$). In model 7, the control variables

remained the same significance as model 2. Examining the model coefficients in model 7, pure valence was statistically significant and a positive predictor of meaningfulness ($\beta = .22$, $p < .01$), indicating support for hypotheses 2a and 2b.

---------- INSERT TABLE 16 ABOUT HERE ----------

Fourth, I used a quadratic emotional valence term in polynomial regression to test hypotheses 2a and 2b. I created a composite variable with the sum of positive valence and negative valence (without reverse-coding the item). Thus, the measure indicated higher valence, regardless of the type of valence. In polynomial regression, I assume the relationship between the predictor variable and dependent variable is not linear, but rather is a curvilinear relationship. Conceptually, the emotional valence measure is curvilinear because a lower score indicates negative valence (I hypothesize to predict higher meaningfulness), a higher score indicates positive valence (I hypothesized to predict higher meaningfulness), and a middle score indicates neither valence (which I expect to not predict meaningfulness). In model 8, I added the hypothesized predictor variable of quadratic emotional valence to the variables in model 2. This model was significant ($F(5, 395) = 116.78$, $p < .001$, $R^2 = .510$; Table 17). However, the addition of the quadratic emotional valence squared did not result in a model that explained more variance in meaningfulness than model 2 with only controls and emotional intensity ($\Delta R^2 = .01$, $p = .057$). In model 8, all control variables were significant, including gender, which became significant after introducing the quadratic emotional valence variable, $\beta = -.08$, $p < .05$. Examining the model coefficients in model 8, quadratic emotional valence was not a statistically significant predictor of meaningfulness ($\beta = .07$, $p = .057$), indicating no support for hypotheses 2a and 2b.

---------- INSERT TABLE 17 ABOUT HERE ----------

Lastly, I also ran an analysis of covariance comparing the three trigger event simulation groups on meaningfulness while controlling for trait mindfulness and social desirability (Howell, 2012). The results indicated a significant difference between groups (F (2, 395) = 22.07, p < .01). As expected, both participants in the positive trigger event conditions (M = 4.85, SD = 1.55) and participants in the negative trigger event conditions (M = 4.87, SD = 1.42) had higher meaningfulness than the neutral trigger event conditions (M = 4.02, SD = 1.93) while controlling for trait mindfulness and social desirability. There was no significant difference in meaningfulness between the positive trigger event condition and negative trigger event condition. There was a moderate effect (η^2 = 0.10). Thus, these results indicate support for hypotheses 1, 2a, and 2b, such that the conditions that specifically induced intensity and valence (positive trigger event condition and negative trigger event condition) predicted greater meaningfulness than the neutral condition.

Hypothesis 3: Emotional Intensity x Emotional Valence. Hypothesis 3 predicted that emotional valence positively moderates the relationship of emotional intensity to leader meaningfulness. To test this hypothesis, I employed hierarchical regression predicting the dependent variable of leader meaningfulness. As with the previous hypotheses, I used multiple measurements of emotional valence.

First, I used the categorical emotional valence dummy code of the group conditions. In model 9, I added the hypothesized predictor variable of the interaction term of emotional intensity times PVd to the variables in model 4. This model was significant (F(7, 393) = 61.46, p < .001, R^2 = .52; Table 18). The addition of the PVd emotional intensity interaction term resulted in a model that explained more variance in meaningfulness than model 4 with the controls, emotional intensity, PVd, and NVd (ΔR^2= .006, p < .05). In model 9, the control

variables remained the same significance as model 4. Additionally, emotional intensity and PVd remained significant predictors of leader meaningfulness. Examining the model coefficients in model 9, the PVd emotional intensity interaction was statistically significant, yet a negative predictor of meaningfulness ($\beta = -.10$, $p < .01$), indicating no support for hypothesis 3. See Figure 4 for visualization of the results.

In model 10, I added the hypothesized predictor variable of the interaction term of emotional intensity times NVd to the variables in model 9. This model was significant ($F(8, 392) = 54.50$, $p < .001$, $R^2 = .53$; Table 18). The addition of the NVd emotional intensity interaction term did not result in a model that explained more variance in meaningfulness than model 9 with the controls, emotional intensity, PVd, NVd, and PVd emotional intensity interaction ($\Delta R^2 = .004$, $p = .07$). In model 10, the control variables remained the same significance as model 9. Additionally, emotional intensity, PVd, and the PVd emotional intensity interaction term remained significant predictors of leader meaningfulness. Examining the model coefficients in model 10, the NVd emotional intensity interaction was not a statistically significant predictor of meaningfulness ($\beta = -.08$, $p = .07$), indicating no support for hypothesis 3. See Figure 5 for visualization of the results.

---------- INSERT TABLE 18 AND FIGURE 4 AND 5 ABOUT HERE ----------

Second, I used the single-item continuous emotional valence variables. In model 11, I added the hypothesized predictor variable of the interaction term of emotional intensity times positive valence to the variables in model 6. This model was significant ($F(7, 393) = 93.95$, $p < .001$, $R^2 = .58$; Table 19). The addition of the positive valence emotional intensity interaction term resulted in a model that explained more variance in meaningfulness than model 6 with the controls, emotional intensity, positive valence, and negative valence ($\Delta R^2 = .01$, $p < .05$). In

model 11, the control variables remained the same significance as model 6. Additionally, emotional intensity, positive valence, and negative valence remained significant predictors of leader meaningfulness. Examining the model coefficients in model 11, the positive valence emotional intensity interaction was statistically significant, yet a negative predictor of meaningfulness ($\beta = -.13$, $p < .01$), indicating no support for hypothesis 3. See Figure 6 for visualization of the results.

In model 12, I added the hypothesized predictor variable of the interaction term of emotional intensity times negative valence to the variables in model 11. This model was significant ($F(7, 393) = 82.22$, $p < .001$, $R^2 = .58$; Table 19). The addition of the negative valence emotional intensity interaction term did not result in a model that explained more variance in meaningfulness than model 11 with the controls, emotional intensity, positive valence, and negative valence, and the positive valence emotional intensity interaction term ($\Delta R^2 = .00$, $p = .75$). In model 12, the control variables remained the same significance as model 11. Additionally, emotional intensity, positive valence, negative valence, and the positive valence emotional intensity interaction term remained significant predictors of leader meaningfulness. Examining the model coefficients in model 12, the negative valence emotional intensity interaction was not a statistically significant predictor of meaningfulness ($\beta = -.01$, $p = .75$), indicating no support for hypothesis 3. See Figure 7 for visualization of the results.

---------- INSERT TABLE 19 AND FIGURE 6 AND 7----------

Third, I used the aggregated pure valence variable. In model 13, I added the hypothesized predictor variable of the interaction term of emotional intensity times pure valence to the variables in model 7. This model was significant ($F(6, 394) = 105.02$, $p < .001$, $R^2 = .55$; Table 20). The addition of the pure valence emotional intensity interaction term resulted in a model that

explained more variance in meaningfulness than model 7 with the controls, emotional intensity, and pure valence ($\Delta R^2 = .01$, $p < .01$). In model 13, the control variables remained the same significance as model 7. Additionally, emotional intensity and pure valence remained significant predictors of leader meaningfulness. Examining the model coefficients in model 13, the pure valence emotional intensity interaction was statistically significant, yet a negative predictor of meaningfulness ($\beta = -.12$, $p < .01$), indicating no support for hypothesis 3. See Figure 8 for visualization of the interaction.

---------- INSERT TABLE 20 AND FIGURE 8 ABOUT HERE ----------

Fourth, I used a quadratic emotional valence term in polynomial regression. In model 14, I added the hypothesized predictor variable of the interaction term of emotional intensity times the quadratic emotional valence term to the variables in model 8. This model was significant ($F(6, 394) = 102.40$, $p < .001$, $R^2 = .54$; Table 21). The addition of the quadratic emotional valence emotional intensity interaction term resulted in a model that explained more variance in meaningfulness than model 8 with the controls, emotional intensity, and the quadratic emotional valence term ($\Delta R^2 = .03$, $p < .01$). In model 14, the control variables and emotional intensity remained the same significance as model 8. Furthermore, the quadratic emotional valence term became significant after introducing the quadratic emotional valence emotional intensity interaction term, $\beta = .15$, $p < .01$, now indicated support for hypothesis 2. Examining the model coefficients in model 14, the quadratic emotional valence emotional intensity interaction was statistically significant, yet a negative predictor of meaningfulness ($\beta = -.24$, $p < .01$), indicating no support for hypothesis 3. See Figure 9 for visualization of the interaction.

---------- INSERT TABLE 21 AND FIGURE 9 ABOUT HERE ----------

Hypothesis 4: Emotional Intensity x Mindfulness. Hypothesis 4 predicted that mindfulness positively moderates the relationship between emotional intensity and leader meaningfulness, such that high state mindfulness strengthens the relationship between emotional intensity and leader meaningfulness. To test this hypothesis, I employed hierarchical regression predicting the dependent variable of leader meaningfulness. In model 15, I added the hypothesized predictor variable of state mindfulness to the variables in model 2. This model was significant ($F(5, 395) = 122.66$, $p < .001$, $R^2 = .54$; Table 22). The addition of state mindfulness resulted in a model that explained more variance in meaningfulness than model 2 with the controls, and emotional intensity ($\Delta R^2 = .05$, $p < .01$). In model 15, the control variables and emotional intensity were all statistically significant as in model 2, including gender, which became significant after introducing state mindfulness, $\beta = -.09$, $p < .05$. Examining the model coefficients in model 15, state mindfulness was statistically significant and a positive predictor of meaningfulness ($\beta = .27$, $p < .01$). In model 16, I added the hypothesized predictor variable of the state mindfulness emotional intensity interaction term to the variables in model 15. This model was significant ($F(6, 394) = 106.24$, $p < .001$, $R^2 = .56$; Table 22). The addition of state mindfulness emotional intensity interaction did not result in a model that explained more variance in meaningfulness than model 15 with the controls, emotional intensity, and state mindfulness ($\Delta R^2 = .004$, $p = .08$). In model 16, the control variables, emotional intensity, and state mindfulness remained the same significance as model 15. Examining the model coefficients in model 16, the state mindfulness emotional intensity interaction term was not a statistically significant predictor of meaningfulness ($\beta = -.06$, $p = .08$), indicating no support for hypothesis 4. See Figure 12 for visualization of the results.

---------- INSERT TABLE 22 AND FIGURE 10 ABOUT HERE ----------

To examine the moderating effects of mindfulness on the relationship between emotional intensity and leader meaningfulness taking into account the trigger event emotional valence (Hypothesis 4a and 4b), I constrained the data into two new data sets. One data set consists of participants in the positive trigger event condition and one data set consists of participants in the negative trigger event condition. For each data set, I performed the following same analysis as what was done for testing hypothesis 4. First I will detail the results for the positive trigger event condition data set. In model 17, I added the hypothesized predictor variable of the state mindfulness emotional intensity interaction term to the variables in model 15. This model was significant ($F(6, 129) = 19.01$, $p < .001$, $R^2 = .47$; Table 23). The addition of state mindfulness emotional intensity interaction did not result in a model that explained more variance in meaningfulness than model 15 with the controls, emotional intensity, and state mindfulness ($\Delta R^2 = .001$, $p = .62$). In model 17, as with model 15, trait mindfulness and emotional intensity were significant and gender was not significant. Yet meditation experience became not significant in the positive trigger event condition dataset ($\beta = .05$ $p = .47$). Examining the model coefficients in model 17, the state mindfulness emotional intensity interaction term was not a statistically significant predictor of meaningfulness ($\beta = -.03$, $p = .62$), indicating no support for hypothesis 4a. See Figure 13 for visualization of the results.

Second I will detail the results for the negative trigger event condition data set. In model 18, I added the hypothesized predictor variable of the state mindfulness emotional intensity interaction term to the variables in model 15. This model was significant ($F(6, 126) = 16.62$, $p < .001$, $R^2 = .44$; Table 24). The addition of state mindfulness emotional intensity interaction did not result in a model that explained more variance in meaningfulness than model 15 with the controls, emotional intensity, and state mindfulness ($\Delta R^2 = .002$, $p = .501$). In model 17, as with

model 15, meditation experience and emotional intensity were significant and gender was not significant. Yet trait mindfulness became not significant in the positive trigger event condition dataset (β = .09 *p* = .57). Examining the model coefficients in model 18, the state mindfulness emotional intensity interaction term was not a statistically significant predictor of meaningfulness (β = -.05, *p* = .50), indicating no support for hypothesis 4b. See Figure 14 for visualization of the results.

