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Mindfulness: A Personal Resource in Organizational Change

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Approval of the Dissertation Committee

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Mona Farid-Nejad as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in Psychology.

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Abstract

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As the world of work becomes increasingly uncertain, organizations and their employees must adapt and change to survive and remain solvent in light of market and social changes. Most organizational-level change management approaches, however, fail to consider the repercussions of change on employees and often do not consider the psychological resources employees need to weather the storms of change. Guided by previous research concerning the benefits of mindfulness, the current dissertation seeks to understand the benefits of trait mindfulness as a personal resource for employee well-being, motivation, and retention during organizational change.

In the initial pilot study, organizational change vignettes were developed and tested to assess their ability to induce various levels of change uncertainty. A sample of 161 U.S.-based participants recruited from Amazon's Mechanical Turk were randomly assigned to one of three experimental conditions (high-uncertainty, low-uncertainty, and control) and asked to read a vignette followed by an activity in which they were asked to write sentences from the vignette that caused them to feel certain, uncertain, or reflected the routine of the person in the vignette (Hogg et al., 2010; Sentence activity instructions varied based on experimental condition.) The sentence activity formed an uncertainty prime that was then followed by a change uncertainty questionnaire (Rafferty & Griffin, 2006) to test the effectiveness of the vignettes in inducing various levels of change uncertainty. Results indicated that the vignettes and sentence activity effectively induced appropriate levels of change uncertainty in their respective experimental conditions.

To further assess the benefits of mindfulness as a personal resource to employees experiencing organizational change, the main study recruited 685 U.S.-based adults from Amazon's Mechanical Turk platform and randomly assigned participants to one of two vignette conditions derived from the pilot study (high-uncertainty or control). The low-uncertainty condition was removed, as path analyses would not allow for more than two experimental conditions for independent variables. Participants were asked to read the vignettes and complete the same sentence activity performed in the pilot study. The vignette activity was followed by a survey that included scales assessing employees' levels of change uncertainty, trait mindfulness, self-regulation, affective responses to change, motivation to continue with job responsibilities, and intentions to turn over (Brown & Ryan, 2003; Gabrys et al., 2018; Gagné et al., 2015; Rafferty & Griffin, 2006; Watson et al., 1988). Analyses examined the effects of change uncertainty on negative affect, autonomous motivation, and turn over intentions. The study further assessed the role of trait mindfulness as a moderator of main effects between change uncertainty and the dependent variables, and considered self-regulation as a mediator in the relationship between trait mindfulness and negative affect, autonomous motivation, and turn over intentions. Final path analyses were conducted to assess the full theoretical model.

Results revealed that, as hypothesized, change uncertainty was related to negative affect, decreased motivation, and increased intentions to turn over amongst participants, and that negative affect was reduced amongst those high in trait mindfulness. Further, as hypothesized, self-regulation explained the relationships between trait mindfulness and both motivation and turn over intentions. Contrary to hypotheses, trait mindfulness was associated with reductions in autonomous motivation across both conditions and increased intentions to turn over amongst those in the high-uncertainty group. Additionally, self-regulation did not mediate the relationship between trait mindfulness and negative affect. The findings from the current study have implications for employee well-being and mindfulness interventions in organizational change settings. This work provides valuable tools and findings for future

research concerning mindfulness and motivation, and provides an understanding of ways in which mindful employees respond to change differently than their peers. Further implications for both research and practice are discussed.

Keywords: mindfulness, organizational change, change management, motivation, retention, employee well-being

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Chapter 1: Introduction & Literature Review

"Change is the only constant in life."

- *Heraclitus*

Personal, professional, and environmental change is an inevitability of life. As the world becomes increasingly volatile, uncertain, complex, and ambiguous (VUCA), organizations and their employees at all ranks will need to learn and adapt to compete and survive (Edmondson, 2018; Morgan, 2006). In the workplace, change can be seen as a work demand that requires a great deal of physical and mental effort in order to modify habits that once supported the status quo (Bryson et al., 2013; Reb et al., 2017; Reichers et al., 1997; Rafferty & Griffin, 2006; van Emmerik et al., 2009). Van Emmerik and colleagues explain that when employees are chronically under-resourced to meet mounting organizational demands, the outcome can often lead to exhaustion, which increases cynicism toward change.

Job Demands-Resources Model

The Job Demands-Resources (JD-R) model categorizes work conditions into two categories, job demands and job resources (Demerouti et al., 2001). Job demands are the physical, psychological, social, and organizational elements of jobs that require cognitive and emotional effort and are associated with psychological and physiological harms. Job demands include factors such as high work pressure, emotional demands, and role ambiguity, which can lead to exhaustion, sleep problems, burnout, and poor health, and are ultimately detrimental to employee well-being and engagement. Job resources, on the other hand, refer to the physical, psychological, social, and organizational aspects of work that ease the accomplishment of goals, reduce demands and their detriments, and stimulate personal growth, learning and development. Job resources help employees to manage demands, while also holding value in their own right as employees aim to accumulate and maintain said resources. Job resources include

job characteristics such as job security, supportive teams or managers, adequate pay, and autonomy, and facilitate motivational benefits that can drive employee engagement and performance (Bakker & Demerouti, 2007).

Personal and organizational resources help employees weather the demands of change and can be inherently motivational in instances where such resources support basic need fulfillment (i.e., autonomy, relatedness, or competence; Bakker & Demerouti, 2007; Brown & Ryan, 2003). In a study conducted by Grover and colleagues (2017), the researchers found that *mindfulness* served as a useful personal resource in mitigating the inherent stresses of work. Mindfulness has also been found to support basic need fulfillment, especially with respect to autonomy satisfaction (Brown & Ryan, 2003). The current dissertation study extends this research by considering the role of mindfulness as a personal resource within the context of *organizational change*.

Organizational Change

While most research on the topic of organizational change, to date, has focused on organizational-level interventions that influence change outcomes, as well as more externally driven methods to gain change recipient buy-in (Armenakis et al., 1993; Ford et al., 2008; Kotter, 1995; Lewin, 1951; Prosci, 2012). These popular change management processes have made important contributions to our understanding of organizational change facilitation. Some of the organization-level practices gleaned from these change management models include practices such as communication planning, capacity building, and the institutionalization of change (Kotter, 1995; Lewin, 1951; Prosci, 2012; Schein, 2010). While process-oriented approaches are undoubtedly important to the successful implementation of top-down change, they do not often consider the range of opportunities for change that can be leveraged by engaging in bottom-up, individual-level change practices (Brinkhurst et al., 2011). The current research builds on the existing change management frameworks by considering mindfulness as an individual-level facilitator of organizational change. For the purposes of the current dissertation

research, three primary relationships will be assessed. The following review will provide a sequential summary of the relationship between mindfulness and outcomes such as *motivation*, *well-being*, and *automatic behavioral processes*.

Mindfulness

Mindfulness has been investigated in an increasing number of research studies across both psychology and management literatures. While the identified benefits of mindfulness are many, few studies have investigated the role of mindfulness in organizational change settings (Glomb et al., 2011; Good et al., 2016). A number of theorists have called for more empirical research concerning mindfulness and organizational change, as a means to assess the value of mindfulness in facilitating better coping and adjustment to change amongst individual employees (By et al., 2015; Gärtner, 2013; Gondo et al., 2013; Holt & Vardaman, 2013). Contextualized in organizational change, the current review explores the role of mindfulness as an individual-level facilitator of change through three primary mechanisms (motivation, affect, and automatic behavior).

What is Mindfulness?

There has been considerable debate about the most appropriate definition of mindfulness (Glomb et al., 2011). While there are many definitions, most characterize mindfulness as the intentional guidance of one's attention toward open and nonjudgmental awareness of moment-to-moment experiences (Brown & Ryan, 2003; Brown, et al., 2007; Glomb et al., 2011; Good et al., 2016; Kabat-Zinn, 2012; Smalley & Winston, 2010). In a state of mindfulness, an individual is paying attention to both the external events happening in a given moment and one's own internal state in response to the happenings of the moment. Internal responses can include thoughts, emotions, perceptions, and sensations that arise in any given moment (Grossman et al., 2004). Mindfulness requires observation of the interaction between the external world and our internal responses as an impartial observer, thus approaching each moment with openness and the suspension of judgment (Brown et al., 2007). The

observer orientation also implies that mindful individuals are more likely to see situations objectively and are less likely to rely on interpretations and self-generated narratives about events (Brown et al., 2007). Mindfulness is further subcategorized as both state and trait phenomena, which will be explored in the following sections.

State and Trait Mindfulness

Mindfulness takes two general forms. Namely, mindfulness is commonly categorized as being either state- or trait-based. As Brown and Ryan (2003) point out, most mindfulness is experienced at a state level. In other words, mindfulness is often experienced as a temporary open and non-judgmental attention to and awareness of present experiences. State mindfulness can be induced by mindfulness meditations or moments in which individuals actively and intentionally 'tune in' to the current moment. In both cases, individuals observe external stimuli as well as their own internal thoughts, sensations, emotions, desires, etc., in the present moment (Brown et al., 2007).

Brown and Ryan (2003) explain that trait-level mindfulness, on the other hand, has to do with the frequency with which individuals experience these mindful states (Brown & Ryan, 2003; Glomb et al., 2011). People with trait-level mindfulness experience mindful states more frequently than those lower in trait mindfulness (Brown & Ryan, 2003). Ruffault and colleagues (2016) contribute to our understanding of mindfulness by adding that mindful individuals (trait-level) tend to have a set of mindfulness skills that they regularly employ in their day-to-day lives (Baer et al., 2004; Ruffault et al., 2016). These mindfulness skills include the ability to observe and describe external stimuli and internal states, as well as the ability to act with awareness and accept what is experienced in each moment without judgment (Baer et al., 2004). In the current study, trait mindful individuals will also be referred to as mindful individuals or dispositionally mindful individuals.

Several studies have found that individuals can develop and grow in at least some components of trait mindfulness by engaging in regular state mindfulness training over time (Bowen et al., 2009;

Carmody & Baer, 2008; Kiken et al. 2015). For example, in a study by Kiken and associates, the researchers found that while there was variability in the growth of individual participants' state mindfulness over a seven-week mindfulness intervention, that state mindfulness scores improved amongst participants with time. The researchers further found that state mindfulness scores were predictive of trait mindfulness, even after accounting for baseline trait mindfulness. The researchers further explain that prior studies have not always conducted mindfulness interventions using repeated measures over the course of longer mindfulness intervention periods and that the duration of training interventions should be taken into consideration in assessing changes in state and trait mindfulness.

Another study by Carmody and Baer (2008) studied a group of participants from a mindfulness-based stress reduction (MBSR) program that engaged in various mindfulness activities over a period of time. This study found differential relationships between particular mindfulness activities and improvements in specific trait mindfulness skills, ultimately demonstrating that mindfulness practice did improve trait mindfulness indicators, but that these improvements varied based on the type of mindfulness activities participants engaged in. For example, engagement in mindful yoga practices was associated with improvements in all trait mindfulness factors, with the exception of the describing factor of the Five-Factor Mindfulness Questionnaire (FFMQ). Sitting meditation, however, was only associated with improvements in acting with awareness and non-reactivity. Taken together, the current literature demonstrates that although there is more that remains to be known with respect to which activities reliably predict various mindfulness skills, there is promise for the development of trait mindfulness through longer term state mindfulness training and ongoing practice.

Mindfulness and Motivation

While most of the empirical work concerning the relationship between mindfulness and *motivation* has taken place outside of change management contexts (i.e., clinical psychology, health behavior, organizational performance, etc.), findings show a very consistent empirical relationship

between mindfulness and *motivation* (Brown et al., 2016; Cox et al., 2016; Gervais & Hoffman, 2013; Kang et al., 2017; Ruffault et al., 2016; Strick & Papies, 2017; Verdorfer, 2016). Specifically, many empirical studies have found mindfulness to be related to more autonomously regulated forms of motivation as highlighted in self-determination theory (Brown et al., 2016; Brown & Ryan, 2003; Cox et al., 2016; Levesque & Brown, 2007; Ruffault et al., 2016; Shultz & Ryan, 2015).

Schultz & Ryan (2015) argue that awareness is a key factor in arriving at a state of integrated and ultimately autonomously regulated motivation, and that the ability to align extrinsic demands with one's own values, drives, and beliefs requires self-awareness of one's inner experience (i.e., thoughts, emotions, sensations, beliefs, etc.). The researchers conclude that a promising means for arriving at this sense of self-awareness arises from the practice of mindfulness, which helps individuals to bring their attention to their internal states in such a way that they are more able to become aware of their personal beliefs and values and to act in accordance with those values. Alignment between values and behavior allows individuals to feel that they are acting in authentic ways that are congruent with their internal drives (Brown & Ryan, 2003; Leroy et al., 2013). Feelings of alignment generate a sense of volition and engagement toward tasks that would not be achieved with less autonomous forms of motivation.

These more integrated forms of motivation more closely resemble intrinsic motivation and make change tasks feel more meaningful, important, and congruent with the self. Mindfulness may help individuals gain the self-awareness necessary to align actions with internal values, drives, and beliefs. Due to this alignment, mindful individuals should also experience more autonomous motivation with respect to organizational change (Schultz & Ryan, 2015; Weinstein & Ryan, 2011). The following section will explore self-determination theory before moving on to specific empirical findings concerning mindfulness and motivation.

Self-Determination Theory. Ryan and Deci (2000a, 2000b) describe self-determination theory as a combination of theories that explain the factors that facilitate and thwart individuals' natural propensities to experience motivation. Within their framework, Ryan and Deci identify three basic human needs of competence, autonomy, and relatedness, that when met, facilitate feelings of motivation. The authors define intrinsic motivation as action taken for no separable outcome other than the satisfaction, interest, or enjoyment of taking on the task for its own sake. They explain that while every human has natural intrinsic motivation, there are many tasks and actions that individuals take on, especially as they age, that are not motivated intrinsically. In contrast, these individuals are often motivated extrinsically by some separable outcome, such as incentives, recognition, or the avoidance of shame and guilt (Ryan & Deci, 2000b).

Ryan and Deci (2000b) provide a framework in which they define various forms of motivation ranging from amotivation (i.e., having no motivation to engage in a task) to intrinsic motivation (i.e., taking on a task for its own sake - because it is enjoyable or interesting). They define these various forms of motivation along a continuum of relative autonomy, ranging from no autonomy with amotivation to a great deal of autonomy with intrinsic motivation. The authors describe autonomy as any act individuals take by their own volition. The continuum includes two basic categories of motivation: controlled motivation and autonomous motivation (Ryan & Deci, 2000b).

Controlled Motivation. In controlled motivation, individuals are motivated to act due to extrinsic forces. Controlled motivation includes both external and introjected forms of motivation as laid out in self-determination theory (Ryan & Deci, 2000b). Externally regulated behavior is stimulated in response to an external demand or desire for an extrinsic and separable outcome. The individual is motivated to take on the task to gain rewards or avoid punishment (Ryan & Deci, 2000b).

In introjected motivation, on the other hand, behavior is regulated by an urge to avoid anxiety, guilt, shame, and other ego-related costs to the self that may arise as the result of not taking action.

Introjected motivation occurs when individuals have partially internalized others' expectations or values but have not fully integrated them into their own value framework (Ryan & Deci, 2000b). As such, they are motivated to take on tasks for the purpose of asserting their value and worth to others.

While both types of motivation move along the spectrum of relative autonomy and are at least in small part initiated through internal volition, overall, controlled behaviors are regulated extrinsically by drives to meet external demands, gain extrinsic rewards, or to align behavior with the values and expectations of others (Ryan & Deci, 2000b). People may take on controlled behaviors to gain rewards, avoid shame and guilt associated with not completing a task, or to gain pride. These behaviors, however, are primarily stimulated by something outside and separable from the self (Ryan & Deci, 2000b).

Autonomous Motivation. Autonomous motivation, on the other hand, includes identified, integrated, and intrinsic forms of regulation, all of which include the alignment of tasks, at least in small part, with the individual's value system (Ryan & Deci, 2008). As mentioned above, intrinsically motivated behaviors are actions that are taken for their own sake by individuals acting on their own volition.

While identified and integrated forms of regulation are extrinsically motivated by their nature, they are experiences that align with what the individual feels is important or valuable. In the case of identified regulation, people are motivated to take on a task because they are able to identify the inherent value of the task at hand, but have not fully integrated the value of the task into their self-concept and value system (Ryan & Deci, 2000b). In integrated behavior, on the other hand, the agent or actor has identified the value of taking the action and has integrated or aligned the rationale behind the task with their own values, needs, goals, and belief systems in such a way that the individual is inspired to take action in much the same way as intrinsically regulated and motivated activities (Ryan & Deci, 2000b). As Schultz and Ryan (2015) explain, these types of autonomously regulated activities engender a great deal of autonomy for the individual taking the action, and are thus, in many cases, found to be just as engaging and enjoyable as intrinsically motivated tasks.

Empirical Findings: Mindfulness and Motivation. As mentioned above, numerous empirical studies have found a relationship between mindfulness and motivation (Brown et al., 2016; Cox et al., 2016; Gervais & Hoffman, 2013; Ruffault et al., 2016; Strick & Papies, 2017; Verdorfer, 2016). For example, in a study completed by Kang and colleagues (2017), the researchers found that dispositionally mindful individuals had greater motivation than their non-mindful counterparts to exercise following exposure to potentially threatening health messages. The relationship between mindfulness and exercise motivation was fully mediated by *negative affect*, suggesting that mindful individuals experienced less negative affect in response to the threatening health message. Lessened negative affect allowed mindful individuals to persist in their motivation for exercise despite potential threats. Further, in a study concerning the role of mindfulness in developing servant leaders, Verdorfer (2016) found that dispositionally mindful individuals were not only more likely to demonstrate the humility often associated with servant leadership but that these individuals were also more likely to experience a non-self-centered motivation to lead.