---------- INSERT TABLE 23 AND 24 ABOUT HERE ----------

Overall Model. Lastly, I ran the entire model of all variables of interest. Because the results of the different emotional valence measurements were not consequently different, I used the dummy coded emotional valence variables in this final model. In model 19, I added the hypothesized predictor variable of state mindfulness to the variables in model 10. This model was significant ($F(9, 391) = 75.87$, $p < .001$, $R^2 = .59$; Table 25). The addition of state mindfulness resulted in a model that explained more variance in meaningfulness than model 10 with the controls, emotional intensity, emotional valence variables, and the emotional valence emotional intensity interaction terms ($\Delta R^2 = .06$, $p < .01$). In model 19, the control variables, emotional intensity, positive emotional valence, and the positive emotional valence interaction term remained the same significance and direction as in model 10. However, the following variables became significant after introducing state mindfulness: gender (β = -.10, p < .01), negative emotional valence (β = .09, p < .05), and the negative emotional valence interaction term (β = -.14, p < .01). Examining the model coefficients in model 19, state mindfulness was statistically significant and a positive predictor of meaningfulness (β = .31, *p* < .01). In model 20, I added the hypothesized predictor variable of the state mindfulness emotional intensity interaction term to the variables in model 19. This model was significant ($F(10, 390) = 67.45$, *p*

< .001, R^2 = .59; Table 25). The addition of state mindfulness emotional intensity interaction did not result in a model that explained more variance in meaningfulness than model 19 with the controls, emotional intensity, emotional valence variables, the emotional valence emotional intensity interaction terms, and state mindfulness (ΔR^2= .003, p = .08). In model 20, all variables remained the same significance as model 19. Examining the model coefficients in model 20, the state mindfulness emotional intensity interaction term was not a statistically significant predictor of meaningfulness (β = -.06, p = .08)

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In sum, results support hypotheses 1 and 2. Furthermore, results do not support hypotheses 3 and 4. Based on the overall model analysis, results suggest that model 19 is the best fitting model (controls, emotional intensity, emotional valence variables, the emotional valence emotional intensity interaction terms, and state mindfulness).

Exploratory Analyses

Following the main hypothesized relationship, I discovered a surprising finding that I wished to examine further. In this section, I detail a exploratory analysis that advances the theoretical understanding of my hypotheses.

I examine the potential mediating mechanism of positive appraisal for the relationship of trait mindfulness to meaningfulness. I measured positive appraisal using three items on a 7-point Likert scale from strongly disagree to strongly agree (α = .816). Two of the items were slightly adapted from the Ways of Coping Checklist, a scale used in prior research on positive appraisal (Vitaliano et al., 1985). The two items were, “I tried to see the positive in it all” and “I got stronger and better equipped out of the activity than I walked into it”. The final item was inspired

by the scale, “I learned valuable lessons from any potential stress”. Composite scores were calculated by the average of the three items. The reliability of this scale was acceptable ($\alpha = .82$).

To test the mediation, I used Baron and Kenny’s (1986) four-step approach to establishing mediation using hierarchical regression. First, I tested if trait mindfulness predicts meaningfulness. I employed hierarchical regression predicting the dependent variable of meaningfulness. In model 21, I entered the control variables of state mindfulness, meditation experience, and gender. This model was significant, $F(3, 397) = 92.43$, $p < .001$, $R^2 = .41$. Examining the model coefficients, variables were significant predictors of meaningfulness. In model 22, I added the hypothesized predictor variable of trait mindfulness to the model. This model was also significant, $F(4, 396) = 119.81$, $p < .001$, $R^2 = .42$. The addition of trait mindfulness resulted in a model that explained significantly more variance in meaningfulness than a model with only controls, $\Delta R^2 = .01$, $p < .05$. In model 22, all control variables remained significant. Examining the model coefficients in model 22, emotional intensity was a statistically significant and positive predictor of meaningfulness ($\beta = .09$, $p < .05$).

Second, I tested the relationship if trait mindfulness predicts positive appraisal. I employed hierarchical regression predicting the dependent variable of positive appraisal. In model 23, I entered the control variables of state mindfulness, meditation experience, and gender. This model was significant ($F(3, 397) = 61.14$, $p < .001$, $R^2 = .34$; see Table 26). Examining the model coefficients, variables were significant predictors of positive appraisal. In model 24, I added the hypothesized predictor variable of trait mindfulness to the model. This model was also significant, $F(4, 396) = 50.33$, $p < .001$, $R^2 = .37$. The addition of trait mindfulness resulted in a model that explained significantly more variance in positive appraisal than a model with only controls, $\Delta R^2 = .03$, $p < .01$. In model 24, all control variables remained

significant, except for gender, which became not significant after introducing trait mindfulness, β = -.04, $p < .05$. Examining the model coefficients in model 24, trait mindfulness was a statistically significant and positive predictor of positive appraisal (β = .20, $p < .01$).

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Lastly, I checked if the relationship between trait mindfulness on meaningfulness, while controlling for positive appraisal, becomes zero. In model 25, I added positive appraisal to the variables in model 22. This model was significant ($F(5, 395) = 123.27$, $p < .001$, $R^2 = .61$; see Table 27). The addition of positive appraisal resulted in a model that explained significantly more variance in meaningfulness than a model with the controls and trait mindfulness, $\Delta R^2 = .19$, $p < .01$. In model 25, all control variables remained significant. Examining the model coefficients in model 25, positive appraisal was a statistically significant and positive predictor of meaningfulness (β = .55, $p < .01$). Furthermore, the beta weight for trait mindfulness was not statistically significant, slightly negative, and very close to zero (β = -.01, $p < .706$), thus providing support to positive appraisal as a mediating mechanism of trait mindfulness to meaningfulness.

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Discussion

An internal sense of meaningfulness helps leaders influence followers (Bono & Ilies, 2006; Jin et al., 2016). If Nelson Mandela didn't go through his personal trigger event experiences, he may not have developed the philosophy guiding his powerful leadership behaviors to beneficially change the course of a country. All leaders would benefit in understanding how to cultivate similar meaningfulness through their experience and not always depend on formal training for leader development. Furthermore, how leaders interact with the

emotional dynamics of these meaningful trigger events needed further research (Rosso et al., 2010).

The purpose of this study was to test how leaders develop meaningfulness and the emotional mechanisms of that process. These research findings contribute theoretical implications for deepening understanding of the process of experiential leader development and how to help leaders best capitalize on experiential learning opportunities. Specifically, the results uncovered insights surrounding the emotional elements of trigger events. In other words, this research contributes to understanding how emotions relate to meaningful experiences.

Pilot study 1 findings supported that the mindfulness meditation intervention successfully induced state mindfulness significantly more than the control educational audio clip. Pilot study 2 demonstrated that the simulation conditions appropriately induce sufficient variability of emotional intensity and emotional valence in each of their respective conditions (positive, negative, and neutral). The main study findings provide empirical evidence that emotions have a role in meaningful experiences within the leadership context. Previous research only examined a cognitive, identity-based mechanism for meaning in the workplace (Rosso et al., 2010). By nature, the workplace contains constant flows of emotional information that impact individual and group performance (Ashton-James & Ashkanasy, 2005). Effective leadership strategies depend upon the ability of individuals to be aware of and manage emotions (Beck, 2020). This study advances this research and supports that emotions also impact the leaders' developmental experiences in meaningful trigger event experiences.

Furthermore, the present research empirically uncovers how the quality of attention impacts trigger event experiences. Theoretical research describes how mindfulness produces meaning (Garland et al., 2015b). These research findings supported the mindfulness to meaning

process in the leadership context. Moreover, this research refutes previous theoretical arguments that mindfulness does not contribute to meaningful experiences (Murphy & Bastian, 2019). The direct relationship between mindfulness (both state and trait) were some of the strongest predictors of meaningfulness in this study.

Below, I go more in-depth to detail four specific theoretical implications related to the affective and mindful processes of leader developmental trigger events.

Emotional Intensity Matters for Trigger Events

The intricacies of emotions are absent from meaningfulness research within the organizational psychology literature, and researchers call for a greater understanding of its role (Rosso et al., 2010). The first main finding of the paper is that a leader's emotional experience is predictive of their meaningfulness. Whereas past research demonstrated a general population link between emotional valence/intensity to meaningfulness (Murphy & Bastian, 2019), this research is the first empirical investigation for the emotional relationships within the leader development context. Supported by the findings in this research, emotions have an impact on development; and leader development can continuously occur throughout the lifespan (Liu et al., 2021).

Participants extracted more meaningfulness from the trigger event simulation when they were experiencing greater emotional intensity. The results indicate that the emotional intensity of experiences significantly and positively predicts meaningfulness. For example, in a situation in which a leader is in a developmental challenge on the job, these findings suggest that the more emotionally intense the experience, the more likely the leader will experience it as meaningful and contribute to their developmental journey. This is aligned with past theoretical reasoning because emotional intensity produces contemplation about one's life philosophy and values

(Murphy & Bastian, 2019). Trigger events encapsulate that contemplation, applied towards developing one's leadership capacities (Luthans & Avolio, 2003).

For Trigger Events: Valence and Intensity Have a Complicated Relationship

Within the leader development context, emotional intensity may be more important than having a specific positive or negative valence. Yet, researchers have only theorized that positive trigger events and negative trigger events hold equal value for meaningful developmental opportunities (Luthans & Avolio, 2003). That is to say, trigger events are positive valenced or negative valence. However, as I discuss below, findings in this study suggest that neutral valence trigger events are possible and may be strong predictors of meaningfulness. The second main finding is that the results explicate the relationships between emotional valence, emotional intensity, and trigger events

The results did not indicate that emotional valence (i.e., positive or negative) moderates the relationships between emotional valence and meaningfulness as hypothesized. The relationships were significant in many of the measures of emotional valence, however, in the opposite direction as predicted. Originally, I hypothesized that both positive and negative valence would strengthen the relationships between emotional intensity and meaningfulness (as compared to a neutral valence). Nevertheless, results support the notion that valence has a negative moderation on emotional intensity and meaningfulness, such that less valence strengthens intensity's predictive quality on meaningfulness. Two different possible theoretical interpretations explain this phenomenon and explicate the consequences of the surprising results.

The first interpretation is that valence may only matter when intensity is low. When intensity is higher, the valence (either higher positive or higher negative) weakens its impact on the relationship of intensity to meaningfulness. When emotional intensity is low, emotional

valence (either positive or negative) is important for generating meaningfulness. The positive and negative trigger event writing simulations significantly predicted the meaningfulness of the experience in comparison to the neutral writing simulation (i.e., write about your normal, ordinary day-to-day routines). When considering emotional intensity, positive valence and negative valence predict meaningfulness more than neutral valence only when the emotional intensity is low. Prior research on low-intensity positive emotions supports these findings. Low intensity, high positive valence emotions predict life satisfaction above and beyond high intensity, high positive valence emotions (McManus et al., 2019). These results create a much-needed start to understanding the emotional underpinnings of trigger events. The emotional valence and emotional intensity are not parsed out in the trigger event literature (Luthans & Avolio, 2003). Leader development research needs to consider how the emotional intensity of experiences is a necessity for learning opportunities. If a leader wants to optimize meaning in leader development, then it seems that first and foremost, emotionally intense trigger experiences are best. If the experience lacks emotional intensity, then the trigger event should have an emotional valance (either positive or negative).

For example, a leader is heading into an emotionally intense meeting with the board of directors and the outcome of the meeting is unknown (i.e., the board of directors could positively praise the leader's leadership qualities or the meeting could negatively criticize the leader's leadership qualities). The findings of this study could suggest that the direction of the valence does not matter at this point. The leader will be more likely to experience meaningfulness because it is emotionally intense. In an alternative example, a leader is having a mundane, passing conversation with a follower outside their office (i.e., low emotional intensity). The emotional valence of that experience will matter more to predicting meaningfulness now because

emotional intensity is low. The example leader-follower conversation should elicit positive emotions or negative emotions for it to prompt meaningfulness.

The second interpretation is that the emotional intensity gets clouded by the distraction of absorbing attention into feeling the valenced emotion. Results suggest that participants in the neutral condition have a stronger relationship between emotional intensity and meaningfulness than participants in the positive or negative condition. In other words, high emotional intensity while writing about mundane daily tasks have significantly greater meaningfulness than high emotional intensity in writing about one's leadership strengths or writing about one's leadership weaknesses. Potentially when emotional intense experiences are positive valence or negative valence, they are too filled with the valenced emotion to pull meaning out of them at the moment. In essence, we react to the joy or sadness itself, not to the potential meaningfulness of the experience immediately. If a leader is writing about their worst leadership weaknesses, they are frustrated and the emotional valence may block the leader from directing attention towards processing the trigger event. Studies show that emotional valence persists longer into a task than emotional intensity (Gomez et al., 2009). Because the study design in this research asked about meaningfulness immediately following the trigger event simulation, the time proximity disallowed for full emotional processing. In a short time proximity, meaningfulness slips away when the mind is preoccupied with processing the emotional valence.

Mindfulness Has Developmental Utility & It Makes Emotions More Salient

This research progresses mindfulness and leadership research to support that mindfulness has developmental consequences for leadership. Results indicate that mindfulness predicts meaningfulness. Past researchers theorized that mindfulness is relegated to a low arousal state that insufficiently produces enough intensity to contribute towards a meaningful experience

(Murphy & Bastian, 2019). However, this study supports that mindfulness has a role in generating meaningfulness. This research merges the emotional regulation literature (Mindfulness-to-Meaning Theory; Garland et al., 2015a) with the organizational behavior literature (leader development) to demonstrate empirically findings for mindfulness on leaders' meaningfulness. In total, mindfulness research purports empirical findings in mindfulness helping leaders with greater well-being (Roche et al., 2014), job performance (King & Haar, 2017), leadership behaviors (Beck, 2020), and now, meaningful developmental experiences.

However, mindfulness does not moderate the relationship between emotional intensity and meaningfulness, as previously theorized. Mindfulness was thought to have a significant role in moderating the emotional intensity mechanism of meaningfulness, such that mindfulness would help leaders utilize possibly overwhelming negative emotional intensity and harness the fleeting positive emotional intensity. Yet, no such relationship was detected in this study. Initially, I hypothesized that such an ability to nonjudgmentally attune to emotional intensity would allow leaders to prevent emotional intensity from overwhelming the mind and be able to create meaningfulness. One explanation is that mindfulness only moderates at an extremely high level of emotional intensity beyond what was measured in this study. Such a level would be outside the moral bounds to induce in a research survey study. In a study on the benefit of mindfulness for posttraumatic growth, first responders in trauma-inducing incidents, mindfulness significantly predicted the ability to grow from trauma (Chopko & Schwartz, 2009). In that situation, mindfulness helps bridge the gap of emotional intensity to meaning in a highly traumatic context. In the current research study design, emotional intensity induction was specifically designed to not overwhelm participants out of respectable scientific standards. Thus,

at an appropriate emotional intensity level, mindfulness has a null influence on the relationship between emotional intensity and meaningfulness.

Mindfulness did have an impact on the salience of negative emotions. Initially, negative emotional valence did not have a significant relationship with meaningfulness. However, when state mindfulness was considered in the analysis, negative valence became a significant predictor of meaningfulness. Thus, state mindfulness had a suppression effect on negative valence to meaningfulness; state mindfulness increased the degree of negativity that participants were experiencing. Mindfulness may help individuals feel more emotions when they are having the emotions. Mindfulness creates a greater awareness that allows the mind to take notice of subtle internal and external information, such as emotional information (Brown & Ryan, 2003; Dane, 2011). Leaders in a high mindfulness state will potentially be more aware of their emotional state during the day. Furthermore, the mindfulness suppression effect also made negative valence have a significant negative moderation on emotional intensity to meaningfulness (in a similar way to positive valence). This lends support that mindfulness helps leaders gain meaningfulness in high-intensity, neutral valence situations. This finding extends previous mindfulness in the workplace research that argues the heightened awareness in mindfulness improves performance because it enables leaders to notice cues that are relevant to their work (Dane, 2011). This study supports that mindfulness helps leaders develop because it enables leaders to notice meaningfulness cues in neutrally valence situations.

Trait Mindfulness Helps Leaders Re-interpret For Meaning

The last main insight from the results is support for positive appraisal mediating the relationship of trait mindfulness to meaningfulness. Leaders who have a greater disposition to mindfulness are more likely to see potential trigger event experiences as meaningful through

positive appraisal, or the ability to re-interrupt stressful experiences as meaningful. This finding fills a gap in the sparse empirical literature of mindfulness to meaning (Garland et al., 2015a). Furthermore, this is the first known empirical finding of mindfulness to meaning within the workplace field of literature, let alone the leadership field of literature.

A theoretical implication of this finding is that trait mindfulness and state mindfulness have two different pathways to impacting meaningfulness. This research supports past research that trait and state mindfulness have different psychological mechanisms in the workplace (Mesmer-Magnus et al., 2017), especially within the leadership context in relationship to meaningfulness. Whereas discussed previously, for meaningfulness, state mindfulness may directly help to become more aware of subtle emotional information in the present moment. Trait mindfulness, through the mechanism of positive appraisal, may help re-interpret discomforting, stressful experiences as moments to learn. Previous trait mindfulness leadership empirical research also demonstrated that trait mindfulness relates to leadership behaviors mediated by an emotional variable (emotional intelligence; Beck, 2020). In sum, trait mindfulness helps leaders to learn from situations (via positive appraisal) and state mindfulness has more to do with being aware of the emotional information in the moment.

Practical Implications

The findings around the emotional mechanisms of meaningfulness have practical implications for organizations seeking to enhance leader development initiatives. Insights from this research can inform how practitioners can integrate emotions and mindfulness to help develop leaders.

Consider Emotions in Developing Leadership. First, leaders should be open to pursuing high emotional intensity in developmental experiences. Leaders can re-interpret

emotionally intense experiences from being anxiety-producing to opportunities for meaningfulness. These research findings support that meaningful moments have elements of emotional intensity. The potentially alarming threat response from impending emotional intensity could prevent the leader from engaging with meaning-generating opportunities. This research justifies that leaders should search for those emotionally intense experiences at work and in life because that is where meaningful development harbors.

Organizations could consider integrating emotional dynamics into developmental initiatives to craft meaningfulness at work for leaders. Practitioners should consider intentionally crafting positive trigger events (e.g., reflected best self exercise; Roberts et al., 2005) to balance inevitable salient negative emotional trigger events. Furthermore, organizations need to consider the emotional intensity of organizational trigger event initiatives for creating meaningfulness (Murphy & Bastian, 2019). Formal training activities can contain emotional intensity to spur contemplation and reinforce the alignment of values. When manufacturing emotional intensity, organizations need to be extremely careful not to induce shocking intensity with unintentional outcomes. Thus, initiatives should start with positive emotional valence when first working with emotional intensity. Also, organizations should seek external experts to collaborate on emotional trigger events. Additional components of trigger events can be incorporated to maximize the utility of developmental opportunities, such as novel situations that expose leaders to new cultural norms (Reichard et al., 2015).

Informal Neutral Situations Can Be Meaningful. Second, leader developmental opportunities exist in the mundane moments of the workplace. The most surprising finding in this paper suggests that being in the neutral condition of writing about ordinary, non-emotional daily tasks (as opposed to the positive or negative writing conditions), strengthened the

relationship between emotional intensity and meaningfulness. Learning and development practitioners should integrate this discovery into their work by looking at the developmental opportunities of the neutral valence moments in their workplace. It is not to say that practitioners need to infuse the workplace with positivity or a constant barrage of negative-charged challenges. But rather, practitioners should set up learning check-points to allow for reflection during those mundane moments. The developmental potential of neutral moments of the day may be the key to unlocking the full potential of the 70% on-the-job, informal developmental experiences (Rabin, 2014).

Mindfulness Helps Meaningful Development. Fourth, organizations should invest resources in training/coaching to increase mindfulness skills in advance of developmental initiatives so that leaders maximize development and create meaningfulness. Mindful leaders have the leader developmental readiness to capitalize on developmental experiences (Reichard & Beck, 2017). Researchers confidently assert that sufficient evidence exists for the benefits of mindfulness training in the workplace (Allen et al., 2015; Bartlett et al., 2019; Lomas et al., 2017). These results support that even a 10-minute mindfulness meditation intervention is effective in inducing state mindfulness. This is practically feasible for organizations to facilitate throughout leader development initiatives. One crucial step to accomplish this is that organizations' stakeholders and executives need first to adopt values of the utility of mindfulness training for new training to be taken by other employees (Schneider et al., 1995). If the top leaders do not recognize mindfulness training's practicality, then neither will those employees the organization attracts, selects, and ultimately retains (Schneider et al., 1995). For structured weekly mindfulness training to be successfully implemented into the company, leaders at the top of the organization need to accept the value of mindfulness as an organizational ideal.

Furthermore, due to the trait mindfulness findings, organizations should consider long-term mindfulness meditation retreats as developmental opportunities that potentially raise trait mindfulness and meaningfulness.

Mindfulness needs to be holistically integrated. Fifth, developmental initiatives should build in time devoted explicitly to deploying practices learned from mindfulness training. Despite positive results of mindfulness training at work (Allen et al., 2015; Bartlett et al., 2019; Lomas et al., 2017), one study demonstrated null effects on a 12-month follow-up after training completion (van Berkel et al., 2014). The 8-week mindfulness training examined in that study instructed employees to practice mindfulness; however, not during paid working hours. The ephemeral results emphasize the need for organizational structures to be conducive to sustainable mindfulness practice.

For example, when leaders undergo professional development feedback, feedback should be given in an environment favorable for mindfulness before, during, and after emotionally sensitive feedback (e.g., a quiet room away from other people). Proper processing time means the leader has mental space to mentally digest the negative emotional experience. Likewise, organizations should consider reducing workloads following positive emotional experiences (e.g., promotions, the birth of a new child, and successfully completed projects) for leaders to properly savor the experience instead of it being drowned out by the noise of busy work (Jett & George, 2003). In all, mindfulness training will help leaders to be able to take advantage of 70% of on-the-job developmental experiences (Rabin, 2014), possibly reducing the need and costs of formal training.

Limitations

The proposed studies have some limitations. First, because the data were collected from an online platform, findings have less ecological validity in their ability to generalize to a workplace setting. The trigger event experience was simulated to test the emotional mechanisms of meaningfulness. Thus, the trigger event simulation was limited in generalizing the findings to on-the-job trigger event experiences that are not manufactured. I took steps to ensure the highest quality sample by including inclusion criteria for leadership experience to maximize generalizability. Furthermore, the laboratory survey setting can lack the social complexities of daily life that create greater variance and nuanced emotions (Kuppens et al., 2013). I considered this for the trigger event simulations by allowing plenty of time (i.e., 7 minutes) for participants to write and contemplate their reflection, aiming to replicate the spacious emotional processing time of daily life. However, to intentionally induce emotions in a manufactured simulation is still an artificial imitation of day-to-day spontaneous emotions.

Second, the study falls victim to varying degrees of common method bias (Podsakoff et al., 2012). To reduce common method bias and minimize threats to validity in both studies, I included distractor tasks (Podsakoff et al., 2012). However, the study was still limited in that the design contains only one time point. By nature, this study examines the relationships within short time proximity (i.e., ask about the meaningfulness of an emotional experience within minutes after having that emotional experience). The trigger event simulation asked about an event in the past, but the request for the emotion was in the present. In other words, I measured present emotional experiences as it relates to meaningfulness. The study is limited in not being able to apply the findings to a situation with massive temporal separation and multiple reflections (i.e.,

asking participants to think about the emotions they experienced at the time of a prior dated trigger event and to reflect once a day for a week).