Empirical Findings: Mindfulness and Psychological Need Fulfillment. More specifically, many studies have found that both dispositionally mindful and state-mindful individuals were more likely to experience the basic psychological need fulfillment, that according to self-determination theory, should enable more autonomous forms of motivation to take part in activities (Brown & Ryan, 2003; Brown et al., 2016; Cox, Ullrich-French, & French, 2016; Cox, Ullrich-French, Cole, et al., 2016; Gervais & Hoffman, 2013; Kasser & Sheldon, 2009; Levesque & Brown, 2007; Roche & Haar, 2013; Ruffault et al., 2016; Ryan & Deci, 2008; Strick & Papies, 2017). For example, in a study conducted by Chang and colleagues (2015), the researchers sought to assess the role of psychological need fulfillment in the relationship between mindfulness and well-being. The researchers found that basic psychological need fulfillment mediated the relationship between mindfulness and well-being.

Schultz and colleagues (2015) further support the relationship between mindfulness and the satisfaction of basic psychological needs. In this study, the researchers investigated mindfulness and autonomy-supportive management with respect to their effects on employees' affective adjustment at work. Results revealed that while both mindfulness and autonomy-supportive managers enhanced employees' sense of well-being at work, mindful individuals experienced less need frustration than non-mindful participants, even in non-autonomy supportive conditions. The researchers suggest that mindfulness could play a protective role in buffering employees from need frustration in more controlling environments in which autonomy support is inadequate. These results also suggest that mindfulness helped participants feel that their basic psychological needs were satisfied, even in the absence of autonomy-supportive conditions.

Empirical Findings: Mindfulness and Autonomous Motivation. Overall, the above findings support Brown and Ryan's (2003) assertion that mindfulness may facilitate more self-aware and autonomous functioning. For example, in the same publication mentioned above, Brown and Ryan conducted a series of empirical studies with clinical and non-clinical samples. In one study concerning the role of mindfulness in psychological well-being, the researchers found that not only did mindful individuals experience enhanced well-being, but this group was also more likely to engage in frequent autonomous activities on a routine basis.

Results were further supported by Leroy and associates (2013). In their study of mindfulness and engagement in the workplace, the researchers found that mindfulness was related to engagement in the workplace and that the relationship between mindfulness and engagement was mediated by authentic functioning. Authentic functioning is brought about through the self-awareness that is characteristic of mindfulness and is thought to aid individuals in living authentically or in concordance with their inner values and beliefs (Brown & Ryan, 2003; Leroy et al., 2013). The researchers argue that when people behave in concordance with their internal drives, they are more likely to feel as though they have

autonomy in their day-to-day lives. Satisfying the basic need for autonomy helps individuals to feel more self-determined motivation towards tasks in their daily lives (Deci & Ryan, 2008).

Finally, Levesque and Brown (2007) found mindfulness to be a mediator of the relationship between implicit motivation and motivation in day-to-day behavior. The researchers also found that mindful individuals displayed more autonomously motivated behavior than non-mindful individuals. These findings held even when considering participants' implicit preferences toward autonomous or other-directed behavior.

Empirical Findings: Mindfulness and Intrinsic Motivation. There have also been numerous studies that have found a more direct relationship between mindfulness and intrinsic motivation (Brown et al., 2016; Cox, Ullrich-French, & French, 2016; Cox, Ullrich-French, Cole, et al., 2016; Gervais & Hoffman, 2013; Kang et al., 2017; Ruffault et al., 2016; Strick & Papies, 2017). For example, in a study of the effects of mindfulness on episodic memory performance, Brown and colleagues (2016) found that the relationship between mindfulness and episodic memory was mediated by intrinsic motivation. In other words, the researchers found that mindfulness training led to more intrinsic motivation to complete memory tasks amongst participants.

Gervais and Hoffman (2013) also found a relationship between mindfulness and intrinsic motivation. In a study concerning the role of mindfulness in prejudice against women, the researchers found that, amongst men, the relationship between mindfulness and warmth toward feminists was partially mediated by internal motivation to respond without sexism and not by less sexist beliefs. In other words, mindfulness, at least in part, helped participants to access and utilize their internal motives to respond without sexism toward feminists. Finally, in a study of goal concordance with intrinsic motives, Strick and Papies (2017) found that after completing a brief mindfulness intervention, study participants were more inclined to set goals in line with intrinsic motives when compared to participants who did not receive the mindfulness intervention.

While there is a wealth of empirical support for the relationship between mindfulness and motivation, there is, to date, no expansion of these findings to organizational change settings. In the next section, I explore mindfulness in a change management context. While the research reviewed has not yet examined the specific relationship between mindfulness and motivation, early findings show promise for the inclusion of mindfulness as a fruitful change management tool.

Mindfulness and Well-being

According to Glomb and colleagues' (2011) review of the mindfulness literature, numerous studies have found mindfulness to reduce stress and psychological distress (Brown & Ryan, 2003), improve affective *self-regulation* (Brown & Ryan, 2003), reduce negative affect (Brown & Ryan, 2003; Short et al., 2016), increase hope and goal achievement (Sears & Kraus, 2009), increase positive emotions and life satisfaction (Brown & Ryan, 2003; Fredrickson et al., 2008), and enhance social connectedness (Fredrickson et al., 2008). Trait-level mindfulness also improves psychological and overall well-being (Brown & Ryan, 2003; Dane, 2011; Good et al., 2016; Jimenez et al., 2010; Schultz et al., 2015; Weinstein et al., 2009), reduced aggression and hostility (Heppner et al., 2008), decreased anxiety (Brown & Ryan, 2003), and reduced amygdala activity (Creswell et al., 2007; Frewen et al., 2010).

Schultz and Ryan (2015) explain that mindful individuals tend to take less controlled action, which leads to a host of outcomes relevant to organizational change. In a review of the literature on the outcomes of mindfulness and ego-suppressed autonomous behavior, Schultz and Ryan found that mindful individuals had an enhanced sense of openness toward challenging events, experienced less defensiveness in the face of threat, and had less negative cognitive appraisals of such situations (Brown et al., 2008; Niemic et al., 2010). Mindfulness ultimately led to reduced levels of perceived stress when facing challenges (Grossman et al., 2004; Schultz & Ryan, 2015; Shapiro et al., 2005; Weinstein et al., 2009; Weinstein & Ryan, 2011). The review also revealed that mindful individuals exhibited less reactivity to stressful situations (Baer, 2003; Brown et al., 2008), experienced less high-stress reactions

(Kernis & Goldman, 2006; Niemic et al., 2010; Ryan & Brown, 2003; Weinstein, et al., 2009), and appraised challenges as being less threatening than non-mindful individuals (Weinstein et al., 2009).

Individuals with mindfulness skills are also more able to self-regulate in the face of stress and threat (Ruffault et al., 2016; Niemiec et al., 2010). For example, Brown and colleagues (2008) found that mindful individuals displayed less defensiveness in the face of social threats. Mindful participants exhibited reduced emotional reactivity to interpersonal conflict and peer rejection and were generally less defensive of their worldviews in the face of social identity threat (Brown et al., 2008). These findings are further supported by research citing that mindfulness is associated with more adaptive responses to stress, regardless of emotional state or the severity of threat experienced (Donald et al., 2016). Further, in considering trait-based stress responses, a study by Feltman and colleagues (2009) found that mindfulness helped participants to mitigate the negative effects of trait-based neuroticism. Taken together, the above findings make a compelling case for the efficacy of mindfulness in helping to manage the potential stress that often arises in change management settings. Next, I examine the role of mindfulness in helping change agents and employees to identify and manage change assumptions.

Mindfulness and Self-Regulation

Mindfulness has been found to reduce habitual patterns of thinking and behaving (Antonova et al., 2015; Chong et al., 2015; Goble et al., 2017; Papies et al., 2015; Vinci, 2016). The ability to break from habitual patterns of thinking, feeling, and behaving could play a vital role in helping mindful individuals to break from the assumptions and behavior that support the status quo. Becoming aware of and changing habitual tendencies could facilitate a willingness to see and complete work in new and different ways, thus making individuals more adaptive and responsive to changing demands (Gärtner, 2013).

Multiple researchers have called for the use of mindfulness in change management (Gondo et al., 2013; Holt & Vardaman, 2013; By et al., 2015). As Schein (2010) explains, change efforts are often

thwarted by taken for granted assumptions about the ways in which work has 'always been done' within the organization. Gondo and colleagues (2013) argue that mindfulness could play a critical role in organizational change by helping change recipients to gain the self-awareness needed to identify taken for granted assumptions and other subconscious habits, cognitions, and affective reactions that may influence support for change initiatives (By et al., 2015; Gondo et al., 2013). By and colleagues (2015) further support the use of mindfulness as an unfreezing tool that helps change recipients to understand and accept the need for change during change management efforts (Lewin, 1951, as cited in Cummings & Worley, 2009, pp.23-25; By et al., 2015).

Mindfulness has also been found to generate a self-awareness that improves individuals' ability to self-regulate their emotions, cognitions, and behavior (Glomb et al., 2011). Self-regulation is defined as the ability to consciously guide one's cognitive, emotional, and behavioral experience in a given moment (Baumeister et al., 2007). When an individual is self-regulating, he or she is taking an active and deliberate role in guiding the interpretation of moment-by-moment experiences. As a result of such guidance, self-regulating individuals are able to take action that is productive and thoughtful, rather than resorting to 'knee-jerk reactions' that often stem from less conscious approaches. As one could imagine, the ability to take a step back and consider one's internal interpretations of a situation before reacting could serve as a helpful tool when facing the demands and uncertainties inherent in organizational change.

Both emotional and cognitive self-regulation could serve as key factors in helping to create more receptiveness to organizational change. Emotional self-regulation, for example, may help change-recipients respond to change in more thoughtful and less emotionally reactive ways. Cognitive self-regulation, on the other hand, could facilitate change by making employees more aware of and willing to modify their cognitions, assumptions, and other habitual ways of thinking about change and

preferred ways of working. Such cognitive self-regulation could help to break status quo behaviors and assumptions to generate more receptivity to change.

Empirical Findings: Mindfulness and the Breaking of Automatic Processes

As mentioned above, the core of organizational culture stems from the taken for granted assumptions about how things 'should' be done at work. These assumptions take the form of beliefs and values that shape the perceptions, thoughts, feelings, and behaviors of both individuals and groups throughout organizations. These basic assumptions create ways of thinking and being that are often subconscious in nature and habitual, making them particularly difficult to change. Further, because these assumptions have helped organizational members in the past, they are often strongly held, despite evidence to the contrary. The qualities of assumptions, as both subconscious and strongly held beliefs, can create challenges in generating organizational change (Schein, 2010).

While there has, to date, been no studies that test the direct effects of mindfulness on organizational assumptions, there have been a number of studies that point to the efficacy of mindfulness in interrupting habitual cognitive and behavioral processes, primarily by employing self-awareness and self-regulation (Antonova et al., 2015; Chong et al., 2015; Goble et al., 2017; Papies et al., 2015; Vinci et al., 2016). For example, in a study conducted by Papies and colleagues (2015), the researchers found that mindful observation of thoughts helped study participants become aware of and break the habit chain between triggers and poor health behaviors, thus helping participants make better choices concerning their health.

Another study conducted by Vinci and colleagues (2016) found that the self-awareness and non-judgment components of mindfulness helped problem drinkers to avoid drinking despite desires to conform to drinking behavior. Together, these studies suggest that mindfulness may help to reduce habitual patterns of behavior in individuals, which could aid change recipients in resisting status quo

habitual behavior (Antonova et al., 2015; Chong et al., 2015; Goble et al., 2017; Papies et al., 2015; Vinci et al., 2016).

There is also a body of research that considers the role of mindfulness in decision-making. Overall, studies have found that mindfulness helps study participants reduce cognitive biases that often impede sound decision-making (Hafenbrack et al., 2013; Kiken & Shook, 2011). For example, in a series of studies completed by Hafenbrack and colleagues, the researchers found that a brief 15-minute mindfulness intervention helped study participants to resist the urge to use the sunk-cost bias in making decisions. They found that the relationship between state mindfulness and resistance to sunk-cost bias was mediated by both a temporal focus on the present moment as well as a reduction in negative affect associated with the mindfulness intervention.

Kiken and Shook (2011) conducted another study in which they investigated the role of mindfulness in reducing negativity bias. In this study, the researchers found that participants involved in a brief mindfulness intervention were less likely to apply a negativity bias to a game designed to make participants evaluate the positive or negative valence of a series of clues. Overall, the researchers found that the participants in the mindfulness intervention condition were less likely to experience a negativity bias than those in the control condition. The researchers also found that participants in the mindfulness condition demonstrated higher levels of optimism than those in the control group. Overall, participants experiencing state mindfulness were better able to make accurate judgments in the game due to the lack of negativity bias.

These findings, while not based on changing organizational assumptions per se, do point out the potential of mindfulness in helping individuals to gain the self-awareness and self-regulation necessary to identify and interrupt the flow of taken for granted habitual behaviors and biases (Antonova et al., 2015; Chong et al., 2015; Papies et al., 2015; Vinci et al., 2016). These findings could serve as a starting

point for investigating assumption change, as assumptions are often acted on habitually and taken for granted (Schein, 2010).

Mindfulness in the Context of Change Management

A few theoretical papers have called on researchers to explore the role of mindfulness in change management settings (By et al., 2015; Gärtner, 2013; Gondo et al., 2013; Holt & Vardaman, 2013). In response, a small number of studies have begun to examine the role of mindfulness in change management and related contexts. Holt & Vardaman argue for a reconceptualization of readiness for change, arguing that mindfulness may play an important role in facilitating change management by helping change recipients to become aware of implicit assumptions, habits, and affect that may be influencing their level of support for change initiatives (By et al., 2015; Gondo et al., 2013). The ability to gain awareness of assumptions and other automatic responses with respect to work lends itself to the scrutiny of such responses when facing change. In other words, change recipients may be more willing to reflect upon and change assumptions, cognitions, and perceptions that are no longer relevant to workplace needs (By et al., 2015; Holt & Vardaman, 2013).

Empirical Findings: Mindfulness and Change Management

Among the few studies concerning mindfulness within change management contexts, there has been early initial support for the role of mindfulness in improving change outcomes. For example, in a study completed by Chesley and Wylson (2016), the researchers found that mindful leaders responded more favorably to organizational changes than non-mindful leaders. Specifically, mindful leaders were found to maintain an ongoing sense of flexibility and curiosity, despite the stress and ambiguity of the change process. These leaders were also more likely to attune with their teams and help their teams reframe their thinking about changes in a more positive light. Mindful leaders in this study were also more likely than their non-mindful counterparts to reach out for help in managing change, and were overall more likely to engage in both self-care and self-awareness practices. Finally, when compared to

non-mindful leaders, mindful leaders were found to focus on building capacity to manage change by building more resilient teams (Chesley & Wylson, 2016).

Further, Charoensukmongkol (2017) examined the sentiments of 141 full-time employees that had recently gone through an acquisition by a larger financial institution. The researchers found an inverse relationship between mindfulness and resistance to change, such that employees who received mindfulness training were less resistant to the changes imposed on them by the acquiring organization. In a related study of 119 corporate individuals, Herring and colleagues (2016) found that mindful rumination helped individuals to perform better in high-pressure situations. Mindful rumination was defined as a combination of rumination on past performance along with the non-judgmental characteristic of mindfulness. The researchers found that when participants were able to mindfully ruminate in a non-judgmental and accepting way, that they were able to perform better under pressure when compared to non-mindful ruminators. Considering the pressures that arise in the face of change processes, the ability to perform under pressure can be critical to the successful implementation of changes. Herring and colleagues' findings suggest that mindful employees may be better equipped to perform under the pressures to change than their non-mindful counterparts.

Likewise, in an investigation considering the role of positive employees in creating organizational change, researchers Avey and colleagues (2008) found that amongst employees with low psychological capital, mindfulness helped employees to experience more positive emotions. These findings are important because the authors also found that positive emotions were linked to more favorable work attitudes (i.e., engagement and organizational citizenship behaviors) and helped employees to limit workplace deviance behaviors. These findings suggest that if employees lack psychological capital, that mindfulness can supplement employees' psychological capital to drive more favorable work attitudes and behaviors.

Finally, in a study concerning agility in software firms, Lee and Xia (2010) found that diversity and autonomy were the two factors that were consistently found to predict change agility in software organizations. These findings highlight the relationship between basic need fulfillment (i.e., autonomy) and change. Given the empirically backed relationship between mindfulness and basic need satisfaction with respect to autonomy (Brown & Ryan, 2003; Roche & Haar, 2013; Kasser & Sheldon, 2009), these results hold promise for the role of need satisfaction in generating support for and participation in change. The following sections will summarize the above findings and discuss the implications of mindfulness for future change management research.