Third, the study is limited in that the measures of emotion were a self-report estimation. Research indicates that reporting emotions doesn't necessarily change the emotional experience (De Vuyst et al., 2019). However, the study is limited in extent that participants were able to consciously describe their emotional experience. Although self-report emotional judgments have relationships with objective measures, future research should include emotions using biological indicators of emotions such as skin conductivity for arousal (Bradley et al., 2001; Bradley & Lang, 2001).

Fourth, the mindfulness intervention does not capture the full range of attention variation that exists in the real world. The mindfulness meditation condition induced state mindfulness compared to a control condition where participants listened to educational audio of basic economic theory. However, daily life is not restricted to mindfulness or listening to an educational, potentially boring, audio clip. Rather, daily life also encapsulates extreme multitasking, a plethora of attention distractors, and technology specifically designed to hijack our psychological vulnerabilities (Jett & George, 2003; Harris, 2016). Future studies should include a third intervention condition to mimic this aforementioned part of life. For example, perhaps participants see multiple screens: one where they can scroll a social media feed with controversial clickbait news, one where a music video is distracting their attention, and all the while required to respond to 'important' time-sensitive emails. This format should ideally incorporate a greater variance of quality of attention to discover how these relationships exist in the multitasking culture of society.

Future Research

One of the more exciting avenues of research inspired by this study is how time may affect trigger events. As mentioned before, when emotional intensity is high, emotional valence (positive and negative) produces significantly less meaningfulness than neutral valence. The reasoning is because the immediate developmental processing of positive and negative emotional experiences may be blocked by emotional intensity. In this current study, I measured emotional intensity, emotional valence, directly after the trigger event simulation. The original hypotheses of this paper may still be accurate if the temporal distance between the trigger event and meaningful assessment is greater. In other words, high emotional valence and high emotional intensity experiences may need greater temporal separation to perceive it as meaningful. In an extreme example, if a leader has a trigger event experience in September, it may take until November for the leader to process the emotions and derive meaningfulness from the experience. Leader development is fundamentally longitudinal (Day & Thornton, 2018), so it follows that trigger events require temporal separation. In the below future research examples, I intertwine instances where time can be further understood in relation to trigger events.

Future research can expand upon the theoretical connections among emotions, leader meaningfulness, and mindfulness. First, researchers can use experience sampling methods to phenomenologically examine the momentary lifespan of emotions and meaningfulness. Experiential sampling methods help reduce biases involved with investigating how daily events impact the appraisal of emotional states (Beal, 2015). For example, leaders would complete multiple brief surveys throughout the day to determine fluctuations in emotional states, mindfulness states, and meaningful moments. Furthermore, the experience sampling method would capture naturally occurring moments of emotional intensity and potential trigger events (instead of manufactured trigger event simulations). Leaders may appraise emotional intensity

differently when not going through a simulation designed to formally induce emotions like in this study. Multilevel modeling analyses would be able to examine the role of temporal separation and derived meaningfulness (i.e., how does the distance from an emotional experience impact the degree of meaningfulness?). Furthermore, mindfulness may matter more during the trigger event experience than in reflection about it. Multilevel modeling analysis would also be able to test how the period of time since the trigger event may impact the value of mindfulness. Findings would help to build upon the current studies' exploration of the trigger event process by understanding temporal elements of the relationships in real-time.

The emotional intensity of a trigger event seems to be an important feature that may be a mediating mechanism or a predictor of other themes of trigger events (e.g., engagement, novelty, broadened perspective, social resources, and cognitive resources; Reichard et al., 2015). Namely, the novelty of an experience could create an emotional intensity that drives the trigger event phenomenon to unfold. Additionally, perhaps negative intensity is a foundation of trigger event qualities. For example, negative intensity orients individuals to become engrossed in a highly engaging experience, and the contemplation from the intensity generates a broadened perspective.

Future research should incorporate measures to examine all elements of a trigger event, not just the emotional processes. For example, a study design could examine the nuanced trigger event relationships at a hackathon event, a social problem-solving event bringing together computer science engineers and others grouped into small teams to solve a specific problem within a defined period (usually 24-72 hours). Such an event entails lots of leadership behaviors to manage group dynamics from forming a new group to idea execution. The study could collect data at multiple times to examine how these different elements of trigger events rise and fall.

Then, a final data collection could be collected a week after the event to understand how the varying levels of trigger event components contributed to leader developmental learnings.

More research is needed to understand the social elements of trigger events. Trigger events must not only occur in an independent container. Leadership is inherently a social process (Northouse, 2015). People tend to turn to others after negative emotional intensity to share emotional reactions (Luminet et al., 2000). Furthermore, during times of financial crisis (i.e., organization-wide emotional intensity), employees look towards leaders to quickly act while simultaneously consistently communicating with the followers (Haddonn et al., 2015). During shared emotional intensity across the organization, trigger events have the potential to be leader developmental experiences for the formal leader and the employees. A leader's ability to understand and manage emotions increases their ability to provide unique support and care to their followers (Beck, 2020). Researchers should examine how leadership behaviors like that could relate to the success of trigger event opportunities for other members of the organization.

Alternatively, close friendships at work may be able to help harness the emotional dynamics of trigger events. Previous research has emphasized the importance of relationships at work for meaningfulness but has not empirically explored the emotional dynamics of the connections (Rosso et al., 2010). Having a close friendship at work buffers the detrimental effects of negative experiences and increases self-worth (Adams, 2011). Perhaps close friendship also is developmentally useful to forming meaningfulness from emotional experiences.

Researchers can extend findings by studying how long-term mindfulness practices, such as a mindfulness meditation retreat, impact the way leaders experience meaningfulness in their work. Previous studies have used short-term mindfulness interventions to understand mindfulness (Levinson et al., 2014; Gorman & Green, 2016); however, less is known about the

long-term impact of mindfulness practice on leadership outcomes. In a mindfulness meditation retreat, which ranges anywhere from a weekend to a month, participants drastically increase mindfulness skills (Jacobs et al., 2013; Cohen et al., 2017). Studying the effects of a mindfulness retreat on leaders would help to understand the possible leader development impact of extensive mindfulness practice. Furthermore, the mindfulness retreat itself could be a trigger event opportunity. During the retreat, participants engage with emotionally intense memories that could act as trigger events that generate meaningfulness at work (Brown et al., 2016).

Conclusion

In conclusion, the results explicated the mechanisms by which emotions and mindfulness help to create meaningful experiences for leaders. Understanding emotions as a driving element to leader meaningfulness provides implications for research and practice. The findings inform organizations on how to make use of developmental experiences best. Leaders go through a variety of experiences throughout the day that could be profoundly meaningful and developmentally nourishing. Developmental experiences on the job need to have the emotional intensity for leaders to cultivate meaningfulness. But also, results show that developmental, meaningful experiences can arrive in neutral, mundane moments of life. The emotional valence may matter for optimizing trigger event experiences. Furthermore, the inclusion of mindfulness into the model of leader meaningfulness emphasizes the need to consider the roles that attention and awareness play in the leader developmental process.

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Figure 1

The role of emotional intensity in creating leader meaningfulness

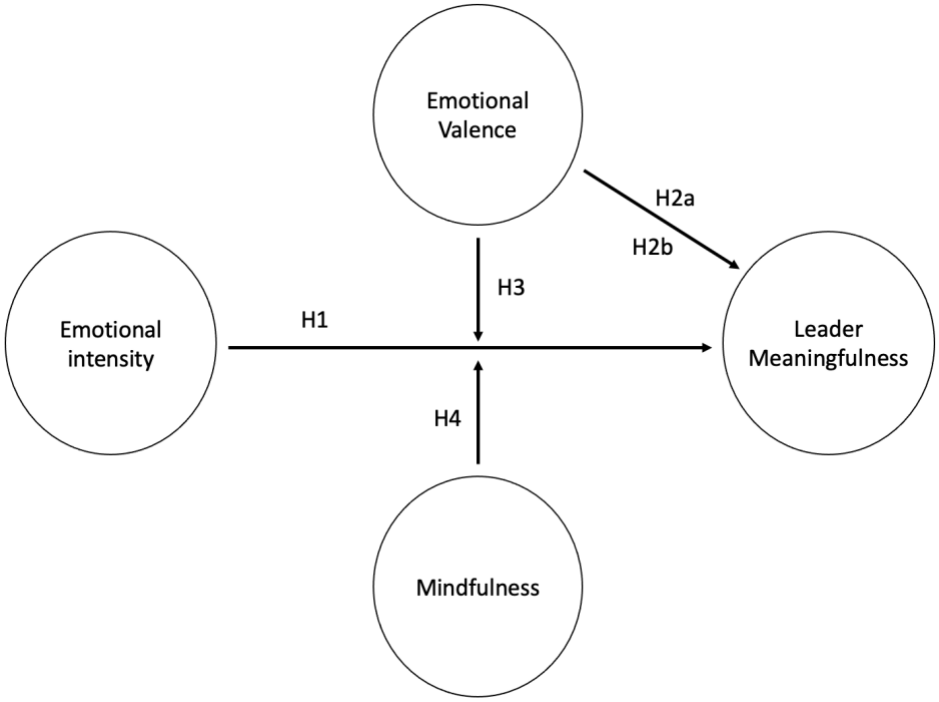

Figure 2

Circumplex model of emotion framework describing predicted leader meaningfulness relationships

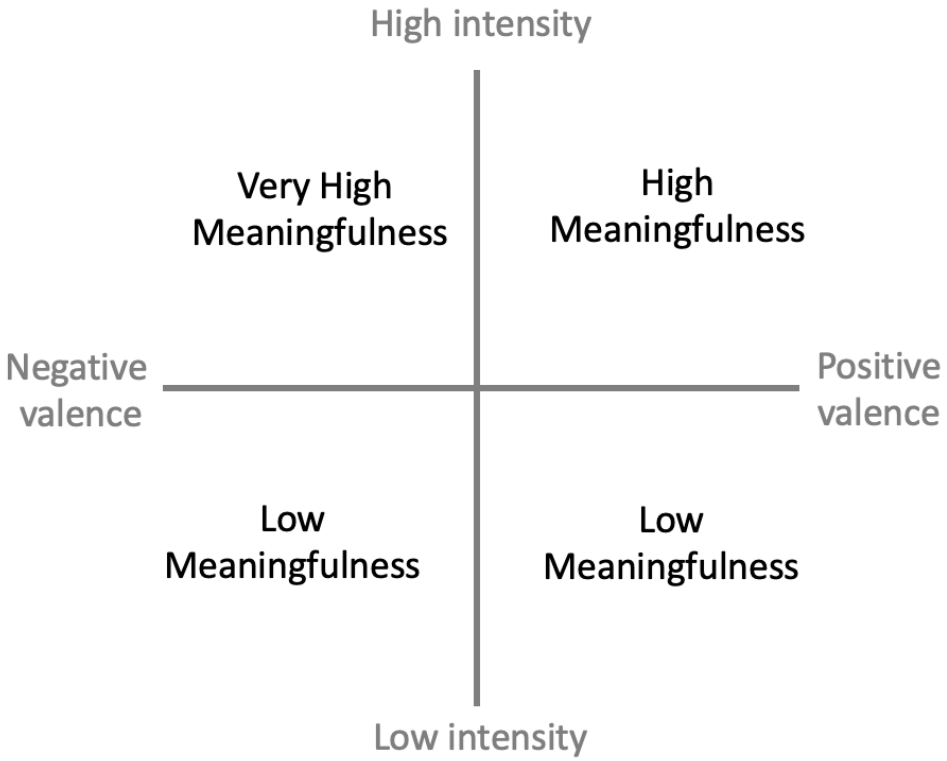

Figure 3

Experimental mindfulness and trigger event study design and procedures

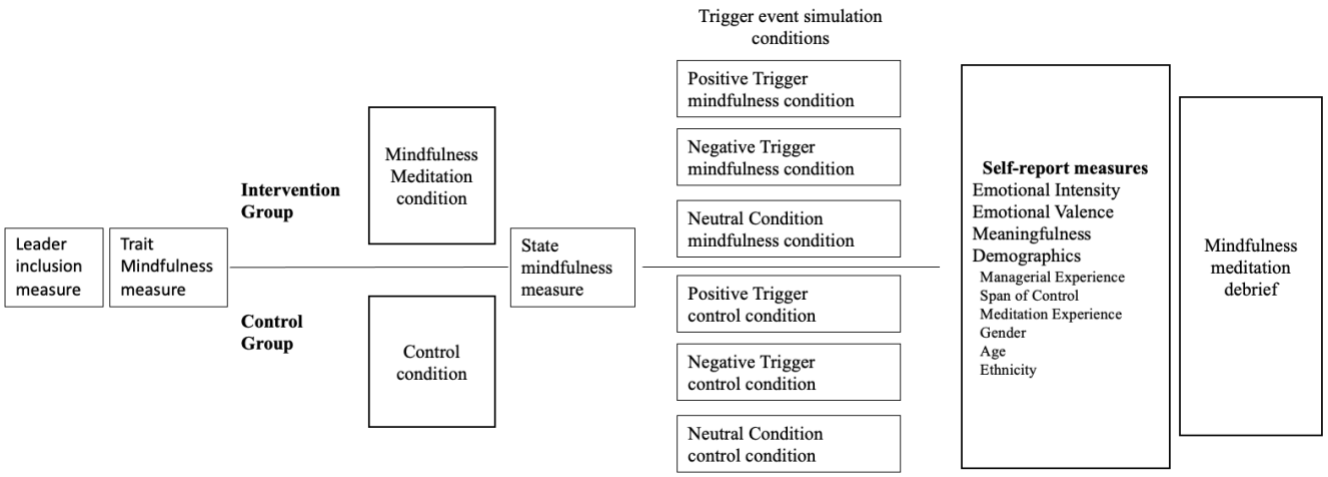

Figure 4

Interaction effect of dummy coded positive emotional valence on emotional intensity and meaningfulness

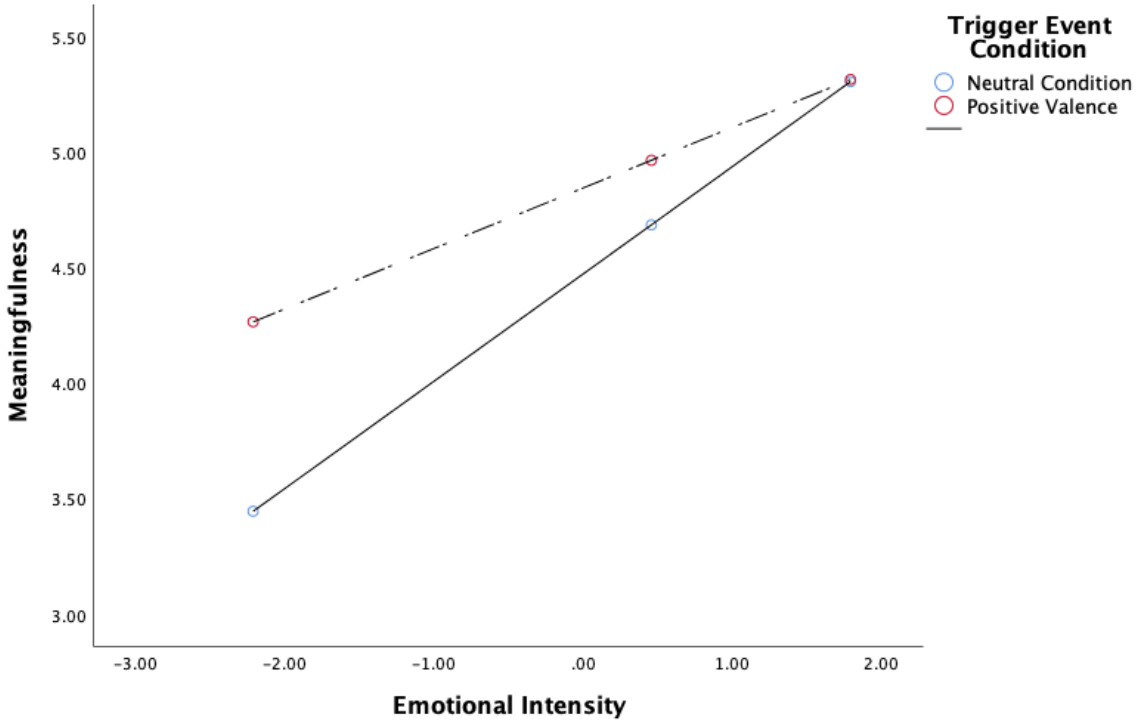

Figure 5

Interaction effect of dummy coded negative emotional valence on emotional intensity and meaningfulness

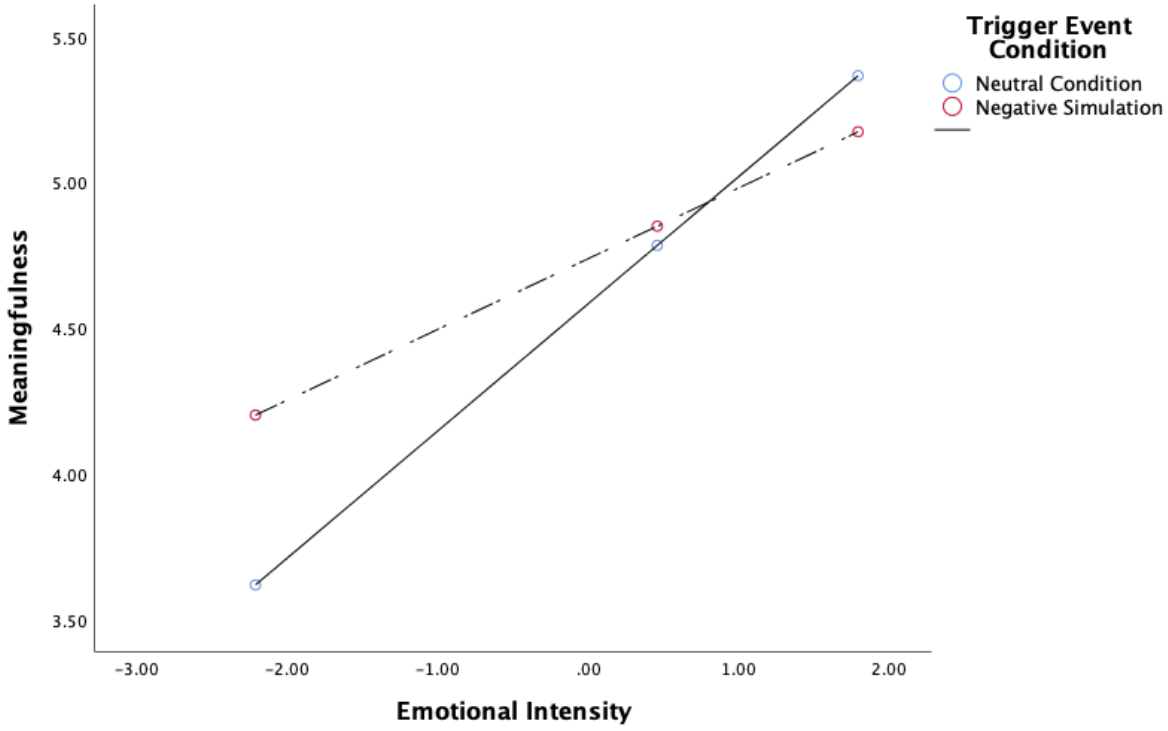

Figure 6

Interaction effect of continuous positive emotional valence on emotional intensity and meaningfulness

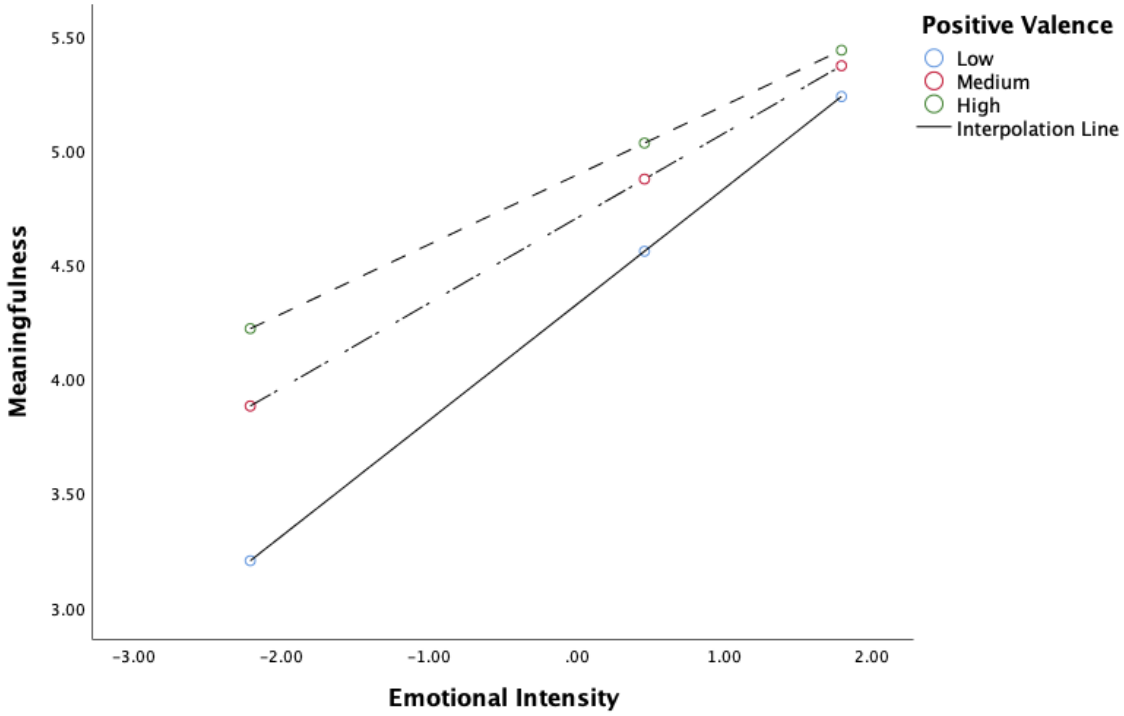

Figure 7

Interaction effect of continuous negative emotional valence on emotional intensity and meaningfulness