Discussion

As the world changes at an ever more rapid pace, it is the responsibility of organizations to move and shift in ways that support their continued relevance and solvency. Although many leaders may desire more adaptive organizations, many of the changes put forth by organizations and their leadership are met with stress and resistance on the part of change recipients who feel that changes may threaten their professional and personal lives. Therefore, the question remains as to whether it is possible to create conditions in which people desire change and are autonomously motivated to support changes?

Mindfulness has been found to have numerous implications for motivational, emotional, and habitual outcomes within change settings. As mentioned above, mindfulness stands to aid in building the self-awareness needed to align tasks with internal motives, drives, and values. Such alignment serves the purpose of helping change tasks to feel more autonomously driven, and thus, more internally motivating to accomplish (Brown & Ryan, 2003). Alignment could serve as a facilitating factor in the change process by reducing resistance and increasing motivation to change.

Mindfulness also has a strong empirical relationship with psychological well-being (Glomb et al., 2011). A greater sense of well-being could help mindful individuals better manage stress and experience less negative affect throughout the organizational change process.

Finally, mindfulness may also help change recipients to generate the awareness and self-regulation necessary to identify outdated assumptions, cognitions, and emotions concerning change. The identification and regulation of such internal states and behavioral intentions can help mindful employees to be more receptive to new ideas and ways of working, as the status quo mentality can be better identified and consciously managed (Glomb et al., 2011; Kiken & Shook, 2011).

Implications of the Current Review

The results of this literature review have several implications for future research in change management. First, while researchers have spent time considering how to combat resistance and create readiness for change, there has been little work with respect to understanding the conditions under which change recipients may feel bottom-up volition and engagement to change. It is worthwhile to consider the role of mindfulness as a facilitator of change, as the existing literature may have implications for the creation of organizations that are more receptive to and energized about the prospect of change.

Second, mindfulness may serve as a tool to help employees better manage the stresses of organizational change and experience more well-being over the course of the change process (Brown & Ryan, 2003; Glomb et al., 2011; Weinstein et al., 2009). Enhanced well-being can help employees to view changes more favorably, thus improving the likelihood that changes will be supported and acted upon (Ajzen, 1991; Rafferty & Griffin, 2006).

Finally, mindfulness may help change recipients to respond more flexibly and less habitually to change, whilst also helping employees to better manage emotional responses and experience more autonomous motivation throughout the change process. Future research should investigate the role of

both state and dispositional mindfulness in improving self-regulation, managing change-related affect and stress, and generating autonomous motivation to take part in change.

Conclusion

The current review of the literature concerning mindfulness and change management has considered the role of mindfulness in creating autonomous motivation, managing change-related affect, and identifying and changing organizational assumptions and habitual patterns. As demonstrated above, considerable empirical and theoretical research supports the role of mindfulness as a promising change management facilitator along all three of these domains. Future research should aim to test the above relationships in a change management context to assess the viability and effectiveness of mindfulness as a change management facilitator.

Based on the above review, the current dissertation study aims to further investigate the utility of mindfulness as an individual-level resource in the organizational change context. Figure one highlights the relationship between employees' experience of change uncertainty and organizational change outcomes. The model proposes that trait mindfulness will serve as a moderator in these relationships, such that trait mindful individuals will experience less negative affect concerning the proposed changes and will be more motivated to change (autonomous motivation). Further, the model proposes that the moderating effect of trait mindfulness on the above outcomes will stem from cognitive and emotional self-regulation (i.e., intentional management of otherwise automatic cognitive and emotional responses), thus making self-regulation a mediator in the relationship between trait mindfulness and the above outcomes.

Together, the components of the model aim to explain the benefits of trait mindfulness as a resource to employees facing organizational change. The following chapters will review pilot testing of manipulation vignettes for use in the main study, as well as hypothesis testing and path analyses for the

entire model. The pilot and main study results will be followed by a discussion section, which will further explain findings and share implications of the study for research and practice.

Chapter 2: Pilot Study

Change uncertainty can induce strain and other detrimental outcomes for employees and organizations (Bordia et al., 2004). To ascertain the benefits of mindfulness during organizational change, the main study induces change uncertainty as an independent variable in hypothesis testing. Before beginning the main study, vignette manipulations were created and pilot tested to assess their effectiveness in inducing change uncertainty amongst participants. Small modifications and improvements were made to vignettes based on pilot findings.

Design

Participants

Pilot data were collected from 383 U.S.-based adults aged 18+, recruited through Amazon's Mechanical Turk (MTurk) platform. For pilot sampling, Julious (2005) recommends a minimum group size of 12 participants per condition based on precision, feasibility, and regulatory considerations. While the proposed sample for the pilot was originally 90 participants, to allow for at least 30 participants per group, the pilot was oversampled to avoid under powering the study and to account for potential data quality issues. MTurk participants received .50¢ in exchange for their participation in the pilot experiment. All participants were prompted to read and accept the terms of an informed consent page before entering the survey (See Appendix A for Informed Consent page.) Of the above sampling, 93 participants were removed for failure to pass attention checks, 113 were removed for not completing the survey, nine were removed for responding to the vignette activity with short responses, and seven were removed for writing sentences that were irrelevant to the vignette activity instructions. It is not uncommon to have a large participant exclusion rate amongst MTurk samples, as many participants fail to respond accurately to instructional manipulation checks and other tasks requiring attentiveness

(Berinsky et al., 2014; Donaldson et al., 2016). The final sample consisted of 161 participants (high-uncertainty *n* = 58; low uncertainty *n* = 38; control *n* = 65).

Procedure

The vignettes were designed to induce various levels of change uncertainty (high-uncertainty/low-uncertainty/control). Uncertainty levels were created to ascertain the levels of change uncertainty at which trait mindfulness would be beneficial to employees. Having multiple levels of change uncertainty further offered comparison groups for main effects and interactions in the main study (See Appendix B for vignettes.) In the high-uncertainty condition, participants received a vignette that described a downsizing at "ABC Company." The vignette described the downsizing as resulting in many layoffs with very little information about who would be laid off and how long the downsizing would continue. In the low-uncertainty condition, the vignette described the same downsizing, but in this case, there were clear criteria as to who would be laid off, the duration of the downsizing process, and what HR (Human Resource) would do to support employees who would be terminated.

Before participants completed the vignette activity, the control group vignette was modified to align more effectively with the change uncertainty scale used in the pilot. The original version of the control vignette asked participants to enter elements of their personal daily routine, which was not conducive to the change uncertainty scale items, which referenced attitudes toward ABC Company. The control vignette was modified in response to this realization and replaced with an emotionally neutral narrative explanation of the typical daily routine of an employee at ABC Company.

Upon reading their respective vignettes, participants in high-uncertainty and low-uncertainty conditions were asked to review the text and write down three sentences that led them to feel certain or uncertain, based on their assigned condition. Control group participants were asked to write three sentences that reflected the daily routine of the employee described in the vignette. An engagement check was used to assess the salience of job security amongst participants as well as how concerned

participants were about their own career security. Items included, “How important is job security to you?” (1 = *not at all important* to 7 = *extremely important*) and “How concerned are you for your own career security?” (1 = *not at all concerned* to 7 = *extremely concerned*).

Additionally, participants in high and low-uncertainty conditions received four attention check questions concerning their hypothetical tenure in ABC Company, the size of their hypothetical department, the type of change occurring in the scenario, and the department they were asked to imagine that they work for. Items included, “In the above scenario, how long have you been working for ABC Company?,” “In the above scenario, how many employees work in your department?,” “In the above scenario, what is the primary change that the organization is experiencing?,” and “In the above scenario, what department are you asked to imagine you work for?”. Control group participants responded to all of the same attention check questions, with the exception of the question concerning the type of change occurring at ABC Company.

Measures

Change Uncertainty (α = .88 – 91). Change uncertainty was captured using the Psychological Uncertainty Scale created by Rafferty and Griffin (2006). The seven-point Psychological Uncertainty Scale has anchors ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and was used across four-items to assess respondents’ levels of psychological uncertainty with respect to change. In its original development, psychometric testing for the scale was completed using two samples, ultimately demonstrating alpha coefficients ranging from .88 (sample 1) to .91 (sample 2). Items were slightly modified to accommodate the context of the pilot study and included items such as, “I would be uncertain about how to respond to the changes happening at ABC Company,” and “I would be unsure about the effects of this downsizing on my job at ABC Company.”

Demographic Information. In addition to the change uncertainty scale, participants were asked demographic questions. Demographic questions included age, level of education, ethnicity, marital

status, employment and position outside of MTurk, gender identity, dependents, and income levels. The information from this section of the survey was used to understand the demographic composition of the sample.

Qualitative Items. Upon completion of the above scale, participants were asked to complete four additional items to gain qualitative insight into responses. Items included, "How did you feel reading about changes at ABC company?," "What would you do if you did, in fact, work for ABC company?," "Did you find the scenario with ABC company to be believable?," and "How could the scenario be improved to be more immersive?"

Results

Of the 161 participants included in the final analysis, 98 were male, 60 were female, one identified as gender non-binary, and two preferred not to share their gender identity. Most of the participants in the study were white (128) and ranged in age from 18-74 (161). In terms of socio-economic factors, most participants were employed full-time outside of MTurk (108), were employed in entry-level to mid-level management roles outside of MTurk (79), were married or in domestic partnership (112), had at least a bachelor's degree (122), had zero to two children (149), and had a large range of reported income levels with most falling between $30,000 and $80,000 per year (105; Please see Appendix E for more demographic information for the pilot sample.)

Table 1

Basic Pilot Sample Demographics

Sample Demographics	*n*	Percent
Gender	161	100.000%
Male	98	60.870%
Female	60	37.267%
Non-binary	1	0.621%
Prefer Not to Say	2	1.242%
Ethnicity	161	100.000%
White of Caucasian	128	79.503%
Black of African American	10	6.211%
Hispanic or Latinx	8	4.969%
Asian or Pacific Islander	6	3.727%
Native American or American Indian	3	1.863%
Middle Eastern	0	0.000%
Mixed Background	4	2.484%
Prefer not to Say	2	1.242%
Age	161	100.000%
18 – 24 years old	12	7.453%
25 – 34 years old	73	45.342%
35 – 44 years old	44	27.329%
45 – 54 years old	18	11.180%
55-64 years old	10	6.211%
65-74 years old	4	2.484%
75 years or older	0	0.000%

A manipulation assessment was used in the analysis stage to ensure that participants followed instructions and that all participants wrote down a similar number of words in their high/low-uncertainty and control group sentences. Comparable priming and analysis procedures have been used in uncertainty-identity research, in which individuals were primed to identify or reflect on certain or uncertain elements of a manipulation (or their own lives) as a way to induce feelings of uncertainty (Hogg et al., 2010; Hogg et al., 2007; Hohman et al., 2010; McGregor & Marigold, 2003).

All data were assessed for completion, independence, and normality of distribution, as well as the presence of outliers. While there were no outliers and all other statistical assumptions were met, a Levene's test revealed heterogeneity of variance across conditions. Variance was substantially lower for

those in the high-uncertainty condition (M = 5.75, S^2= .869) compared to participants in the low-uncertainty (M = 4.57, S^2 = 1.952) and control (M = 4.03, S^2 = 2.185) groups. While both skew and kurtosis were within normal range across conditions, uncertainty scores did skew slightly negative (skew = -.801; kurtosis = .032). Due to the negative skew of the uncertainty scores, log and square root transformations further exacerbated the heterogeneity of variance by increasing the negative skew of the data. To resolve this issue, uncertainty scores were reversed and a log transformation was conducted, which resolved the variance issue (new variance calculations: high-uncertainty S^2 = .183, low-uncertainty S^2 = .159, and control S^2 = .141).

Once all statistical assumptions had been met, a one-way, between groups ANCOVA was used to assess mean differences in uncertainty scores across all three conditions included in the pilot study. The ANCOVA was followed by pairwise comparisons to assess mean differences across all possible group pairings. Covariates consisted of income, education, and number of dependents, gender, age, employment and position outside of MTurk, and job security. Due to the referenced downsizing in the high-uncertainty and low-uncertainty conditions, covariates were selected based on their relevance to job and financial stability. For example, the threat of job loss will likely be of greater concern to a participant with lower income or multiple dependents than it would for a participant who has traditionally had higher income or no dependents to provide for.

The ANCOVA revealed statistically significant differences in uncertainty scores across conditions, $F(2) = 19.077$, $p < .001$. Pairwise comparisons revealed statistically significant differences in uncertainty scores between the control (M = 6.711) and low-uncertainty groups (M = 6.986, $p < .01$), between control and high-uncertainty groups (M = 7.245; $p < .001$), and between low-uncertainty and high-uncertainty groups ($p < .05$; Please note that means reported here were reversed from the initial transformation performed on change uncertainty scores to achieve homogeneity of variance.)

Qualitative responses varied based on the group that participants were randomly assigned to. Of the four qualitative items included, the first item asked participants to report their feelings after reading their respective vignettes. Responses were coded as being pleasant, neutral, or unpleasant, based on the emotional valence participants communicated. All qualitative analyses were completed with a single rater. In considering all three vignettes, a larger proportion of participants in the high-uncertainty condition reported feeling unpleasant feelings while reading the scenario (64.455%), compared to those in the low-uncertainty (37.143%), and control (14.286%) groups. For example, those in the high-uncertainty group made statements such as, "I felt upset for the workers.," "A bit stressed imagining if that happened to me.," and "Kinda stressed, it's a very real situation." The reverse was true for those in the control group with 66.667% of participants reporting pleasant feelings upon reading the vignette, as compared to 51.428% in the low-uncertainty, and 25.455% in the high-uncertainty groups. Control group participants made statements such as, "If hired, I'd like to work with ABC Company on a long-term basis.," and "I enjoyed reading the scenario. It seems like a job I would like to have in the future. The job seems relaxed and allows for creativity from time to time." Overall, the vignette for the control group was rated as eliciting the most neutral feelings amongst participants (19.047%) with participants sharing statements such as, "It seems like an okay company to work for.," and "I felt like it was close to what my actual job is."

Table 2

Qualitative Responses to Question: "How did you feel reading about changes at ABC Company?"

Affective Evaluation	Control (n = 63)	Low-uncertainty (n = 35)	High-uncertainty (n = 55)
Pleasant	66.667%	51.429%	25.455%
Neutral	19.048%	11.429%	9.091%
Unpleasant	14.286%	37.143%	65.455%

For the second qualitative item, participants were asked what they would do if they did, in fact, work for ABC Company. Responses were coded based on whether participants' behavioral intentions

were favorable, unfavorable, or neutral in terms of their outcomes for ABC Company. In the control group, 64.615% of participants reported favorable behavioral intentions, compared to 51.429% amongst those in the low-uncertainty, and 18.182% in the high-uncertainty group. Participants in the high-uncertainty group were more likely than those in other conditions to evaluate ABC Company or the job unfavorably and report that they would take negative courses of action if they worked at ABC company (e.g., quitting; 36.364%) when compared to the low-uncertainty (20.000%) and control (10.769%) groups. Excerpts from the low-uncertainty condition include, "I would leave the company and find another stable job.," and "I would be very unsure about my future."

Table 3

Qualitative Responses to Question: "What would you do if you did, in fact, work for ABC company?"

Intended Behavior	Control (n = 65)	Low-uncertainty (n = 35)	High-uncertainty (n = 55)
Favorable	64.615%	51.429%	18.182%
Unfavorable	10.769%	20.000%	36.364%
Neutral	4.615%	17.143%	23.636%
Other	20.000%	11.429%	21.818%

Note. The grouping "Other" includes qualitative responses that were unique and did not form any themes, responses that were irrelevant to the question asked, or responses that were incomprehensible.

In response to the same question, a number of participants explicitly stated that they would stay with or quit their jobs at ABC Company. Those in the control group were more likely to report a willingness to stay with the organization (27.692%), and those in the high-uncertainty group were most likely to report intentions to *turn over* (18.182%). In contrast to the high-uncertainty group, the control group shared statements such as, "I would like my job and want to keep it because it is consistent and in my routine.," and "I would carry out my duties as described."

Table 4

Percentage of Participants who Explicitly Stated Intentions to Stay or Turn Over from ABC Company.

Commitment	Control (n = 65)	Low-uncertainty (n = 35)	High-uncertainty (n = 55)
Intend to Stay	27.692%	20.000%	7.273%
Intend to Quit	3.077%	8.571%	18.182%
No Indication	69.231%	71.429%	74.545%

The last two qualitative items asked participants about the believability of the vignettes they read and what could be done to make the vignettes more immersive. Believability responses were coded based on whether participants found the vignettes to be believable or unbelievable. Suggestions for improved immersiveness were analyzed based on emergent themes and were not analyzed based on predetermined codes. Across all conditions, over 80% of participants found the vignettes to be believable. Statements included, "I found the whole day to day very believable. To have a routine and know what to expect is something that I can relate to.," and "Yes. This kind of situation is happened in real time at many companies."

Table 5

Qualitative Responses to Question: "Did you find the scenario with ABC company to be believable?"

Believability	Control (n = 66)	Low-uncertainty (n = 35)	High-uncertainty (n = 55)
Believable	80.303%	85.714%	87.273%
Not Believable	1.515%	5.714%	3.636%
Other	18.182%	8.571%	9.091%

Note. The grouping "Other" includes qualitative responses that were unique and did not form any themes, responses that were irrelevant to the question asked, or responses that were incomprehensible.