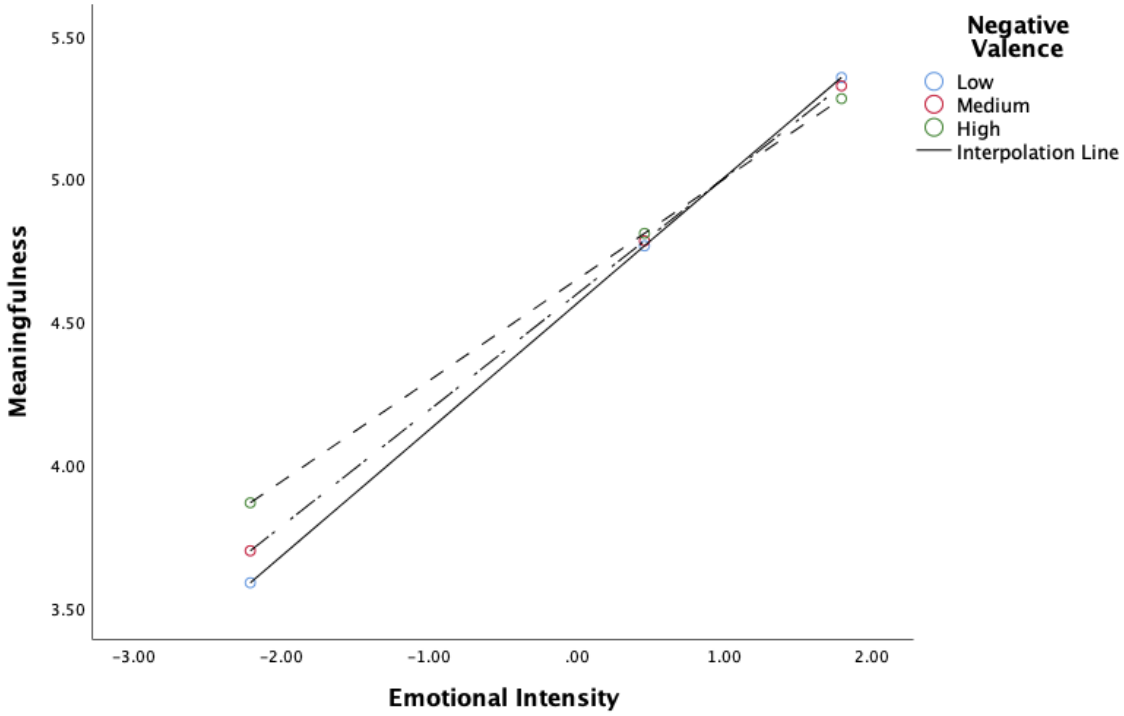

Figure 8

Interaction effect of pure valence on emotional intensity and meaningfulness

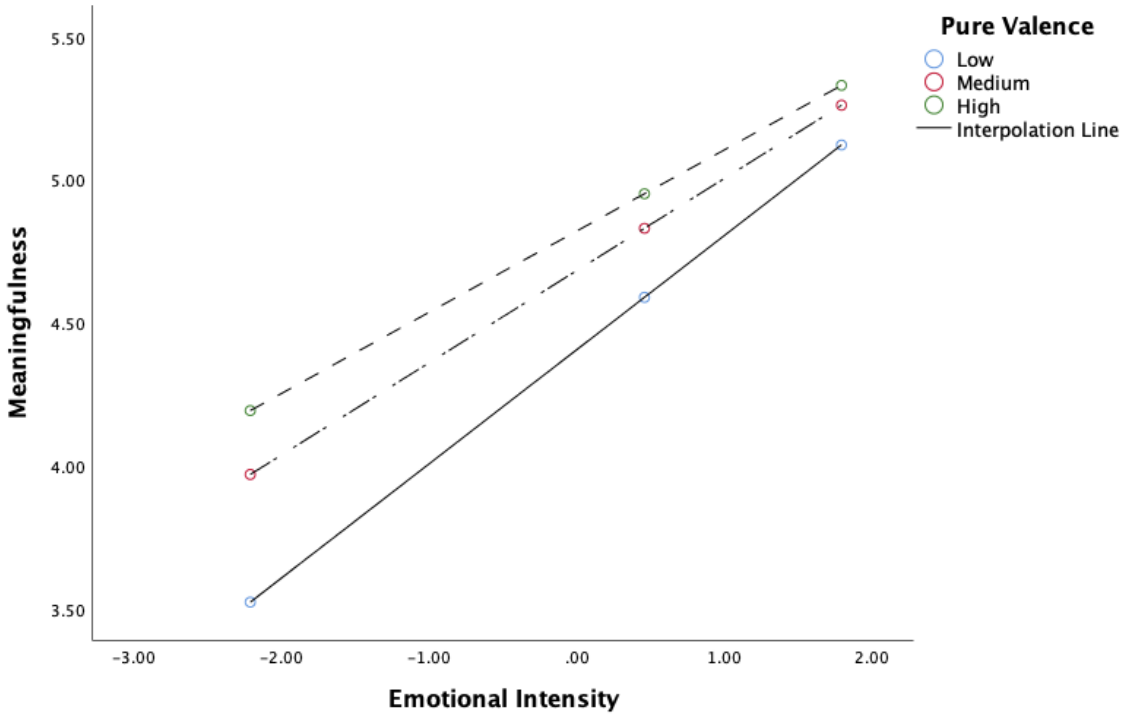

Figure 9

Interaction effect of quadratic emotional valence on emotional intensity and meaningfulness

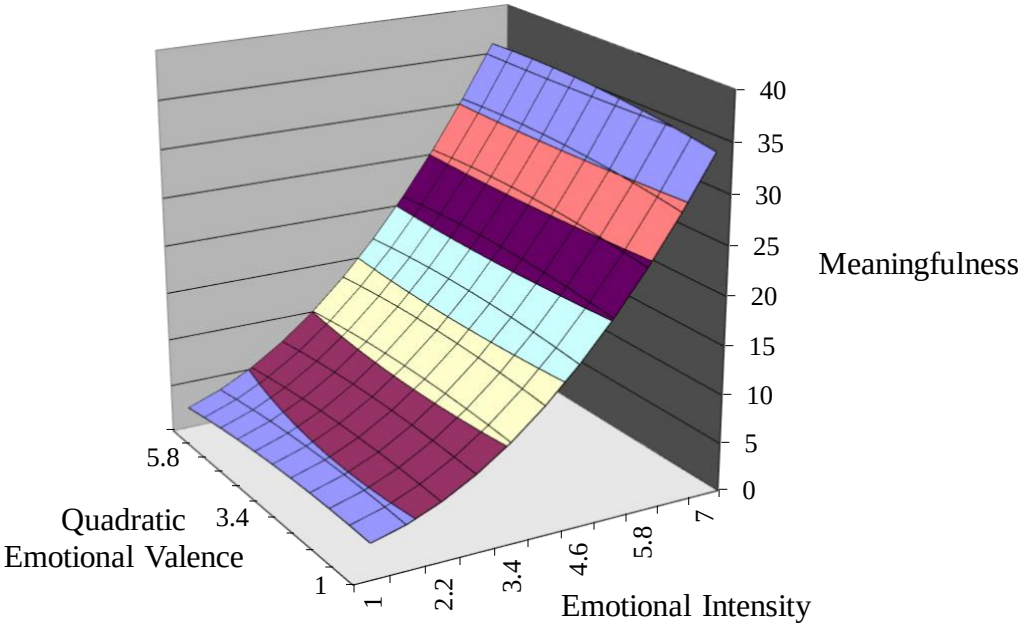

Figure 10

Relationship of state mindfulness on emotional intensity and meaningfulness

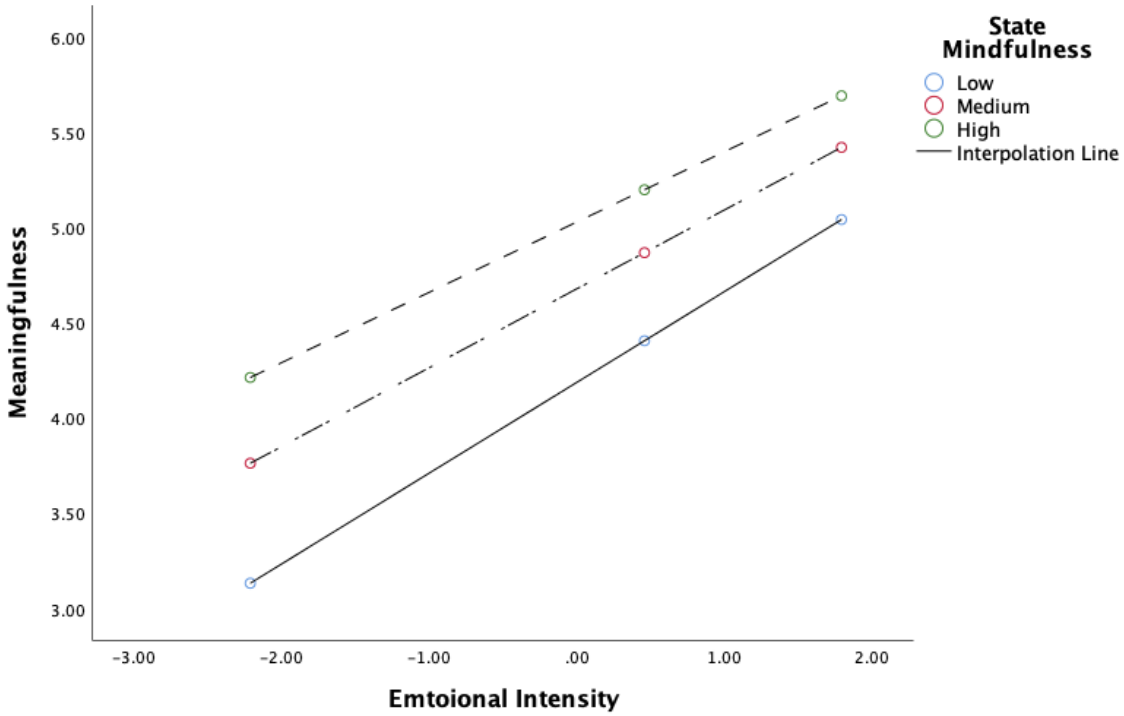

Table 1

Original and adapted items for measuring meaningfulness (Murphy & Bastian, 2019)

Original Item	Adapted Item
1. How meaningful was the experience?	1. How meaningful was the experience for your development?
2. To what extent was the experience an important moment in your life?	2. To what extent was the experience an important moment in your life for your leadership?
3. How significant was the experience?	3. How significant was the experience for developing your leadership?
New item	4. How meaningful was the prior activity towards your leadership?
New item	5. How meaningful was the experience for your growth?

Note. Measure will be adapted to contextualize meaningfulness within leader development.

Table 2

Pilot Study 2 Trigger Event Simulation Prompts

Trigger Event Valence	Prompt
1. Positive Trigger Event *Best-self activation*	1. Your task is to think about the best, happiest instances of being a leader. Think about times in which you did something that made you proud to be a leader (e.g. promote someone). Or think of qualities you possess as a leader that are your biggest strengths and leadership successes. Try to write in detail any examples and how you felt. The most important part of the task is to write in as much detail as possible.
2. Negative Trigger Event *Serious reflection*	2. Your task is to think about the most difficult, frustrating instances of being a leader. Think about times in which you had to do something difficult as a leader (e.g. fire someone) or qualities you possess as a leader that are your biggest shortcomings, leadership failures, and weaknesses as a leader. Try to write in detail any examples and how you felt. The most important part of the task is to write in as much detail as possible.

3.	Neutral Trigger Event *Normal day reflection*	3. Your task is to write about ordinary moments in your day. Please describe day to day tasks that you do every day such as brushing teeth or checking emails. Do not use detail. Write general regular tasks that do not stir up emotions.

Note. To emphasize intensity, the positive and negative trigger event prompts will have extra information: please use specific detail to elaborate on your writing. Include how you felt, and write a short description of the events in the text box below. The most important part of the task is to use rich details to describe your ideas. You will have 10 minutes to complete the task, after which the program will automatically move to the next part. Write as much as you can while not worrying about sentence structure or grammar.

** Inspired from Cable et al (2013, 2015) and Vuoskoski & Eerola (2012)*

Table 3

Main Study Trigger Event Simulation Prompts

Trigger Event Valence	Prompt
4. Positive Trigger Event *Best-self activation*	1. Your task is to write about your best, happiest successes as a leader (e.g. accomplish a project or goal) and how your leadership strengths contribute to that. Write in detail about the emotions you have as a result of those strengths Write about qualities you possess as a leader that are your biggest strengths. The most important part of the task is to write about how you felt in as much detail as possible. Your responses will be kept confidential. Any identifiable information will be deleted. Please write as much as you can for 7 minutes. Once the 7 minutes is complete, the "next" button will appear below to proceed to the next page. Write in any way that you prefer - it can be more formal writing, or more casual. Your grammar and punctuation don't matter, we just want you to be able to express your thoughts and feelings in whatever way is comfortable for you
5. Negative Trigger Event	2. Your task is to write about your biggest leadership failures (e.g. failing in a project or goal) and how your

	Serious reflection	leadership weaknesses contributed to that failure. Write in detail about the emotions you have as a result of those weaknesses. Write about qualities you possess as a leader that are your biggest weaknesses. The most important part of the task is to write about how you felt in as much detail as possible. Your responses will be kept confidential. Any identifiable information will be deleted. Please write as much as you can for 7 minutes. Once the 7 minutes is complete, the "next" button will appear below to proceed to the next page. Write in any way that you prefer - it can be more formal writing, or more casual. Your grammar and punctuation don't matter, we just want you to be able to express your thoughts and feelings in whatever way is comfortable for you.
6.	Neutral Trigger Event *Normal day reflection*	3. Your task is to write about ordinary moments in your day (e.g., how you do laundry, how to brush teeth, etc.). Please describe day to day tasks that have minimal emotions. Please write in as much detail as possible. Write about regular moments that do not stir up emotions.

Your responses will be kept confidential. Any identifiable information will be deleted.

Please write as much as you can for 7 minutes. Once the 7 minutes is complete, the "next" button will appear below to proceed to the next page.