While most participants stated that no changes were needed, when asked what would help to make the vignettes more immersive, participants across all conditions suggested sharing more specific details about the job, the company, and the team (e.g., the amount of revenue loss, the employees' names, etc.). Participants also suggested reporting specifics about employees' emotions and attitudes

with respect to the changes described in the vignette. Another three participants in the high-uncertainty condition shared that it would be helpful to engage other senses through means such as illustrations.

Table 6

Qualitative Responses to Question: "How could the scenario be improved to be more immersive?"

Suggested Changes	Control (n = 63)	Low-uncertainty (n = 35)	High-uncertainty (n = 56)
No Change Needed	22.222%	40.000%	30.909%
More Details	31.746%	17.143%	27.273%
Engage more Senses	0.000%	0.000%	5.455%
Unsure	12.698%	8.571%	10.909%
Other	33.333%	34.286%	26.786%

Note. The grouping "Other" includes qualitative responses that were unique and did not form any themes, responses that were irrelevant to the question asked, or responses that were incomprehensible.

Overall, findings demonstrated statistically significant differences between vignettes. The qualitative data further demonstrated appropriate affect and attitudes amongst participants, based on the vignette condition they were randomly assigned to. The majority of participants found the scenarios to be believable and most agreed that the vignettes did not need to be changed. Additional details were not added to the vignettes to maintain brevity of reading material and to avoid distracting participants with extraneous details that could sidetrack participants' attention away from the uncertainty cues embedded in the vignettes. Further, in light of the sentence activity, using another medium such as audio or video would have made it challenging for participants to recall and write sentences, therefore multisensory media were not used. The primary change made to the vignettes was the addition of a single line stating, "You learn a lot at your job every day." The sentence was added to all vignettes to provide participants in the main study (i.e., Chapter 3) with something to find of value or importance as they rated their autonomous motivation to continue with their responsibilities at ABC Company (Please see main study below for more information.)

Chapter 3: Methodology Primary Study

The objective of the primary study was to assess the moderating effects of trait mindfulness on the relationship between change uncertainty and three dependent variables (i.e., negative affect, autonomous motivation, and intentions to turn over). Beyond moderation, the study evaluated the role of self-regulation as a mediator in the relationships between trait mindfulness and dependent variables. For the purpose of the main study and path analyses performed, the main study included only two conditions for change uncertainty, high-uncertainty and control. The low-uncertainty condition was dropped because the model used for path analyses would not allow for more than two conditions for the independent variable. Further, the high-uncertainty and control group demonstrated the largest difference in change uncertainty means between conditions, thus making the two groups the most viable to compare in analyses.

The first set of hypotheses considered main effect relationships between change uncertainty conditions and dependent variables. The first hypothesis predicted that change uncertainty would have a statistically significant positive effect on negative affect, such that those participants in the high-uncertainty condition would experience more negative affect than those in the control group (Bryson et al., 2013; van Emmerik et al., 2009). The second main effect hypothesis predicted that change uncertainty would have an inverse effect on motivation to continue work with ABC Company, such that those in the high-uncertainty group would be less autonomously motivated to continue their work with the company than those in the control condition (Reichers et al., 1997). The third hypothesis predicted a positive effect of change uncertainty on intentions to turn over such that those in the high-uncertainty condition would demonstrate a greater intention to turn over at ABC Company than participants in the control group (Rafferty & Griffin, 2006).

Figure 1

Main Effect Relationships

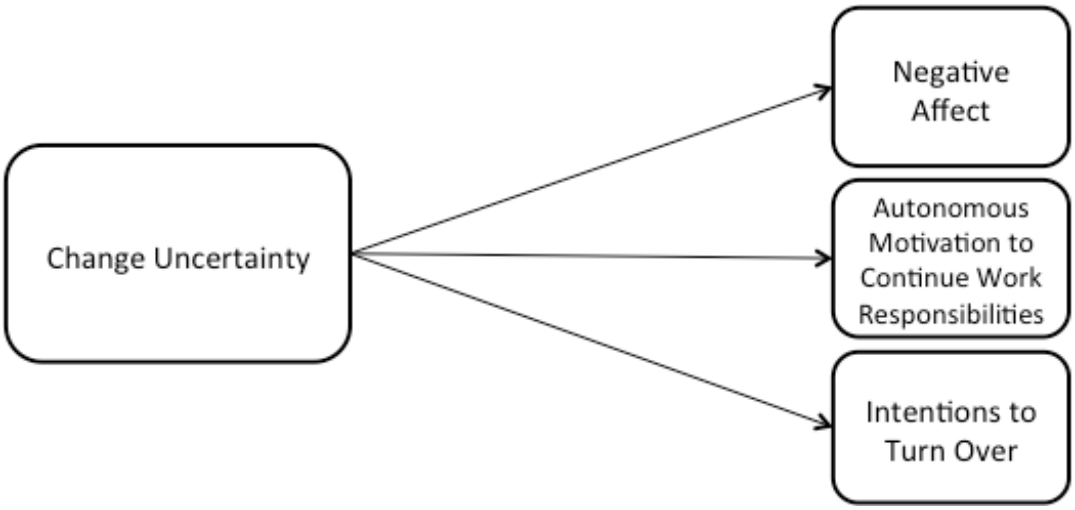

Table 7

Main Effect Hypotheses

H1a: Change uncertainty will have a statistically significant positive effect on negative affect, such that those who experience more change uncertainty will also experience more negative affect.
H1b: Change uncertainty will have a statistically significant negative effect on motivation, such that those who experience more change uncertainty will experience less autonomous motivation to continue with their work responsibilities.
H1c: Change uncertainty will have a significant positive effect on intentions to turn over, such that those who experience more change uncertainty will also experience greater intentions to turn over.

The second set of hypotheses assessed the effects of trait mindfulness as a moderator of the main effect relationships described above. Specifically, hypothesis 2a predicted that the positive effect of change uncertainty on negative affect would be moderated by trait mindfulness such that participants high in trait mindfulness would demonstrate less negative affect when compared to those participants with low trait mindfulness (Brown & Ryan, 2003). Further, considering previous evidence of the relationship between mindfulness and motivation, hypothesis 2b predicted that trait mindfulness would moderate the inverse effect of change uncertainty on autonomous motivation such that participants with more trait mindfulness would demonstrate more autonomous motivation to continue

their work at ABC Company than those who demonstrated less trait mindfulness (Brown et al., 2016; Brown & Ryan, 2003; Shultz & Ryan, 2015). The final moderation hypothesis predicted that the positive effect of change uncertainty on intentions to turn over would also be moderated by trait mindfulness, such that those who are more trait mindful will have lesser intentions to turn over than participants with less trait mindfulness (Reb et al., 2017).

Figure 2

Trait Mindfulness as a Moderator

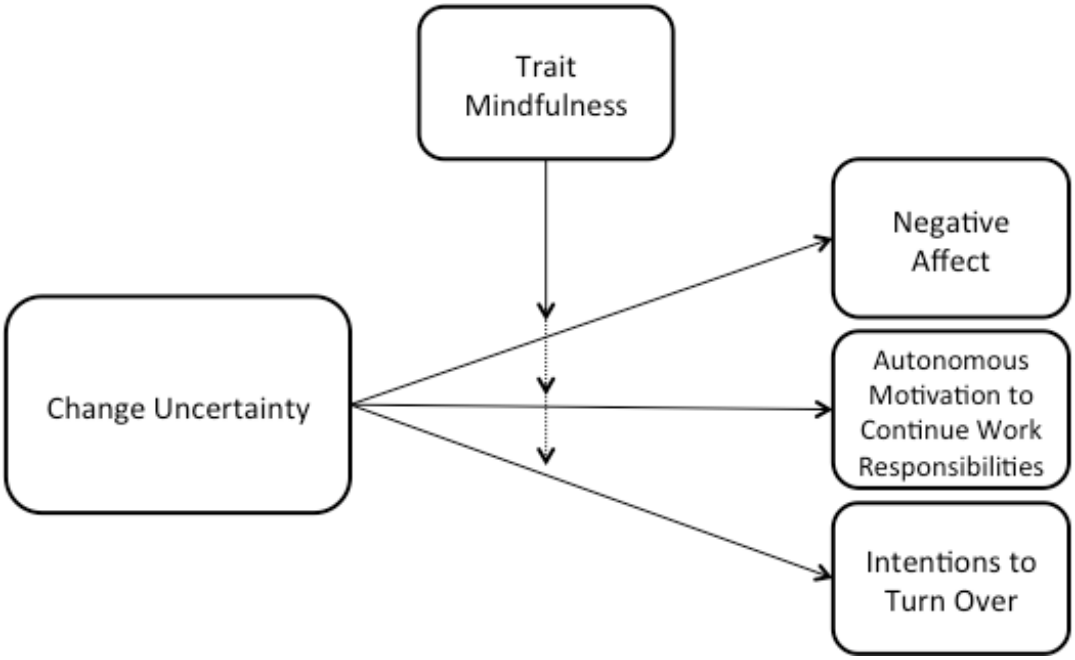

Table 8

Moderation Hypotheses

H2a: The positive relationship between change uncertainty and negative affect will be lessened amongst individuals with moderate to high levels of trait mindfulness.
H2b: The negative relationship between change uncertainty and autonomous motivation to continue with work responsibilities will be lessened amongst those who have moderate to high trait mindfulness.
H2c: The positive relationship between change uncertainty and intentions to turn over will be lessened amongst those with moderate to high trait mindfulness.

The final hypothesis in the proposed model predicted that self-regulation would mediate the relationships between trait mindfulness and dependent variables, such that the relationships between

trait mindfulness and dependent variables would be explained by increases in self-regulation (Papies et al., 2015). For example, the hypothesis would predict that the relationship between trait mindfulness and negative affect would be explained by self-regulation, such that as trait mindfulness increased, self-regulation would also increase, and that increased self-regulation would lessen negative affect (Short et al., 2016). The same logic would follow for autonomous motivation and intentions to turn over, such that increases in self-regulation would increase motivation and decrease intentions to turn over (Leroy et al., 2013; Wibowo & Paramita, 2021).

Figure 3

Self-regulation as Mediator

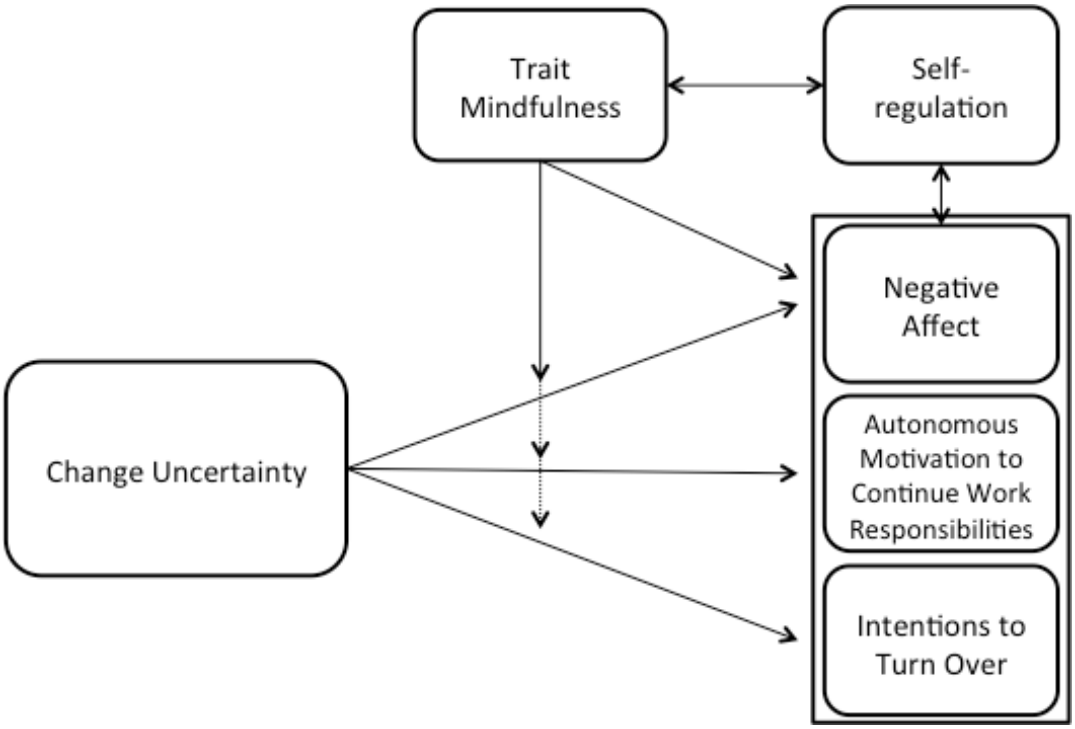

Table 9

Mediation Hypothesis

H3: The relationship between trait mindfulness and dependent variables (negative affect, autonomous motivation, and intentions to turn over) will be mediated by self-regulation, such that the relationship between trait mindfulness and dependent variables could be accounted for or explained by increases in self-regulation.

Design

The current study employed a between-groups posttest-only experimental design. The mediated moderation utilized change uncertainty as the independent variable with two levels (high-uncertainty and control). Dependent variables included negative affect, autonomous motivation to continue work responsibilities, and intentions to turn over. Trait mindfulness was included as a moderator of the relationships between change uncertainty and dependent variables, and self-regulation served as a mediator in the relationships between trait mindfulness and dependent variables.

Table 10

Main Study Design (n = 685)

	High-uncertainty	Control
Trait Mindfulness	*n* = 328	*n* = 357

Participants

Before collecting data, power analyses were conducted to assess the appropriate number of participants needed for the current study. To determine an appropriate sample size I conducted a simulation in R Studio SIMulated Structural Equation Modeling (AKA: simsem) package, which was based on standardized coefficient relationships between predictors and their outcomes as well as interactions. Direct pathways were set at a moderate relationship, $\beta = .30$, and interaction terms were set at small relationships, $\beta = .10$ (Cohen, 1988). Additionally, the residual variance for outcomes of the mediator

and main outcome were set at .20, a moderate effect size. From these relationships, the full theoretical model was simulated with 1,000 replications and an alpha level of .05.

Based on a sample of 640 participants, all pathways were determined to exceed the threshold for acceptable power (.80), with direct paths fully powered and the two interaction pathways at .801 (interaction to outcome variables) and .825 (interaction to self-regulation) respectively (Brysbaert, 2019). Furthermore, the relative bias (estimated average coefficient value) for the pathways were considered acceptable at less than 5.000% difference between the simulated and specified coefficient values (Hoogland & Boomsma, 1998). The simulation analyses did not allow for the specification of one versus two-tailed assessments, but rather, generated results for various alpha levels. Unlike GPower, simulation-based power analyses on R Studio required a specification of various sample sizes to assess fit indices. The simulations indicated that a sample of 640 participants would be adequate based on the above parameters.

The main study began with a sample of 2,013 participants. Of these participants, 1,102 were automatically removed from the survey for not passing the initial attention check questions with respect to the vignettes. An additional 93 participants were removed for missing one of two attention check items embedded within the change uncertainty and self-regulation scales. In addition to those who were automatically removed from the study, 51 participants quit the survey. Another 82 responses were manually removed after all data were collected due to short or irrelevant sentence responses for the sentence activity following the vignette manipulation. The final sample consisted of 685 U.S.-based participants (high-uncertainty n = 328; control n = 357).

Procedure

Participants were recruited through Amazon's Mechanical Turk (MTurk) platform and received .65¢ in exchange for their participation in the experiment. The MTurk HIT for the current study was titled, *"Your Thoughts about Changes at ABC Company".* Upon selecting the HIT, all participants were

prompted to view and accept informed consent terms before beginning the survey (See Appendix A for Informed Consent page.)

Vignette Manipulation

Upon entering the survey, all participants were randomly assigned to either the high-uncertainty or control group. The study utilized the revised experimental vignettes and priming procedures outlined in the above pilot study (See Appendix B for both vignettes.) In the high-uncertainty condition, participants read a vignette designed to elicit high-uncertainty with respect to organizational change. The vignette described a downsizing at ABC Company. The number of employees to be laid off, the criteria for layoffs, the timeline, employee career prospects, and likelihood that the participant would be laid off personally were intentionally ambiguous in order to induce uncertainty amongst participants. Unlike the high-uncertainty condition, the control group vignette made no mention of a downsizing at ABC Company and simply described the typical daily routine of an ABC Company employee.

Similar to the pilot study, participants in the high-uncertainty group were asked to review their vignette and write down three sentences that led them to feel uncertain. Participants in the control group were asked to simply write down three sentences that described the daily routine of the ABC employee in the scenario (See Appendix B for vignettes.)

Measures

Eligibility Questions

To identify eligibility for the study, all participants were asked for their age upon entering the survey. Participants under the age of 18 were automatically and immediately dropped from the study (See Appendix C for eligibility items.)

Attention Check Questions

Vignettes were followed by attention check items concerning the tenure, department, and number of departmental employees described in the scenario. Participants in the high-uncertainty

condition had one additional attention check item concerning the type of change occurring in the scenario. Throughout the survey, there were also two sporadically placed attention check items, reading, “Please select ‘Disagree’ for this statement.,” and “Please select ‘Strongly Disagree’ for this statement.” If either of these questions were answered incorrectly, participants were automatically removed from the survey (See Appendix C for attention check items.)

A total of 1,277 participants were removed from the study due to ineligibility, inattention, or inadequate responses to the sentence activity following the vignettes. If participants were removed from the study or chose to exit the survey at any point, they were redirected to the debriefing page. The debriefing page described the aims of the study and thanked all potential participants for their interest in completing the survey (See Appendix D for debriefing statement.)

Independent Variable

While change uncertainty groups (i.e., high-uncertainty and control) were used as the experimental conditions in the current study, the survey utilized Rafferty and Griffin’s (2006) seven-point, four-item, Psychological Uncertainty Scale to assess respondents’ levels of psychological uncertainty with respect to the change vignettes (α = .88 – 91). The Psychological Uncertainty Scale was included to ensure that vignettes continued to elicit appropriate levels of change uncertainty amongst participants in the main study.

Moderator

Trait Mindfulness (α = .81-.82). To assess trait mindfulness amongst individuals, Brown and Ryan (2003) created the 15-item Mindful Attention Awareness Scale (MAAS). The MAAS operates on a six-point Likert-type scale ranging from 1 (*almost always*) to 6 (*almost never*). Sample items include: “I break or spill things because of carelessness, not paying attention, or thinking of something else.,” and “I get so focused on the goal I want to achieve that I lose touch with what I am doing right now to get there.” In initial psychometric testing by Brown and Ryan, the measure boasted an alpha coefficient of

.82 and an interclass correlation of .81 after a four-week temporal stability analysis. For the purpose of the current study, modifications were made to the MAAS to create more consistency with the rest of the scales included in the survey. Namely, the scale anchors were reversed and modified to represent a seven-point scale, ranging from 1 (*almost never*) to 7 (*almost always*).

Dependent Variables

Change-related Affective Reactions (α = .85-.89). As mentioned in the above review, there is consistent empirical support for the relationship between mindfulness and stress reduction, as well as mindfulness and well-being (Glomb et al., 2011). For this reason, the current dissertation study also measured the affective responses of participants to the hypothetical changes at ABC Company. To assess MTurkers' affective reactions, the study utilized an abbreviated Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). The original 20-item measure asked participants to indicate the extent to which they felt each of 20 emotional states included in the scale from 1 (*very slightly or not at all*) to 5 (*extremely*). Both subscales were used to assess both positive affect (10-items; alpha = .89; moment measure) and negative affect (10-items; alpha = .85; moment measure) amongst participants. Overall, the scale assessed the extent to which participants felt both positive and negative affect concerning the changes at ABC Company.

Modifications were made to the original PANAS scale to reflect a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*). Also, to respect the time of MTurk respondents, a total of 13 states were assessed. Participants rated the degree to which they felt interested, scared, enthusiastic, upset, nervous, excited, or irritable in response to their respective vignettes. Emotions not included were: strength, alertness, inspiration, attentiveness, jitteriness, shame, activeness, fear, hostility, distress, guilt, and pride

There were also a few states added for the purpose of the study. For example, a single item was used to assess participants' subjective level of stress regarding the change. The stress item was added to

the PANAS emotion items and utilized the same format as the PANAS scale. Similar single-item measures were used by Begley and Czajka (1993) to identify employee stress levels with respect to organizational change. In addition, anxiety, calm, hopefulness, and anger were added based on findings from previous studies on affective outcomes of mindfulness (Brown & Ryan, 2003; Galante et al., 2016; Heppner et al., 2008; Sears & Kraus, 2009). Uncertainty was also added as a direct measure and supplement to Rafferty and Griffin's (2006) uncertainty scale.

Participants then had a single qualitative item in which they were asked to explain their affective response toward the downsizing. The single item read as follows, "Based on your responses above, why do you feel the way you do about the scenario at ABC Company?"

Change Motivation (α = .70 - .90). The Multidimensional Work Motivation Scale (MWMS) was developed to expand self-determination scales into work contexts (Gagné et al., 2015). The MWMS measures employee motivation across six dimensions of regulation, ranging from amotivation to intrinsic motivation. The MWMS was slightly modified for the purpose of the current study.

Participants were asked to rate their level of agreement with a series of reasons for continuing to perform their work responsibilities at ABC Company on a seven-point Likert-type scale ranging from 1 (*not at all*) to 7 (*completely*). The beginning stem for the questionnaire read as follows, "I would continue to put efforts into my job at ABC Company because…" Participants then rated themselves on 19 reasons (items) for continuing to put effort into their hypothetical jobs at ABC Company. Sample items included, "I wouldn't because I would really feel that I was wasting time at work." (amotivation), "To get others' approval." (extrinsic-social), "Because others would reward me financially only if I put enough effort into my job." (extrinsic-material), "Because I would have to prove to myself that I could." (introjected), "Because I would personally consider it important to put efforts into the job." (identified), or "Because I would have fun doing my job." (intrinsic; Gagné et al., 2015). The psychometric properties of the MWMS include an alpha of .90 for the intrinsic motivation subscale, .75 for the identified

regulation subscale, .70 for the introjected regulation subscale, and .76 and .79 for the extrinsic and amotivation subscales, respectively.

In addition to the MWMS, there was one additional direct item assessing participants' motivation to continue taking part in their day-to-day work. Responses were collected using a 7-point Likert-type scale ranging from 1 (*completely unmotivated*) to 7 (*extremely motivated*). The item read, "In light of the changes at ABC Company, how motivated would you feel to continue with your day-to-day job?"

Intentions to Turn Over. The survey included two additional items concerning intentions to turn over. These items were assessed on a seven-point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Items read as follows, "I would feel motivated to continue my work at ABC Company for the long term.," and "I would intend to quit my job at ABC Company as soon as I could get a better offer." The intention items were followed by a single open-ended question asking participants for their reasons in wanting to stay or leave ABC.

Mediator

Self-Regulation (α = .89 - .90). To assess both cognitive and emotional self-regulation, the study used an adapted version of the Cognitive Control and Flexibility Scale (CCFQ; Gabrys et al., 2018). The 18-item scale was developed to test participants' ability to cope flexibly with stressful situations. Two factors make up the scale, namely, cognitive control over emotions (alpha = .90) and appraisal and coping flexibility (alpha = .89). All items are assessed on a seven-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7). Cognitive control over emotions items include, "I can remain in control of my thoughts and emotions," and "I get easily distracted by upsetting thoughts and feelings". Appraisal and coping items include, "I take the time to think of more than one way to resolve the problem," and "I take the time to think of several ways to best cope with the situation before acting".

Covariates

Job Security. Job security was used as a covariate to assess participants' base level of job security in light of economic and employment changes resulting from COVID-19. The study utilized two items with respect to job security, including, ''I have a secure future in my current job or career.,'' and ''I worry about the future of my current job or career.'' Both items used a seven-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Tian and colleagues (2018) found an alpha coefficient of .66 for these items amongst their sample.

Demographic Items. The survey ended with demographic questions in which participants were asked to report on factors such as: gender, ethnicity, education level, marital status, household size, employment and occupational position outside of MTurk, income, and tenure within and outside of MTurk. Demographic items were used to better understand the composition of the sample (See Appendix C for full survey.)

Chapter 4: Results

Of the 685 participants included in the study, the majority of the sample identified as white (74.744%), were nearly evenly split between those who identified as female (42.044%) and male (57.080%), and were primarily aged 25-64 years old (88.467%; Please see Table 11 for more information.) Also, with respect to socio-economic factors, most participants held a bachelor's degree (60.584%), were employed full-time outside of MTurk (69.343%), worked in a supervisor or middle-manager role (54.599%), and earned an income between $30,000 to $60,000 per year (49.343%), and had one to two dependents they cared for personally (62.190%; Please see Appendix F for all demographic tables.)

Table 11

Basic Sample Demographics

Sample Demographics	*n*	*Percent*
Gender	685	100.000%
Male	391	57.080%
Female	288	42.044%
Non-binary	2	0.292%
Prefer Not to Say	4	0.584%
Ethnicity	685	100.000%
White of Caucasian	512	74.745%
Black of African American	69	10.073%
Hispanic or Latinx	30	4.380%
Asian or Pacific Islander	19	2.774%
Native American or American Indian	11	1.606%
Middle Eastern	3	0.438%
Mixed Background	41	5.985%
Age	685	100.000%
18 – 24 years old	53	7.737%
25 – 34 years old	276	40.292%
35 – 44 years old	177	25.839%
45 – 54 years old	84	12.263%
55-64 years old	69	10.073%
65-74 years old	20	2.920%
75 years or older	6	0.876%

All data were first assessed for completion and normality in distribution. Descriptive statistics revealed three outliers in self-regulation composite scores (initial self-regulation *M* = 4.642*, SD* = .826). These three cases demonstrated instances in which scores were slightly lower (e.g., 1.667, 2.056, and 2.111) than the acceptable range for the self-regulation composite (acceptable range of scores 2.164 – 7.000). The data were Winsorized to account for these three cases (Please see both initial and post-Winsorization figures below in Table 12.)

Table 12

Descriptive Statistics

	N	*M*	*SD*	Min	Max	Skew	Kurtosis
Change Uncertainty	685	4.905	1.523	1.000	7.000	-.894	.004
Trait Mindfulness	685	4.025	1.608	1.000	7.000	.340	-.987
Self-regulation	685	4.642	.826	1.667	7.000	.367	.995
Self-regulation Winsorized	685	4.643	.821	2.280	7.000	.421	.853
Negative Affect	685	3.626	1.669	1.000	7.000	-.049	-1.150
Autonomous Motivation	685	4.542	1.307	1.000	7.000	-.508	-.145
Intrinsic Motivation	685	4.530	1.538	1.000	7.000	-.522	-.426
Turn Over Intentions	685	3.860	1.303	1.000	7.000	-.111	.213

For all hypotheses, initial correlations were conducted to address any possible collinearity between variables and assess the existence of direct relationships between vignette conditions and change uncertainty. While there were no indications of collinearity, much like in the pilot, the data did reveal heterogeneity of variance upon completion of a Levene's test for change uncertainty scores across the control (*M* = 4.375*,* S^2 = 2.702) and high-uncertainty (*M* = 5.482*,* S^2 = 1.267) groups. The data also revealed skew and kurtosis for the high-uncertainty group that were slightly outside of acceptable parameters (skew = -1.093, kurtosis = 1.211).

To address the above issues, I reversed the change uncertainty scores and then completed a log transformation, which reduced variance for control (new S^2 = .464) and high-uncertainty (new S^2 = .397) conditions. This reversal and log transformation also restored both skew and kurtosis to normal

range across the control (new skew = -.151, new kurtosis = -.899) and high-uncertainty groups (new skew = -.025, new kurtosis = -.338; See Table 13 below for more information.)

Table 13

Change Uncertainty Scores Across Groups

Original Values	*N*	*M*	*SD*	S^2	Min	Max	Skew	Kurtosis
High-uncertainty	328	4.905	1.523	1.267	1.000	7.000	-1.093	1.211
Control	357	4.025	1.608	2.702	1.000	7.000	-.535	-.803
Transformed Values								
High-uncertainty Transformed	328	1.197	.630	.397	0.000	2.700	-.025	-.338
Control Transformed	357	1.704	.681	.464	0.000	2.807	-.151	-.899

Note. Change uncertainty scores were reversed and transformed using a log transformation.

Once all data were found to meet statistical assumptions for completion and normality, and no longer demonstrated the presence of any outliers, a one-way ANCOVA was conducted to assess the effects of the vignette manipulation on participants' change uncertainty scores (covariates included age, income, education, employment outside of MTurk, employment position, household size, gender, and job security). Based on the above analysis, the data demonstrated a statistically significant difference between vignette conditions, such that those in the control group (M = 6.296) demonstrated a lower level of change uncertainty than did those in the high-uncertainty condition (M = 6.803)*,* $F(1) = 97.220$*,* $p < .001$ (Please note that means have been reversed back to their pre-transformation ordering for reporting purposes.)

Model 1: Main Effect Relationships

A one-way ANCOVA was conducted to assess differences between uncertainty conditions (high-uncertainty/control) across all three dependent variables (negative affect, autonomous motivation to continue work responsibilities, and turn over intentions). Covariates of income, education, employment outside of MTurk, position, and household size, gender, age, and job security were included in analyses.

Hypothesis 1a predicted that change uncertainty would have a statistically significant and positive effect on negative affect, such that those experiencing more change uncertainty would also experience more negative affect. This hypothesis was supported by the data, $F(1, 675) = 87.034$, $R^2_{adj.} = .151$, $p < .001$, with those in the high-uncertainty condition ($M = 4.180$, $SD = 1.412$, $n = 328$) demonstrating more negative affect than those in the control condition ($M = 3.116$, $SD = 1.725$, $n = 357$).

Hypothesis 1b predicted that change uncertainty would have a statistically significant inverse effect on motivation, such that those who experience more change uncertainty will experience less autonomous motivation to continue with their work responsibilities. For this analysis, motivation was assessed using both the identified motivation and intrinsic motivation subscales from the MWMS (Gagné et al., 2015). The effect of change uncertainty on identified motivation was not supported by the data, $F(1, 675) = .035$, $R^2_{adj.} = .065$, $p = .852$, as both control ($M = 4.988$, $SD = 1.349$, $n = 357$) and high-uncertainty conditions ($M = 4.972$, $SD = 1.379$, $n = 328$) did not demonstrate a meaningful between group difference in means. Analyses did, however, support the effect of change uncertainty on intrinsic motivation, such that those in the high-uncertainty condition ($M = 4.275$, $SD = 1.601$, $n = 328$) demonstrated less intrinsic motivation to continue with work than did those in the control group ($M = 4.763$, $SD = 1.441$, $n = 357$), $F(1, 675) = 12.739$, $R^2_{adj.} = .090$, $p < .001$.

Hypothesis 1c predicted that change uncertainty would have a statistically significant positive effect on intentions to turn over, such that those who experienced more change uncertainty would also experience greater intentions to turn over. This hypothesis was supported by the data such that those in the high-uncertainty condition ($M = 4.174$, $SD = 1.276$, $n = 328$) were more likely to express intentions to turn over than were those in the control condition ($M = 3.570$, $SD = 1.261$, $n = 357$), $F(1, 675) = 37.453$, $R^2_{adj.} = .142$, $p < .001$.

Table 14

Main Effects of Change Uncertainty on Dependent Variables and Comparison Variables

Dependent Variable	*F*	*df1/df2*	Control Mean	*SD* Control	High-uncertainty Mean	*SD* High-uncertainty	*p-value*
Negative Affect	87.034	1/675	3.116	1.725	4.180	1.412	.000
Positive Affect	45.053	1/675	4.683	1.365	3.860	1.567	.000
General Motivation	33.528	1/675	5.620	1.232	4.940	1.632	.000
Identified Motivation	.035	1/675	4.988	1.349	4.972	1.379	.852
Intrinsic Motivation	12.739	1/675	4.763	1.441	4.275	1.601	.000
Intent to Turn Over	37.453	1/675	3.570	1.261	4.174	1.276	.000

Model 2: Trait Mindfulness as a Moderator

Moderation analyses were conducted to assess the influence of trait mindfulness on the relationship between change uncertainty and each dependent measure. An interaction term for change uncertainty and trait mindfulness was used to assess whether this interaction term would explain the variability in dependent measures beyond change uncertainty and trait mindfulness alone (Baron & Kenny, 1986). Covariates for all moderation analyses included income, education, employment outside of MTurk, position, and household size, gender, age, and job security.

Hypothesis 2a predicted that the positive relationship between change uncertainty and negative affect would be lessened amongst participants with moderate to high levels of trait mindfulness. Interaction analyses were conducted using SPSS PROCESS created by Hayes (2022). The data support the hypothesis such that those with greater trait mindfulness demonstrated less negative affect across conditions than did those low in trait mindfulness, $F(11, 673) = 31.647$, $R^2 = .341$, $B = .519$, $SE = .065$, $p < .001$.

Figure 4

Trait Mindfulness as a Moderator of the Relationship between Change Uncertainty and Negative Affect

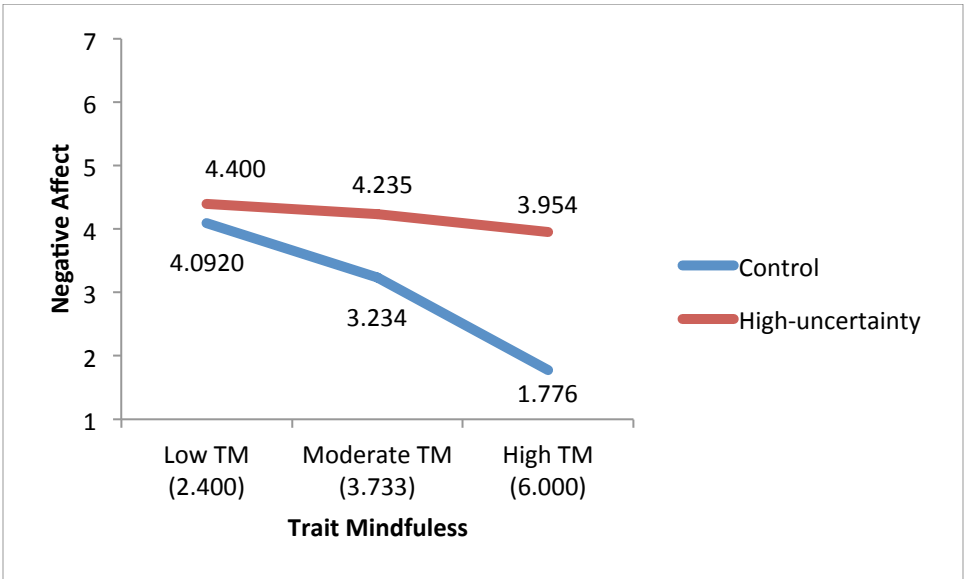

Table 15

Main Effects and Interaction Coefficients for Negative Affect as Dependent Variable

Independent Variable	*F*	*B*	*SE*	*df1/df2*	R^2	*p-value*
Overall	31.647		1.866	11/673	.341	.000
Change Uncertainty		-.938	.284			.001
Trait Mindfulness		-.643	.048			.000
Change Uncertainty X Trait Mindfulness		.519	.065			.000

Hypothesis 2b predicted that the inverse relationship between change uncertainty and identified motivation would be lessened amongst those with moderate to high trait mindfulness, such that those higher in trait mindfulness would demonstrate more autonomous motivation across conditions than would those who were lower in trait mindfulness. Analyses revealed that the moderation hypothesis was not supported when identified motivation was the dependent variable, $F(11, 673) = 10.903$, $R^2 = .151$, $B = -.015$, $SE = .061$, $p = .811$. This finding is to be expected considering

the lack of statistical support for the main effect relationship between change uncertainty and identified motivation above (See Hypothesis 1b).