Write in any way that you prefer - it can be more formal writing, or more casual. Your grammar and punctuation don't matter, we just want you to write about mundane moments.

Note. To emphasize intensity, the positive and negative trigger event prompts will have extra information: please use specific detail to elaborate on your writing. Include how you felt, and write a short description of the events in the text box below. The most important part of the task is to use rich details to describe your ideas. You will have 10 minutes to complete the task, after which the program will automatically move to the next part. Write as much as you can while not worrying about sentence structure or grammar.

** Inspired from Cable et al (2013, 2015) and Vuoskoski & Eerola (2012)*

Table 4

Descriptive Statistics for Meaning and State Mindfulness (Pilot 1 Study)

Group Condition (*n*)	*Meaning*	State Mindfulness
	M (SD)	*M (SD)*
Mindfulness Meditation Intervention (49)	4.11 (*1.70*)	3.37 (*.99*)
Control Condition (50)	3.92 (*1.72*)	2.73 (*.91*)

Note. Meaningfulness was rated on a 7-point Likert scale.
State Mindfulness was rated on a 7-point Likert scale.

Table 5

Means, Standard Deviations, and One-Way Analyses of Covariance in Intervention Groups Controlling Trait Mindfulness and Social Desirability (Pilot Study 1)

Measure	Mindfulness Meditation Group	Control Group	*F*(1, 95)	η2
	M (SD)	*M (SD)*		
State Mindfulness	3.37 (.99)	2.73 (.91)	10.56***	.10

*p < .05

**p<.01.

***p<.001

Table 6

Means, Standard Deviations, and One-Way Analyses of Variance in Simulation Condition (Pilot Study 2)

Measure	Positive	Negative	Neutral	$F(2, 86)$	$\eta 2$
	M (SD)	*M (SD)*	*M (SD)*		
Meaningfulness	5.37(1.47)	4.95 (1.06)	3.18(1.65)	20.15***	.32
Emotional Intensity	5.04(1.43)	4.63 (1.48)	4.61(1.15)	20.67***	.33
Pleasant Valence	5.38(1.68)	3.45 (1.64)	2.14(1.52)	12.20***	.22
Painful Valence	2.07(1.31)	4.24 (1.79)	4.65(1.33)	18.67***	.30
Writing Valence	6.03(1.38)	3.86 (1.71)	1.59(1.41)	16.12***	.27
LIWC Positive	5.46(2.37)	2.84 (2.01)	0.39(0.55)	30.26***	.41
LIWC Negative	0.93(0.99)	2.37 (1.56)	.39(.55)	25.65***	.37
LIWC Tone	81.23 (125.73)	37.59 (33.62)	61.04(79.56)	4.96**	.10

Note. LIWC Tone = Emotional Tone aggregate emotional score.

*p < .05

**p<.01.

***p<.001

Table 7

Chi-Square Frequencies Table For Individual Relationship Differences (Pilot 2 Study)

		Simulation Condition		
Emotional Code		Positive	Negative	Neutral
Positive	Count	24*	4*	15
	Expected Count	14	14	15
Negative	Count	2*	15*	9
	Expected Count	8.5	8.5	9.1
Neutral	Count	1*	3	6*
	Expected Count	3.3	3.3	3.3

Note: * = Observed count determined to be notably different than expected count.

Table 8

Means, Standard Deviations, and One-Way Analyses of Covariance in Intervention Groups Controlling Trait Mindfulness and Social Desirability (Main Study)

Measure	Mindfulness Meditation Group	Control Group	$F(1, 397)$	η2
	M (SD)	*M (SD)*		
State Mindfulness	3.63 (.74)	3.24 (.93)	21.31***	.05

*p < .05

**p<.01.

***p<.001

Table 9

Means, Standard Deviations, and One-Way Analyses of Variance in Simulation Condition (Main Study)

Measure	Positive	Negative	Neutral	$F(2, 398)$	$\eta 2$
	M (SD)	*M (SD)*	*M (SD)*		
Meaningfulness	4.85(1.55)	4.87 (1.42)	4.018 (1.93)	11.47***	0.09
Emotional Intensity	4.46(1.68)	4.73 (1.47)	3.42(1.88)	22.39***	0.08
Emotional Valence	5.50(1.15)	3.74 (1.59)	5.11(1.80)	68.37***	0.06

*p < .05

**p<.01.

***p<.001

Table 10
Correlation Matrix of Bivariate Control Variables and Dependent Variable (Main Study)

Variable	*M(SD)*	1	2	3	4	5	6
1. Meaningfulness	4.58(1.69)	–					
2. Trait Mindfulness	4.25(1.04)	.27**	–				
3. Gender	1.47(.51)	-.33**	-.33**	–			
4. Meditation Experience	2.51(1.20)	.36**	.16**	-.32**	–		
5. Span of Control	10.65 (11.03)	-.05	-.06	.06	-.03	–	
6. Social Desirability	1.40(.20)	.09	.40**	-.05	<.01	-.02	–
7. Management Experience	6.99(4.90)	.02	.11*	-.12*	<.01	.264**	.04

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

Table 11
Correlation Matrix of Bivariate Relationships (Main Study)

Variable	*M(SD)*	1	2	3	4	5	6	7	8	9	10	11	12
1. Meaningfulness	4.58(1.69)	–											
2.Emotional Intense	4.21(1.77)	.64**	–										
3. Positive Valence	4.70(1.67)	.47**	.33**	–									
4. Negative Valence	3.12(1.94)	.16*	.30**	-.37**	–								
5. Pure Valence	4.79(1.50)	.16**	-.01	.80**	-.86**	–							
6. Writing Valence	5.02(1.55)	.35*	.21*	.75**	-.45**	.71**	–						
7. Valence Intensity	-.03(*2.50)*	-.01	.10*	.39**	-.37**	.37**	.27**	-					
8. State Mindfulness	3.43(.86)	.59**	.53**	.38**	.11*	.15**	.28**	-.04	-				
9. Positive Appraisal	5.30(*1.17)*	.73**	.47**	.50**	.01	.28**	.42**	-.02	.56**	-			
10. Trait Mindfulness	4.25(*1.04)*	.28**	.07	.23**	-.15**	.23**	.19**	.06	.20**	-.32**	-		
11. Meditation Exp	2.51(*1.20)*	.36**	.21**	.21**	.09	.06	.26**	-.01	.33**	.31**	.16**	-	
12. Gender	1.47(*.51)*	-.33**	-.23**	-.25**	-.2	-.13	-.21**	.01	-.17**	-.22**	-.33**	-.32**	-

Note. Pure Valence = the aggregate of positive valence and reverse coded negative valence.
LIWC ET = LIWC Emotional Tone.
Valence Intensity = Pure Valence times Emotional Intensity.
Meditation Exp = Meditation Experience.
M = mean. *SD* = standard deviation.
*$p < .05$, **$p < .01$.

Table 12
Correlation Matrix of Bivariate Relationships of the Group Conditions (Main Study)

Variable	*M(SD)*	Meditate Positive	Meditate Negative	Meditate Neutral	Control Positive	Control Negative	Control Neutral
1. Meaningfulness	4.58(1.69)	.10	.06	-.10*	.05	.10	-.19**
2.Emotional Intense	4.21(1.77)	.07	.16**	-.16**	.06	.10*	-.23**
3. Positive Valence	4.70(1.67)	.25**	-.12*	.02	.17**	-.33**	.00
4. Negative Valence	3.12(1.94)	-.16**	.26**	-.15**	-.14**	.32**	-.13*
5. Pure Valence	4.79(1.50)	.06	.15**	-.13*	.01	.03	-.12*
6. Writing Valence	5.02(1.55)	.24**	-.23*	.08	.23**	-.37	.05
7. Valence Intensity	-.03(*2.50)*	.11*	-.10*	.04	.00	-.05	.21**
8. State Mindfulness	3.43(.86)	.05	.15**	.11*	-.09	-.04	-.17**
9. Positive Appraisal	5.30(*1.17)*	.07	.03	-.01	.08	-.04	-.14**
10. Trait Mindfulness	4.25(*1.04)*	.00	-.04	.05	-.06	.01	.04
11. Meditation Exp	2.51(*1.20)*	-.06	-.12*	.06	-.01	.07	.06
12. Gender	1.47(*.51)*	.04	.06	-.02	-.01	-.00	-.05

Note. Pure Valence = the aggregate of positive valence and reverse coded negative valence.
LIWC ET = LIWC Emotional Tone.
Valence Intensity = Pure Valence times Emotional Intensity.
Meditation Exp = Meditation Experience.
M = mean. *SD* = standard deviation.
*$p < .05$, **$p < .01$.

Table 13

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Emotional Intensity (Hypothesis 1)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 1	.45**	.21			
(Intercept)			3.3**	5.1	
Trait Mindfulness			.27**	.08	.17
Gender			-.60**	.16	-.18
Meditation Experience			.40**	.07	.28
Model 2	.71**	.30			
(Intercept)			3.06	.40	
Trait Mindfulness			.28**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.27**	.05	.19
Emotional Intensity			.54**	.04	.57

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR² = change in variance explained from prior model in table.
Cumulative R2 = .51, p < .01; adjusted R2 = .50.
**p < .05, **p < .01.*

Table 14

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Emotional Valence Dummy Coded (Hypothesis 2)

Predictor Variables	*r*	*ΔR^2*	*B*	*SE B*	*β*
Model 2	.71**	.30**			
(Intercept)			3.06	.40	
Trait Mindfulness			.28**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.27**	.05	.19
Emotional Intensity			.54**	.04	.57
Model 3	.72**	.01*			
(Intercept)			2.48**	.51	
Trait Mindfulness			.29**	.07	.18
Gender			-.61**	.16	-.19
Meditation Experience			.43**	.06	.30
Emotional Intensity			.54**	.04	.56
PVd			1.02**	.18	.29
Model 4	.72**	.005			
(Intercept)			2.76	.41	
Trait Mindfulness			.29**	.06	.18
Gender			-.27*	.13	-.82
Meditation Experience			.29**	.05	.21
Emotional Intensity			.51**	.04	.54
PVd			.44**	.15	.12
NVd			.30	.16	.08

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table.
Cumulative R^2 = .52, p < .01; adjusted R^2 = .51.
**p < .05, **p < .01.*

Table 15

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Continuous Emotional Valence Measures (Hypothesis 2)

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Emotional Valence Dummy Coded (Hypothesis 2)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 2	.71**	.30**			
(Intercept)			3.06	.40	
Trait Mindfulness			.28**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.27**	.05	.19
Emotional Intensity			.54**	.04	.57
Model 5	.74**	.04**			
(Intercept)			2.48**	.51	
Trait Mindfulness			.29**	.07	.18
Gender			-.61**	.16	-.19
Meditation Experience			.43**	.06	.30
Emotional Intensity					
Positive Valence			1.02**	.18	.29
Model 6	.75**	.01**			
(Intercept)			3.2**	.38	
Trait Mindfulness			.25**	.06	.15
Gender			-.15**	.12	-.05
Meditation Experience			.22**	.05	.16
Emotional Intensity			.43**	.04	.44
Positive Valence			.31**	.04	.30
Negative Valence			.13**	.04	.15

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR² = change in variance explained from prior model in table.
Cumulative R^2 = .56, $p < .01$; adjusted R^2 = .55.
**p < .05, **p < .01.*

Table 16

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Pure Valence (Hypothesis 2)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 2	.71**	.30**			
(Intercept)			3.06	.40	
Trait Mindfulness			.28**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.27**	.05	.19
Emotional Intensity			.54**	.04	.57
Model 7	.73**	.03**			
(Intercept)			3.03**	.39	
Trait Mindfulness			.30**	.06	.18
Gender			-.19	.13	-.06
Meditation Experience			.23**	.05	.16
Emotional Intensity			.43**	.04	.45
Pure Valence			.19**	.04	.22

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table. Cumulative R^2 = .54, p < .01; adjusted R^2 = .53.
**p < .05, **p < .01.*