While trait mindfulness did moderate the relationship between change uncertainty and intrinsic motivation $F(11, 673) = 24.382$, $R^2 = .285$, $B = -.142$, $SE = .063$, $p < .05$, the relationship did not follow predicted directionality. The data revealed that those higher in trait mindfulness demonstrated lower intrinsic motivation across both high-uncertainty (low trait mindfulness $M = 5.202$; high trait mindfulness $M = 3.324$) and control groups (low trait mindfulness $M = 5.321$; high trait mindfulness $M = 3.995$).

Figure 5

Trait Mindfulness as a Moderator of the Relationship between Change Uncertainty and Identified Motivation

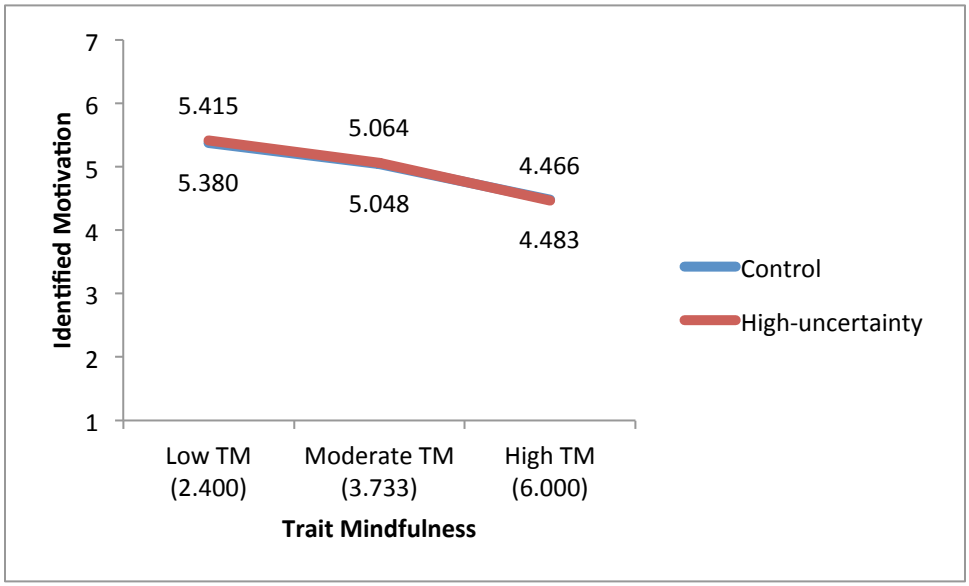

Table 16

Main Effects and Interaction Coefficients for Identified Motivation as Dependent Variable

Independent Variable	*F*	*B*	*SE*	*df1/df2*	R^2	*p-value*
Overall	10.903		1.601	11/673	.151	.000
Change Uncertainty		.070	.263			.791
Trait Mindfulness		-.249	.044			.000
Change Uncertainty X Trait Mindfulness		-.015	.061			.811

Figure 6

Trait Mindfulness as a Moderator of the Relationship between Change Uncertainty and Intrinsic Motivation

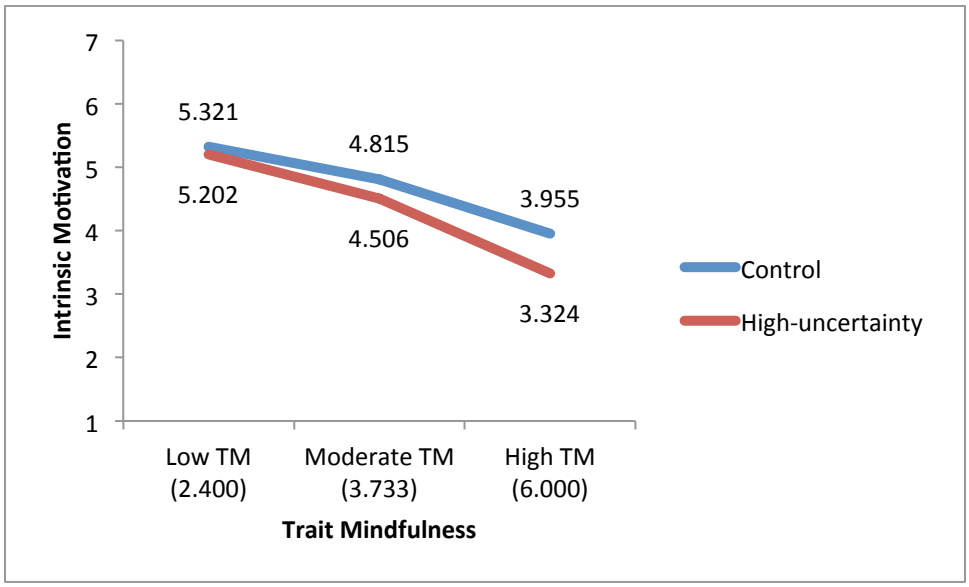

Table 17

Main Effects and Interaction Coefficients for Intrinsic Motivation as Dependent Variable

Independent Variable	*F*	*B*	*SE*	*df1/df2*	R^2	*p-value*
Overall	24.382		1.601	11/673	.285	.000
Change Uncertainty		.222	.273			.417
Trait Mindfulness		-.379	.046			.000
Change Uncertainty X Trait Mindfulness		-.142	.063			.024

Hypothesis 2c predicted that the positive relationship between change uncertainty and turn over intentions would be lessened amongst those with moderate to high trait mindfulness, such that trait mindful participants would demonstrate lesser intent to turn over than those lower in trait mindfulness. The data, while statistically significant, demonstrate unexpected differences between conditions $F(11, 673) = 15.664$, $R^2 = .204$, $B = .364$, $SE = .056$, $p < .001$. As trait mindfulness increased, intentions to turn over decreased for those in the control group (low trait mindfulness $M = 3.889$; high trait mindfulness M = 3.175). The opposite was true for the high-uncertainty group, such that as trait mindfulness increased amongst those in the high-uncertainty group, intentions to turn over also increased (low trait mindfulness $M = 3.869$; high trait mindfulness $M = 4.465$).

Figure 7

Trait Mindfulness as a Moderator of the Relationship between Change Uncertainty and Turn Over Intentions

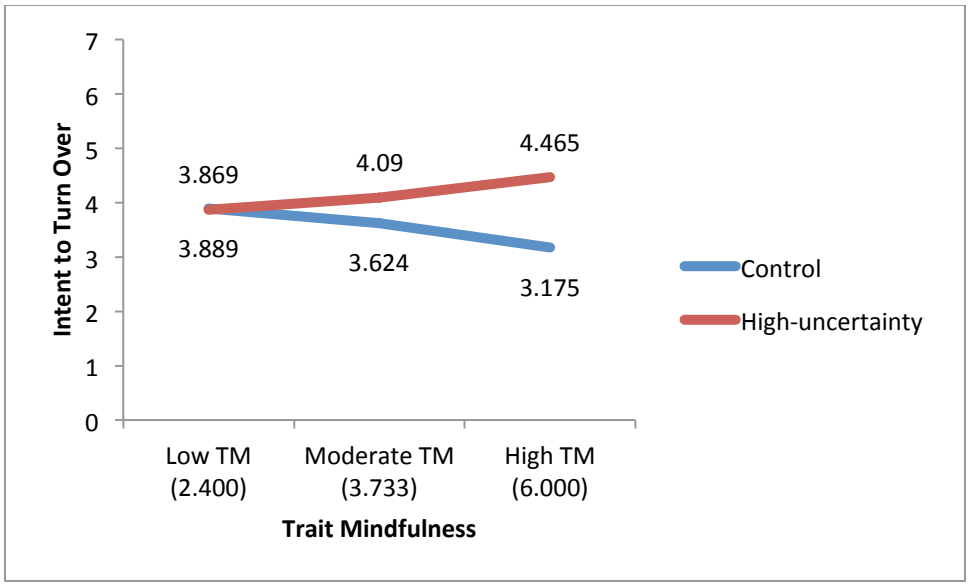

Table 18

Main Effects and Interaction Coefficients for Turn Over Intentions as Dependent Variable

Independent Variable	*F*	*B*	*SE*	*df1/df2*	R^2	*p-value*
Overall	15.664		1.601	11/673	.204	.000
Change Uncertainty		-.893	.244			.000
Trait Mindfulness		-.198	.041			.000
Change Uncertainty X Trait Mindfulness		.364	.056			.000

Model 3: Self-regulation as a Mediator

Mediation analyses began by measuring the relationship between trait mindfulness and each dependent variable (i.e., negative affect, motivation, & intentions to turn over) to assess main effects. Analyses also considered the direct relationship between trait mindfulness and self-regulation. A final regression was conducted to measure the relationship between self-regulation and dependent measures. Together, these analyses were used to determine the indirect effect of self-regulation as a mediator of the relationship between trait mindfulness and dependent measures (Baron & Kenny, 1986). Covariates for all mediation analyses included income, education, employment outside of MTurk, position, and household size, gender, age, and job security.

Hypothesis 3 predicted that the relationship between trait mindfulness and dependent variables (negative affect, motivation, and intentions to turn over) would be mediated by self-regulation. With respect to negative affect, the data did not support the mediation hypothesis (*ab* = .010*, SE* = .011*, p* = .230*, CI* = -.009 - .034). While there was a positive relationship between trait mindfulness and self-regulation, there was not a statistically significant relationship between self-regulation and negative affect. As such, the indirect effect of self-regulation as a mediator of the relationship between trait mindfulness and negative affect was not statistically significant.

Figure 8

Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Negative Affect

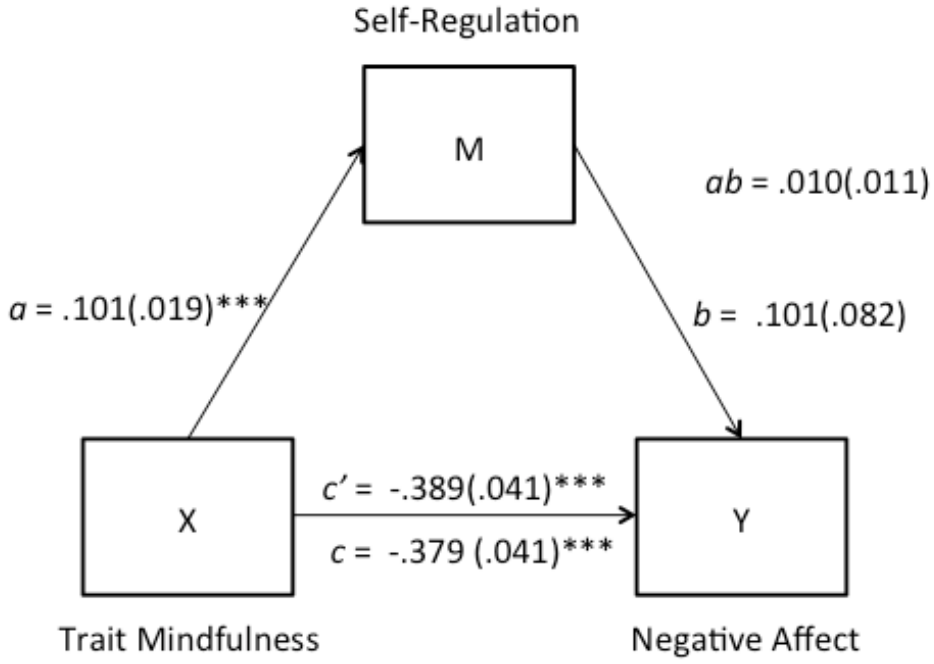

Table 19

Coefficients for Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Negative Affect

Variable	*B*	*95% CI*	*SE B*	*p*	R^2
a	.101	[.064, .138]	.019	< .001	.164***
b	.101	[-.061, .262]	.082	.222	
ab	.010	[-.009, .034]	.011	.230	
c	-.379	[-.458, -.299]	.041	< .000	
c'	-.389	[-.470, -.308]	.041	< .001	

Note. CI = confidence interval.

****p < .001*

In assessing self-regulation as a mediator of the relationship between trait mindfulness and motivation, I assessed the mediation with both identified and intrinsic motivation as dependent variables. With respect to identified motivation, the relationship between trait mindfulness and

motivation was mediated by self-regulation (*ab* = .068*, SE* = .018*, p* < .001*, CI* = .035 - .106). Further, the data support the prediction that the relationship between trait mindfulness and intrinsic motivation was also mediated by self-regulation (*ab* = .054*, SE* = .016*, p* < .001*, CI* = .028 - .092). In both cases, as self-regulation increased, motivation increased as well.

Figure 9

Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Identified Motivation

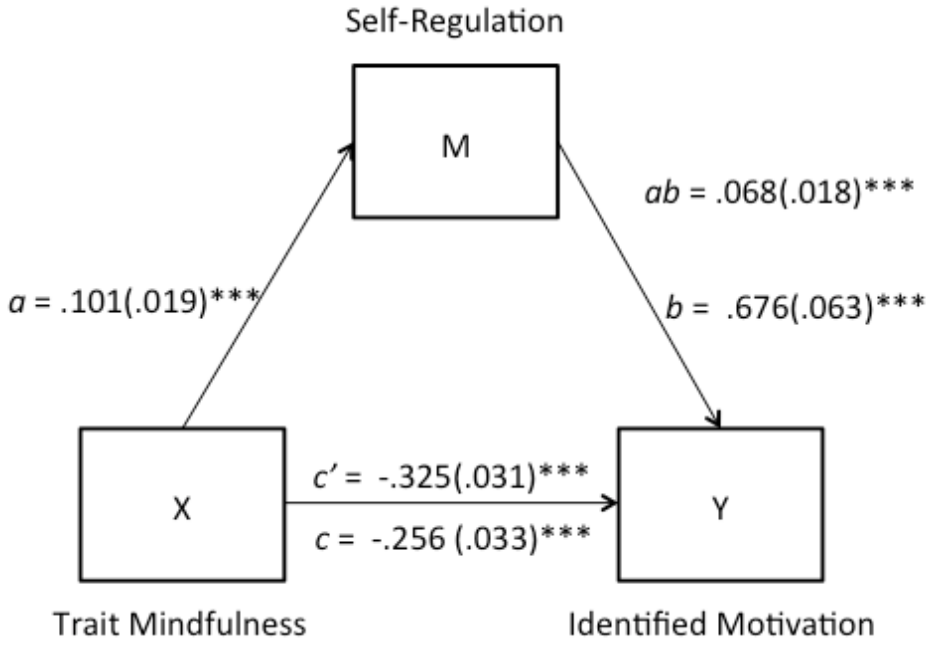

Table 20

Coefficients for Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Identified Motivation

Variable	*B*	*95% CI*	*SE B*	*p*	R^2
a	.101	[.064, .138]	.019	< .001	.277***
b	.676	[.553, .799]	.063	< .001	
ab	.068	[.035, .106]	.018	< .001	
c	-.256	[-.322, -.191]	.033	< .001	
c'	-.325	[-.386, -.263]	.031	< .001	

Note. CI = confidence interval.

****p* < .001*

Figure 10

Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Intrinsic Motivation

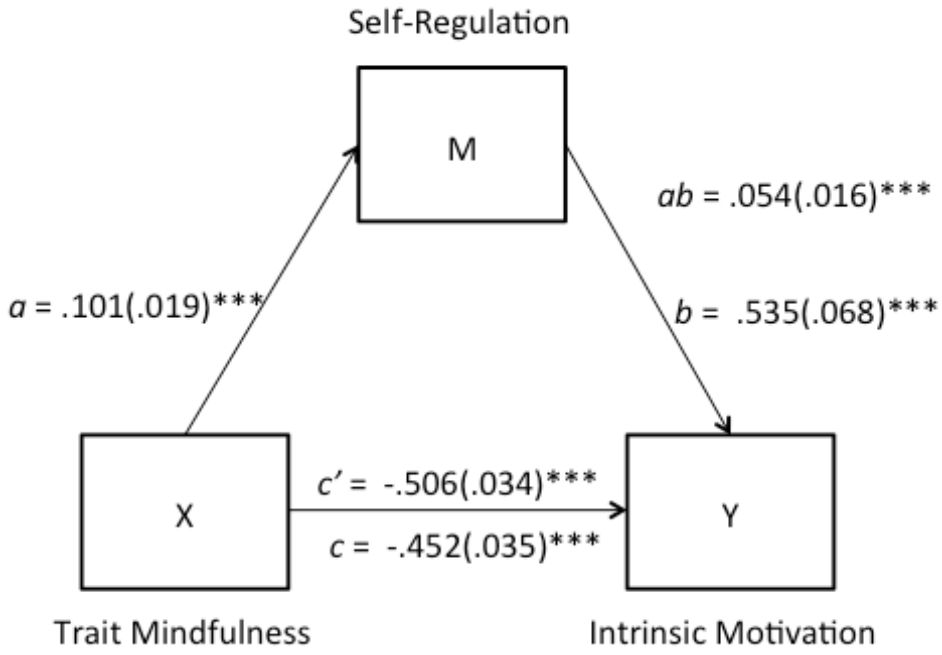

Table 21

Coefficients for Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Intrinsic Motivation

Variable	*B*	*95% CI*	*SE B*	*p*	R^2
a	. 101	[.064, .138]	. 019	< .001	.328***
b	.535	[.402, .669]	.068	< .001	
ab	.054	[.028, .092]	.016	< .001	
c	-.452	[-.521, -.384]	.035	< .001	
c'	-.506	[-.574, -.439]	.034	< .001	

Note. CI = confidence interval.

****p < .001*

Finally, in assessing the mediation hypothesis for the relationship between trait mindfulness and turn over intentions, the data support the mediation hypothesis (*ab* = -.027*, SE* = .010*, p* < .01*, CI* = -.048- -.009). Findings demonstrated that as self-regulation increased, intentions to turn over decreased amongst participants.

Figure 11

Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Intentions to Turn Over

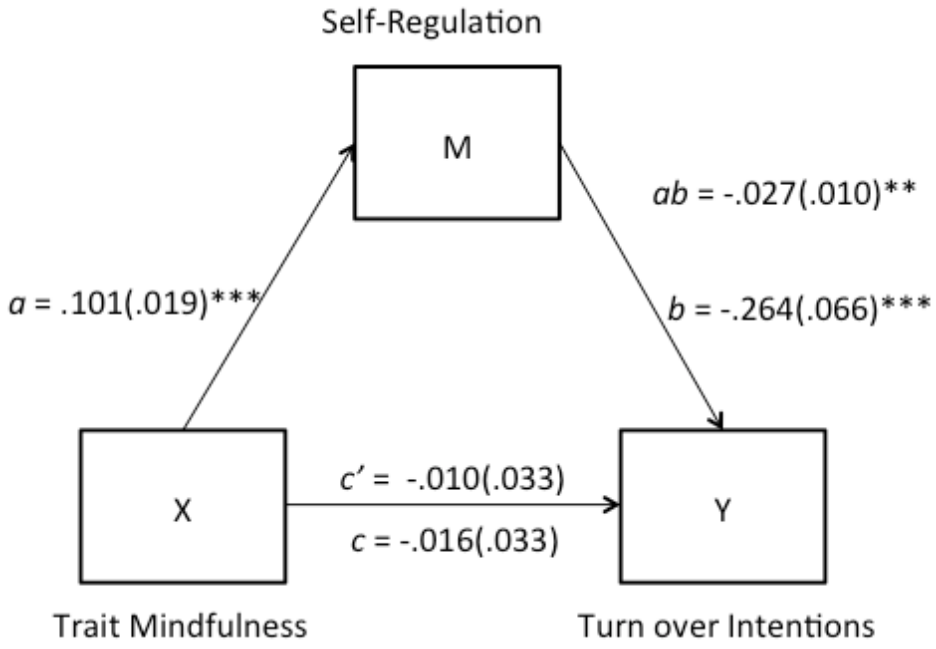

Table 22

Coefficients for Self-regulation as a Mediator of the Relationship between Trait Mindfulness and Turn Over Intentions

Variable	*B*	*95% CI*	*SE B*	*p*	R^2
a	. 101	[.064, .138]	. 019	< .001	.128***
b	-.264	[-.392, -.135]	.066	< .001	
ab	-.027	[-.048, -.009]	.010	< .01	
c	-.016	[-.080, .048]	.033	.618	
c'	-.010	[-.055, .075]	.033	.755	

Note. CI = confidence interval.

****p < .001*

Full Model: Path Analyses

Upon completion of the above analyses, the full theoretical model was tested using path analysis across all dependent variables. The analysis was completed by using Hayes' (2022) PROCESS

macro for SPSS and utilized Model 5, which is a moderated mediation. While Model 5 appears different from the model referred to in the current study, Hayes argues that a moderated mediation is a more appropriate method through which to assess path analyses than is mediated moderation. He argues that while the two assessments are mathematically similar, a moderated mediation provides more context by using the XW (the interaction term for change uncertainty and trait mindfulness in the current study) as part of the mediation analysis, rather than as an addition to a separate moderation analysis (Hayes, 2022). Model 5 would assess the mediation hypothesis that self-regulation mediates the relationship between trait mindfulness and dependent variables, while also assessing the main effect relationship between change uncertainty and dependent variables, and between the interaction term for change uncertainty and mindfulness on the dependent variables.

The first path analysis included negative affect as the dependent variable. The model demonstrated a statistically significant main effect between change uncertainty condition and negative affect, $t(12, 672) = -3.264$, $p < .01$, and a statistically significant interaction effect of trait mindfulness on the main effect relationship between change uncertainty and negative affect, $t(12, 672) = 7.883$, $p < .001$. Self-regulation, however, did not mediate the relationship between trait mindfulness and negative affect ($ab = .006$, $SE = .009$, $p = .432$, $CI = -.009$ - $.025$). Although the relationship between change uncertainty and negative affect was statistically significant, the direction of the relationship changed to reflect an inverse relationship between variables.

Figure 12

Path Analysis of Full Model with Negative Affect as the Dependent Variable

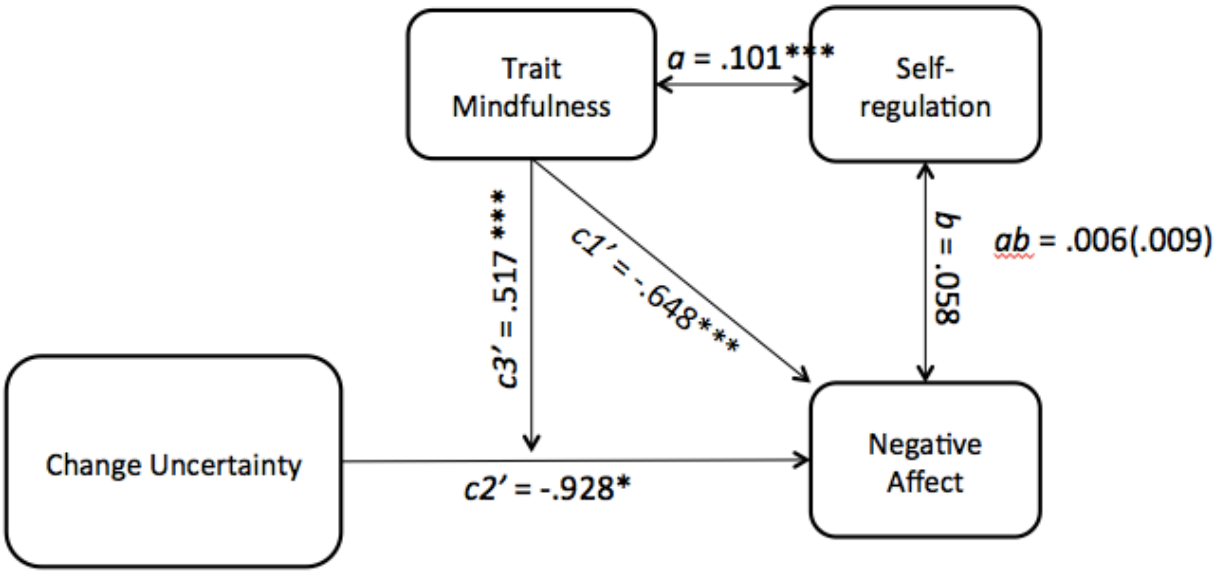

Table 23

Path Analysis Coefficients for Full Model with Negative Affect as the Dependent Variable

Variable	Relationship	R^2	*B*	*SE*	*CI*	*F*	*df1*	*df2*	*p*
Overall		.342		1.867		29.045	12	672	.000
a_i	*X -> M*		.101	.019	[.064, .138]				.000
b_i	*M -> Y*		.058	.073	[-.086, .202]				.430
ab	*Indirect Effect*		.006	.009	[-.009, .025]				.432
$c_1{}'$	*X -> Y*		-.648	.048	[-.742, -.553]				.000
c_2'	*W -> Y*		-.928	.284	[-1.486, -.370]				.001
$c_3{}'$	*XW -> Y*		.517	.066	[.388, .645]				.000

Note. CI = confidence interval.

****p* < .001

Next, I assessed the model with identified motivation as the dependent variable. The model did not demonstrate a statistically significant main effect between change uncertainty condition and identified motivation, *t*(12, 672) = .762, *p* = .447, and did not support a statistically significant interaction effect of trait mindfulness on the main effect relationship between change uncertainty and identified

motivation, *t*(12, 672) = -.835*, p* = .404. Self-regulation did, however, mediate the relationship between trait mindfulness and identified motivation (*ab* = .069*, SE* = .018*, p* < .001*, CI* = .035 - .106). Again, upon entering all pathways into the model, the main effect relationship between change uncertainty and identified motivation was reversed to reflect a positive relationship between variables.

Figure 13

Path Analysis of Full Model with Identified Motivation as the Dependent Variable

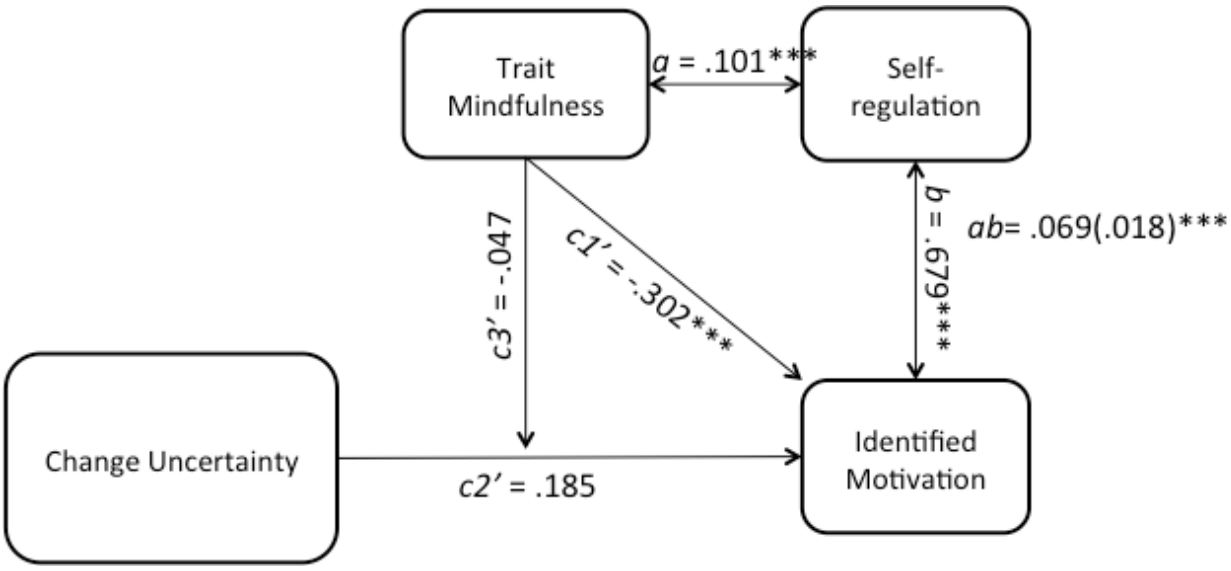

Table 24

Path Analysis Coefficients for Full Model with Identified Motivation as the Dependent Variable

Variable	Relationship	R^2	*B*	*SE*	*CI*	*F*	*df1*	*df2*	*p*
Overall		.277		1.365		21.486	12	672	.000
a_i	*X -> M*		.101	.019	[.064, .138]				.000
b_i	*M -> Y*		.679	.063	[.556, .802]				.000
ab	*Indirect Effect*		.069	.018	[.035, .106]				.000
$c_1{}'$	*X -> Y*		-.302	.041	[-.383, - -.222]				.000
c_2'	*W -> Y*		.185	.243	[-.292, .662]				.447
$c_3{}'$	*XW -> Y*		-.047	.056	[-.157, .063]				.404

Note. CI = confidence interval.

****p < .001*

Further analyses did not demonstrate a statistically significant main effect between change uncertainty condition and intrinsic motivation, $t(12, 672) = 1.209$, $p = .227$, but did support a statistically significant interaction effect of trait mindfulness on the main effect relationship between change uncertainty and intrinsic motivation, $t(12, 672) = -2.804$, $p < .01$. The data also supported self-regulation as a statistically significant mediator in the relationship between trait mindfulness and intrinsic motivation ($ab = .056$, $SE = .016$, $p < .001$, $CI = .027$ - $.091$). The main effect relationship between change uncertainty and intrinsic motivation was again found to be reversed from the directionality of the original main effect analyses assessed in model one.

Figure 14

Path Analysis of Full Model with Intrinsic Motivation as the Dependent Variable

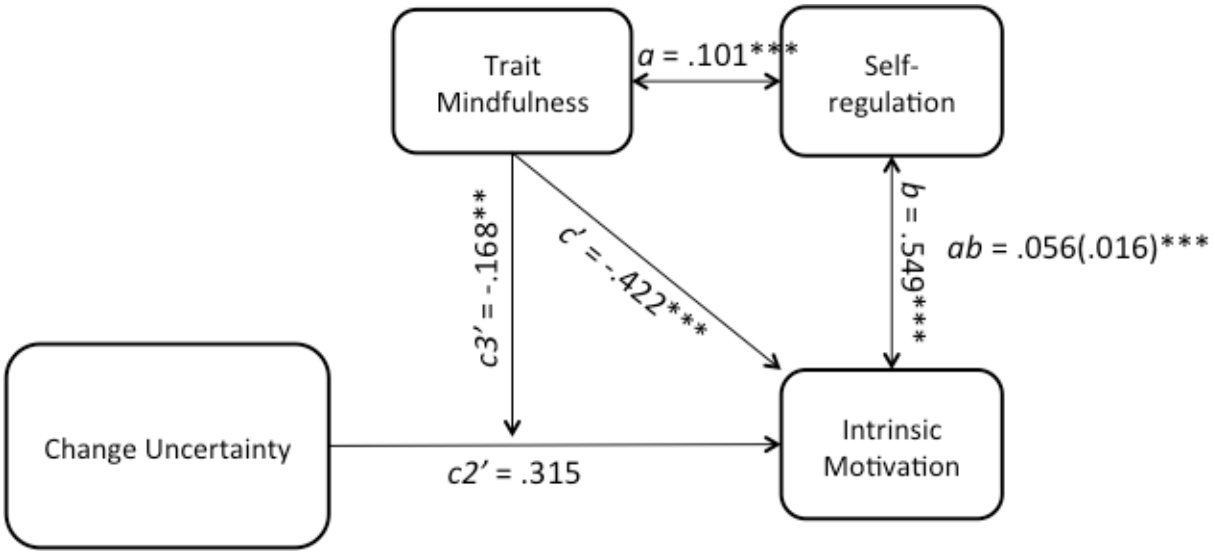

Table 25

Path Analysis Coefficients for Full Model with Intrinsic Motivation as the Dependent Variable

Variable	Relationship	R^2	*B*	*SE*	*CI*	*F*	*df1*	*df2*	*p*
Overall		.350		1.566		30.103	12	672	.000
a_i	*X -> M*		.101	.019	[.064, .138]				.000
b_i	*M -> Y*		.549	.067	[.417, .681]				.000
ab	*Indirect Effect*		.056	.016	[.027, .091]				.000
$c_1{}'$	*X -> Y*		-.422	.044	[-.509, -.336]				.000
c_2'	*W -> Y*		.315	.260	[-.196, .826]				.227
$c_3{}'$	*XW -> Y*		-.168	.060	[-.286, -.050]				.005

Note. CI = confidence interval.

****p < .001*

Finally, in assessing turn over intentions, the analyses demonstrated a statistically significant main effect between change uncertainty condition and turn over intentions, *t*(12, 672) = -3.926, *p* < .001, and a statistically significant interaction effect of trait mindfulness on the main effect relationship between change uncertainty and turn over intentions, *t*(12, 672) = 6.826, *p* < .001. Self-regulation also mediated the relationship between trait mindfulness and intentions to turn over (*ab* = -.030, *SE* = .010, *p* < .001, *CI* = -.051 - -.012). The direction of the main effect relationship between change uncertainty and turn over intentions was also reversed when added to the path model.