Table 17

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Quadratic Emotional Valence (Hypothesis 2)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 2	.71**	.30**			
(Intercept)			3.06	.40	
Trait Mindfulness			.28**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.27**	.05	.19
Emotional Intensity			.54**	.04	.57
Model 8	.71**	.005			
(Intercept)			3.05**	.40	
Trait Mindfulness			.27**	.06	.17
Gender			-.27*	.13	-.08
Meditation Experience			.27	.05	.19
Emotional Intensity			.52**	.04	.55
Quadratic EV			.04	.02	.07

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR² = change in variance explained from prior model in table. EV = aggregate scale of positive valence plus emotional valence (1=strongly negative and 7=strongly positive).
Cumulative R^2 = .51, $p < .01$; adjusted R^2 = .50.
**p < .05, **p < .01.*

Table 18

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Emotional Valence Dummy Coded Interaction (Hypothesis 3)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 4	.72**	.005			
(Intercept)			2.76	.41	
Trait Mindfulness			.29**	.06	.18
Gender			-.27*	.13	-.82
Meditation Experience			.29**	.05	.21
Emotional Intensity			.51**	.04	.54
PVd			.44**	.15	.12
NVd			.30	.16	.08
Model 9	.72**	.01*			
(Intercept)			2.76**	.41	
Trait Mindfulness			.30**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.29**	.05	.21
Emotional Intensity			.57**	.05	.60
PVd			.42**	.15	.12
NVd			.23	.16	.06
PVd x Emotional Intensity			-.17**	.08	-.10
Model 10	.73**	.004			
(Intercept)			2.80**	.41	
Trait Mindfulness			.30**	.06	.19
Gender			-.25	.13	-.08
Meditation Experience			.29**	.05	.20
Emotional Intensity			.63**	.06	.66
PVd			.37*	.15	.10
NVd			.23	.16	.06
PVd x Emotional Intensity			-.23**	.08	-.14
NVd x Emotional Intensity			-.16	.09	-.08

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table.
Cumulative R^2 = .53, p < .01; adjusted R^2 = .52.
**p < .05, **p < .01.*

Table 19

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Continuous Emotional Valence Variable Interaction (Hypothesis 3)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 6	.75**	.01**			
(Intercept)			3.2**	.38	
Trait Mindfulness			.25**	.06	.15
Gender			-.15**	.12	-.05
Meditation Experience			.22**	.05	.16
Emotional Intensity			.43**	.04	.44
Positive Valence			.31**	.04	.30
Negative Valence			.13**	.04	.15
Model 11	.76**	.01**			
(Intercept)			3.36**	.38	
Trait Mindfulness			.23**	.06	.14
Gender			-.18	.12	-.05
Meditation Experience			.24**	.05	.17
Emotional Intensity			.43**	.04	.45
Positive Valence			.27**	.05	.27
Negative Valence			.08*	.04	.09
Positive Valence x Emotional Intensity			-.07**	.02	-.13
Model 12	.76**	.00			
(Intercept)			3.36**	.38	
Trait Mindfulness			.23**	.06	.14
Gender			-.18	.12	-.05
Meditation Experience			.24**	.05	.17
Emotional Intensity			.43**	.04	.45
Positive Valence			.27**	.05	.27
Negative Valence			.08*	.04	.09
Positive Valence x Emotional Intensity			-.07**	.02	-.13
Negative Valence x Emotional Intensity			-.01	.02	-.01

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table.
Cumulative R^2 = .58, p < .01; adjusted R^2 = .57.
**p < .05, **p < .01.*

Table 20

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Pure Valence Interaction (Hypothesis 3)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 7	.73**	.03**			
(Intercept)			3.03**	.39	
Trait Mindfulness			.30**	.06	.18
Gender			-.19	.13	-.06
Meditation Experience			.23**	.05	.16
Emotional Intensity			.43**	.04	.45
Pure Valence			.19**	.04	.22
Model 13	.74**	.01**			
(Intercept)			3.28**	.39	
Trait Mindfulness			.27**	.06	.17
Gender			-.24	.13	-.07
Meditation Experience			.25**	.05	.18
Emotional Intensity			.41**	.04	.43
Pure Valence			.16**	.04	.20
Pure Valence x Emotional Intensity			-.05**	.02	-.12

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table. Cumulative R^2 = .55, p < .01; adjusted R^2 = .54.
**p < .05, **p < .01.*

Table 21

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Quadtratic Emotional Valence Interaction (Hypothesis 3)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 8	.71**	.005			
(Intercept)			3.05**	.40	
Trait Mindfulness			.27**	.06	.17
Gender			-.27*	.13	-.08
Meditation Experience			.27	.05	.19
Emotional Intensity			.52**	.04	.55
Quadratic EV			.04	.02	.07
Model 14	.73**	.03**			
(Intercept)			3.00**	.39	
Trait Mindfulness			.28**	.06	.17
Gender			-.23	.13	-.07
Meditation Experience			.25**	.05	.18
Emotional Intensity			.67**	.05	.69
Quadratic EV			.09**	.02	.15
Quadratic EV x Emotional Intensity			-.07**	.02	-.24

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table. Cumulative $R^2 = .54$, $p < .01$; adjusted $R^2 = .53$.
**p < .05, **p < .01.*

Table 22

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and State Mindfulness Interaction (Hypothesis 4)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 2	.71**	.30**			
(Intercept)			3.06	.40	
Trait Mindfulness			.28**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.27**	.05	.19
Emotional Intensity			.54**	.04	.57
Model 15	.74**	.05**			
(Intercept)			3.63**	.39	
Trait Mindfulness			.22**	.06	.13
Gender			-.30*	.12	-.09
Meditation Experience			.19**	.05	.13
Emotional Intensity			.42**	.04	.44
State Mindfulness			.53**	.08	.27
Model 16	.75**	.004			
(Intercept)			3.67**	.39	
Trait Mindfulness			.22**	.06	.13
Gender			-.30*	.12	-.09
Meditation Experience			.19**	.05	.13
Emotional Intensity			.42**	.04	.44
State Mindfulness			.49**	.08	.25
State Mindfulness x Intensity			-.06	.04	-.06

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table. Intensity = the same emotional intensity variable; shortened for space. Cumulative R^2 = .56, p < .01; adjusted R^2 = .55.
**p < .05, **p < .01.*

Table 23

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and State Mindfulness Interaction only in Positive Trigger Event Sample (Hypothesis 4a)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 2	.62**	.17**			
(Intercept)			3.06	.40	
Trait Mindfulness			.28**	.06	.18
Gender			-.25	.13	-.08
Meditation Experience			.27**	.05	.19
Emotional Intensity			.54**	.04	.57
Model 15	.68**	.09**			
(Intercept)			4.21**	.71	
Trait Mindfulness			.23*	.10	.16
Gender			-.36	.21	-.12
Meditation Experience			.08	.10	.05
Emotional Intensity			.23**	.07	.25
State Mindfulness			.72**	.15	.40
Model 17	.69	.001			
(Intercept)			4.21**	.71	
Trait Mindfulness			.24*	.10	.16
Gender			-.36	.21	-.12
Meditation Experience			.08	.11	.05
Emotional Intensity			.23**	.07	.25
State Mindfulness			.71**	.16	.39
State Mindfulness x Intensity			-.03	.07	-.03

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table. Intensity = the same emotional intensity variable; shortened for space. Cumulative R^2 = .47, p < .01; adjusted R^2 = .45.
**p < .05, **p < .01.*

Table 24

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and State Mindfulness Interaction only in Negative Trigger Event Sample (Hypothesis 4b)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 2	.63**	.25**			
(Intercept)			4.38**	.80	
Trait Mindfulness			.14	.12	.10
Gender			-.51*	.25	-.19
Meditation Experience			.27**	.10	.24
Emotional Intensity					
Model 15	.66**	.04**			
(Intercept)			3.80**	.68	
Trait Mindfulness			.12	.10	.09
Gender			-.11	.22	-.04
Meditation Experience			.21*	.08	.18
Emotional Intensity			.34**	.09	.35
State Mindfulness			.46**	.16	.27
Model 18	.67**	.002			
(Intercept)			3.83**	.68	
Trait Mindfulness			.12	.10	.09
Gender			-.12	.22	-.05
Meditation Experience			.21*	.08	.19
Emotional Intensity			.33**	.09	3.74
State Mindfulness			.46**	.16	.27
State Mindfulness x Intensity			-.04	.07	-.05

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR² = change in variance explained from prior model in table. Intensity = the same emotional intensity variable; shortened for space. Cumulative R^2 = .44, $p < .01$; adjusted R^2 = .42.
**p < .05, **p < .01.*

Table 25

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and All Independent Variables of Interest (Final Model)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 10	.73**	.004			
(Intercept)			2.80**	.41	
Trait Mindfulness			.30**	.06	.19
Gender			-.25	.13	-.08
Meditation Experience			.29**	.05	.20
Emotional Intensity			.63**	.06	.66
PVd			.37*	.15	.10
NVd			.23	.16	.06
PVd x Emotional Intensity			-.23**	.08	-.14
NVd x Emotional Intensity			-.16	.09	-.08
Model 19	.77**	.06**			
(Intercept)			3.41**	.39	
Trait Mindfulness			.23**	.06	.14
Gender			-.32*	.12	-.10
Meditation Experience			.19**	.05	.14
Emotional Intensity			.52**	.06	.54
PVd			.46**	.14	.13
NVd			.31*	.15	.09
PVd x Emotional Intensity			-.27**	.08	-.16
NVd x Emotional Intensity			-.26**	.08	-.14
State Mindfulness			.60**	.08	.31
Model 20	.77**	.003			
(Intercept)			3.41**	.39	
Trait Mindfulness			.23**	.06	.14
Gender			-.32*	.12	-.10
Meditation Experience			.19**	.05	.14
Emotional Intensity			.52**	.06	.54

PVd	.46**	.14	.13
NVd	.31*	.15	.09
PVd x Emotional Intensity	-.27**	.08	-.16
NVd x Emotional Intensity	-.25**	.08	-.13
State Mindfulness	.60**	.08	.29
State Mindfulness x Emotional Intensity	-.60	.03	-.60

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table. Intensity = the same emotional intensity variable; shortened for space. Cumulative $R^2 = .59$, $p < .01$; adjusted $R^2 = .58$.
**p < .05, **p < .01.*

Table 26

Results of Hierarchical Multiple Regression Analysis Regressing Meaningfulness on controls and Trait Mindfulness and Positive Appraisal (Post Hoc Analysis)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 21	.45**	.21			
(Intercept)			5.03**	.29	
State Mindfulness			1.00**	.08	.51
Gender			-.64**	.13	-.19
Meditation Experience			.19**	.06	.14
Model 22	.63**	.20			
(Intercept)			4.26**	.44	
State Mindfulness			.97**	.08	.50
Gender			=.54**	.14	-.17
Meditation Experience			.19**	.06	.13
Trait Mindfulness			.15**	.07	.09
Model 25	.78**	.61			
(Intercept)			5.11**	.37	
State Mindfulness			.46**	.08	.23
Gender			-.48**	.11	-.15
Meditation Experience			.11*	.05	.07
Trait Mindfulness			-.02	.06	-.01
Positive Appraisal			.80**	.06	.55

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV. ΔR^2 = change in variance explained from prior model in table.
Cumulative R^2 = .61, p < .X; adjusted R^2 = .60.
**p < .05, **p < .01.*

Table 27

Results of Hierarchical Multiple Regression Analysis Regressing Positive Appraisal on controls and Trait Mindfulness (Post Hoc Analysis)

Predictor Variables	*r*	*ΔR²*	*B*	*SE B*	*β*
Model 23	.58**	.34**			
(Intercept)			.05	.21	
State Mindfulness			.68**	.06	.50
Gender			-.22*	.10	-10
Meditation Experience			.11*	.04	.11
Model 24	.61**	.03**			
(Intercept)			-1.06**	.32	
State Mindfulness			.64**	.06	.48
Gender			-.09	.10	-.04
Meditation Experience			.11*	.04	.11
Trait Mindfulness			.22**	.05	.20

Note. β = standardized regression coefficient. r = bivariate correlation between predictor variable and DV ΔR² = change in variance explained from prior model in table. Cumulative R² = .37, p < .01; adjusted R² = .36.
**p < .05, **p < .01.*