Figure 15

Path Analysis of Full Model with Turn Over Intentions as the Dependent Variable

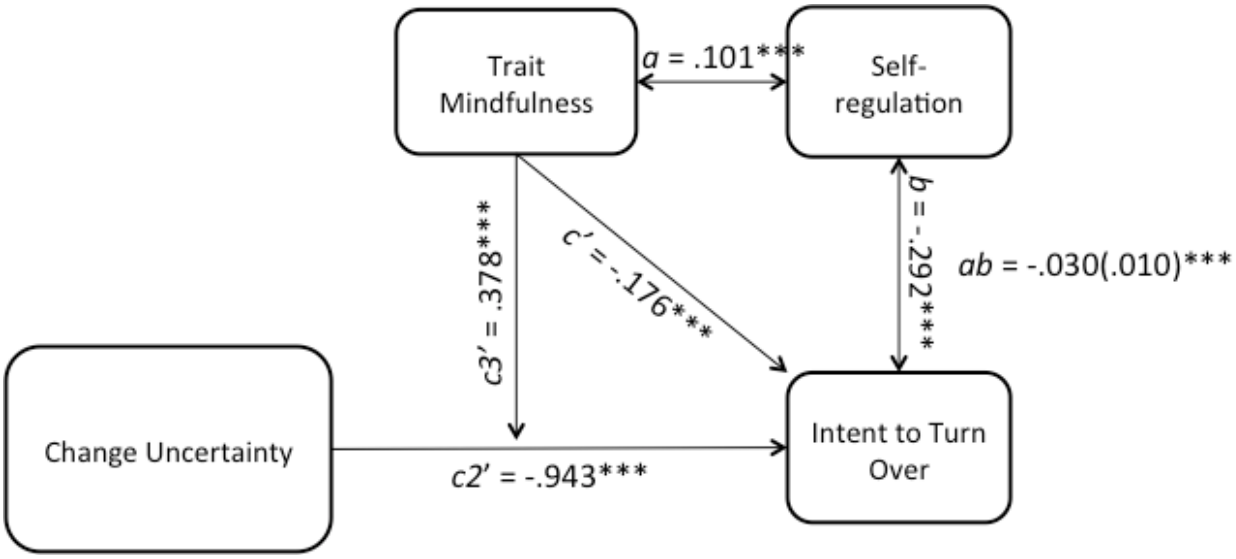

Table 26

Path Analysis Coefficients for Full Model with Turn Over Intentions as the Dependent Variable

Variable	Relationship	R^2	*B*	*SE*	*CI*	*F*	*df1*	*df2*	*p*
Overall		.229		1.332		16.664	12	672	.000
a_i	*X -> M*		.101	.019	[.064, .138]				.000
b_i	*M -> Y*		-.292	.062	[-.414, -.170]				.000
ab	*Indirect Effect*		-.030	.010	[-.051, -.012]				.000
$c_1{}'$	*X -> Y*		-.176	.041	[-.255, -.096]				.000
c_2'	*W -> Y*		-.943	.240	[-1.414, -.471]				.000
$c_3{}'$	*XW -> Y*		.378	.055	[.269, .486]				.000

Note. CI = confidence interval.

****p* < .001*

Additional Post-hoc Analyses

In addition to the hypothesis tests conducted above, a few additional tests were conducted to further understand potential reasons for the above findings. First, in an effort to understand why adding trait mindfulness as a moderator might cause autonomous motivation to decrease, I speculated as to whether trait mindfulness might dampen high arousal emotions that might energize motivation. To test

this idea, I conducted a basic correlation between trait mindfulness and each PANAS emotion (positive and negative) included in the current study. The data revealed statistically significant inverse relationships with all PANAS emotions, implying that as trait mindfulness increased, every emotion in the PANAS scale (positive and negative) decreased in its level of arousal. Please note that the relationship between trait mindfulness and each PANAS emotion could be bi-directional and further investigation would be needed to identify causality.

Table 27

Correlation Coefficients for the relationship between Trait Mindfulness and PANAS Emotions

Emotion	α	*p-value*
Stress	-.249***	.000
Interest	-.244***	.000
Scared	-.336***	.000
Enthusiastic	-.401***	.000
Upset	-.288***	.000
Calm	-.330***	.000
Nervous	-.307***	.000
Excited	-.527***	.000
Anxious	-.293***	.000
Irritable	-.365***	.000
Hopeful	-.458***	.000
Uncertain	-.192***	.000
Angry	-.371***	.000

****p < .001*

Correlational analyses were conducted to further assess the relationship between affect and motivation. Results demonstrated a positive relationship between affect and motivation, such that lower emotional arousal (positive and negative) was related to less motivation.

Table 28

Correlation Coefficients for the relationship between Motivation and Affect

	Negative Affect	Positive Affect
Amotivation	.436**	.408**
Extrinsic Regulation - Social	.334**	.403**
Extrinsic Regulation - Material	.229**	.338**
Introjected Motivation	.258**	.464**
Identified Motivation	.095*	.346**
Intrinsic Motivation	.152**	.645**
General Motivation (single item)	.018	.503**

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

Additional item-by-item analyses were conducted by correlating all trait mindfulness (MAAS) items with all affect (PANAS) and motivation (MWMS) items included in the survey. All item-level relationships between trait mindfulness and affect were found to be both inversely related and statistically significant. All relationships between trait mindfulness and motivation items were also found to be inversely related. Most were statistically significant with the exception of relationships between item 15 of the MWMS (identified motivation) and items three, four, and fourteen of the MAAS. Findings seem to further support the notion that trait mindfulness may have a dampening effect on emotional arousal and motivation amongst participants.

Table 29

Alpha Coefficients for Correlation of Mindful Attention Awareness Scale (MAAS) Items and Positive and Negative Affect Schedule (PANAS) Items

	Positive Affect				
	Interested	Enthusiastic	Calm	Excited	Hopeful
MAAS 1	-.285**	-.405**	-.320**	-.535**	-.462**
MAAS 2	-.198**	-.383**	-.314**	-.491**	-.420**
MAAS 3	-.186**	-.354**	-.275**	-.449**	-.374**
MAAS 4	-.166**	-.315**	-.286**	-.386**	-.350**
MAAS 5	-.182**	-.327**	-.272**	-.450**	-.385**
MAAS 6	-.230**	-.256**	-.251**	-.374**	-.325**
MAAS 7	-.189**	-.328**	-.275**	-.396**	-.377**
MAAS 8	-.201**	-.343**	-.287**	-.474**	-.393**
MAAS 9	-.195**	-.371**	-.261**	-.451**	-.412**
MAAS 10	-.239**	-.340**	-.278**	-.445**	-.401**
MAAS 11	-.223**	-.309**	-.268**	-.376**	-.352**
MAAS 12	-.231**	-.389**	-.306**	-.518**	-.432**
MAAS 13	-.218**	-.286**	-.223**	-.356**	-.316**
MAAS 14	-.101**	-.213**	-.175**	-.337**	-.274**
MAAS 15	-.195**	-.357**	-.297**	-.493**	-.409**

***p < .01*

	Negative Affect							
	Scared	Upset	Nervous	Anxious	Irritable	Angry	Stressed	Uncertain
MAAS 1	-.304**	-.242**	-.236**	-.233**	-.294**	-.293**	-.246**	-.170**
MAAS 2	-.294**	-.241**	-.270**	-.270**	-.312**	-.313**	-.215**	-.154**
MAAS 3	-.299**	-.267**	-.268**	-.267**	-.331**	-.325**	-.209**	-.171**
MAAS 4	-.251**	-.198**	-.214**	-.218**	-.272**	-.284**	-.178**	-.136**
MAAS 5	-.291**	-.271**	-.282**	-.264**	-.329**	-.337**	-.230**	-.184**
MAAS 6	-.254**	-.208**	-.213**	-.227**	-.252**	-.278**	-.194**	-.150**
MAAS 7	-.254**	-.228**	-.242**	-.227**	-.299**	-.300**	-.175**	-.144**
MAAS 8	-.300**	-.240**	-.252**	-.254**	-.309**	-.299**	-.184**	-.137**
MAAS 9	-.266**	-.237**	-.243**	-.202**	-.296**	-.289**	-.189**	-.153**
MAAS 10	-.260**	-.223**	-.251**	-.225**	-.281**	-.313**	-.209**	-.179**
MAAS 11	-.258**	-.216**	-.223**	-.198**	-.273**	-.285**	-.233**	-.174**
MAAS 12	-.289**	-.217**	-.243**	-.234**	-.317**	-.286**	-.188**	-.125**
MAAS 13	-.273**	-.235**	-.232**	-.261**	-.291**	-.283**	-.206**	-.170**
MAAS 14	-.247**	-.254**	-.312**	-.275**	-.319**	-.322**	-.212**	-.175**
MAAS 15	-.321**	-.287**	-.311**	-.273**	-.348**	-.386**	-.224**	-.161**

***p < .01*

Table 30

Alpha Coefficients for Correlation of Mindful Attention Awareness Scale (MAAS) Items with Multidimensional Work Motivation Scale Items (MWMS)

		MAAS							
		MAAS 1	MAAS 2	MAAS 3	MAAS 4	MAAS 5	MAAS 6	MAAS 7	MAAS 8
MWMS	**Amotivation**								
	1	-.575**	-.561**	-.539**	-.479**	-.531**	-.479**	-.483**	-.550**
	2	-.576**	-.592**	-.579**	-.519**	-.530**	-.450**	-.553**	-.574**
	3	-.537**	-.575**	-.591**	-.500**	-.531**	-.447**	-.521**	-.593**
	Extrinsic Regulation - Social								
	4	-.380**	-.352**	-.379**	-.338**	-.316**	-.363**	-.364**	-.356**
	5	-.396**	-.324**	-.318**	-.309**	-.320**	-.344**	-.336**	-.349**
	6	-.405**	-.369**	-.377**	-.358**	-.384**	-.328**	-.371**	-.394**
	Extrinsic Regulation - Material								
	7	-.412**	-.353**	-.308**	-.327**	-.377**	-.345**	-.351**	-.337**
	8	-.361**	-.299**	-.236**	-.270**	-.293**	-.359**	-.313**	-.304**
	9	-.198**	-.162**	-.142**	-.155**	-.197**	-.240**	-.198**	-.174**
	Introjected Regulation								
	10	-.374**	-.309**	-.278**	-.256**	-.282**	-.290**	-.317**	-.337**
	11	-.312**	-.233**	-.243**	-.227**	-.250**	-.274**	-.253**	-.250**
	12	-.302**	-.286**	-.289**	-.232**	-.260**	-.313**	-.271**	-.284**
	13	-.312**	-.296**	-.268**	-.234**	-.282**	-.297**	-.255**	-.292**
	Identified Regulation								
	14	-.215**	-.123**	-.111**	-.116**	-.157**	-.217**	-.120**	-.130**
	15	-.194**	-.079*	-.069	-.059	-.122**	-.226**	-.115**	-.109**
	16	-.201**	-.142**	-.131**	-.097*	-.144**	-.204**	-.182**	-.118**
	Intrinsic Motivation								
	17	-.430**	-.362**	-.358**	-.349**	-.384**	-.370**	-.374**	-.385**
	18	-.440**	-.382**	-.340**	-.313**	-.378**	-.335**	-.328**	-.350**
	19	-.391**	-.305**	-.274**	-.275**	-.322**	-.272**	-.265**	-.279**
	General Motivation (single item)								
	1	-.321**	-.269**	-.222**	-.221**	-.255**	-.217**	-.228**	-.244**

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

Table 30 (cont'd.)

Alpha Coefficients for Correlation of Mindful Attention Awareness Scale (MAAS) Items with Multidimensional Work Motivation Scale Items (MWMS)

		MAAS						
		MAAS 9	MAAS 10	MAAS 11	MAAS 12	MAAS 13	MAAS 14	MAAS 15
MWMS	**Amotivation**							
	1	-.467**	-.513**	-.473**	-.571**	-.454**	-.411**	-.559**
	2	-.521**	-.534**	-.449**	-.623**	-.462**	-.410**	-.567**
	3	-.500**	-.515**	-.449**	-.584**	-.485**	-.416**	-.547**
	Extrinsic Regulation - Social							
	4	-.321**	-.370**	-.342**	-.396**	-.354**	-.304**	-.350**
	5	-.316**	-.352**	-.362**	-.388**	-.342**	-.261**	-.358**
	6	-.367**	-.403**	-.388**	-.425**	-.372**	-.331**	-.410**
	Extrinsic Regulation - Material							
	7	-.306**	-.371**	-.350**	-.363**	-.316**	-.286**	-.361**
	8	-.259**	-.311**	-.397**	-.338**	-.301**	-.228**	-.259**
	9	-.092*	-.186**	-.246**	-.189**	-.193**	-.140**	-.140**
	Introjected Regulation							
	10	-.303**	-.324**	-.305**	-.345**	-.324**	-.240**	-.296**
	11	-.282**	-.261**	-.305**	-.289**	-.277**	-.204**	-.242**
	12	-.261**	-.308**	-.309**	-.303**	-.249**	-.255**	-.337**
	13	-.280**	-.309**	-.299**	-.296**	-.244**	-.267**	-.297**
	Identified Regulation							
	14	-.130**	-.175**	-.231**	-.163**	-.148**	-.135**	-.164**
	15	-.078*	-.095*	-.255**	-.131**	-.122**	-.071	-.079*
	16	-.155**	-.163**	-.249**	-.222**	-.170**	-.119**	-.149**
	Intrinsic Motivation							
	17	-.376**	-.370**	-.372**	-.402**	-.321**	-.309**	-.410**
	18	-.387**	-.369**	-.361**	-.396**	-.334**	-.267**	-.410**
	19	-.314**	-.341**	-.300**	-.329**	-.276**	-.228**	-.364**
	General Motivation (single item)							
	1	-.215**	-.264**	-.251**	-.275**	-.202**	-.204**	-.239**

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

Further, due to the nature of the moderating effect of trait mindfulness on the relationship between change uncertainty and autonomous motivation, there was a possibility that low autonomous motivation amongst those higher in trait mindfulness could explain heightened intentions to turn over amongst those with high trait mindfulness in the high-uncertainty group. To assess this potential

explanation for turn over findings, I conducted a simple correlational analysis between autonomous motivation and turn over intentions and found statistically significant relationships between both identified motivation and turn over intentions, as well as intrinsic motivation and turn over intentions. Please note that the relationships between motivation and turn over intentions could be bi-directional and further investigation would be needed to identify potential causality.

Table 31

Correlation Coefficients for the relationship between Motivation and Turn Over Intentions

Motivation	α	*p-value*
Identified Motivation	-.335***	.000
Intrinsic Motivation	-.337***	.000

To understand potential reasons for the lack of support for the mediation effect between trait mindfulness and negative affect through self-regulation, I considered the statistical significance of mediation analyses using each of the two subscales included in the CCFQ scale used to measure self-regulation. Findings revealed that while the mediation hypothesis was not supported for the Cognitive Control Over Emotions Subscale (*ab* = -.056*, SE* = .042*, p* = .097*, CI* = -.135 - .031), it was supported for the Appraisal and Coping Flexibility Scale (*ab* = -.037*, SE* = .015*, p* < .01*, CI* = -.066 - -.010). The finding suggests that trait mindfulness may reduce negative affect by helping individuals to more flexibly appraise and cope with change.

Figure 16

Cognitive Control Over Emotions as a Mediator of the Relationship between Trait Mindfulness and Negative Affect

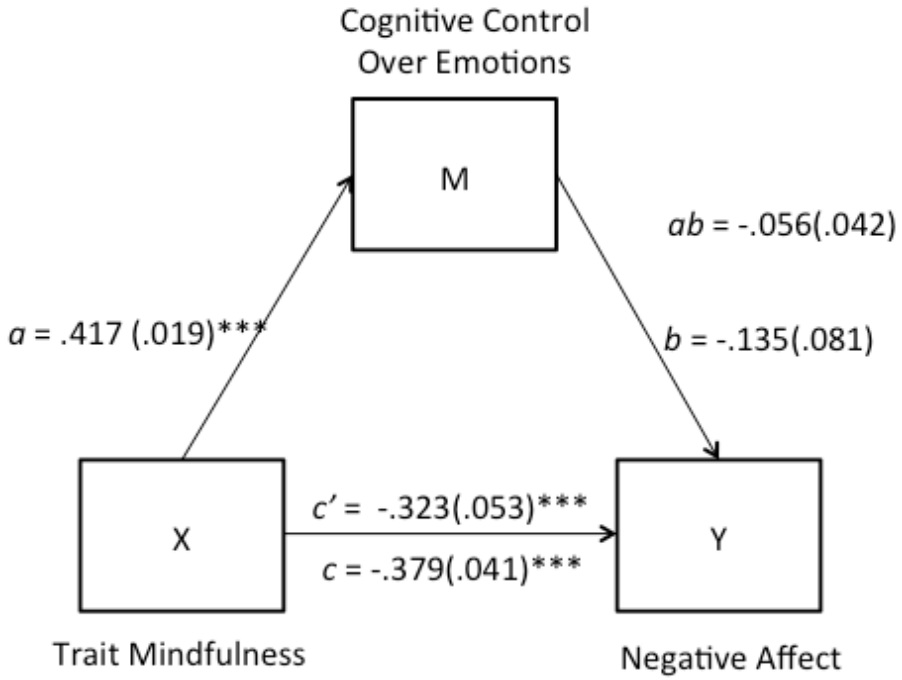

Table 32

Coefficients for Cognitive Control Over Emotions as a Mediator of the Relationship between Trait Mindfulness and Negative Affect

Variable	*B*	*95% CI*	*SE B*	*p*	R^2
a	.417	[.379, .455]	.019	< .001	.165***
b	-.135	[-.294, .025]	.081	.098	
ab	-.056	[-.135, .031]	.042	.097	
c	-.379	[-.458, -.299]	.041	< .001	
c'	-.323	[-.426, -.219]	.053	< .001	

Note. CI = confidence interval.

****p* < .001*

Figure 17

Appraisal and Coping Flexibility as a Mediator of the Relationship between Trait Mindfulness and Negative Affect

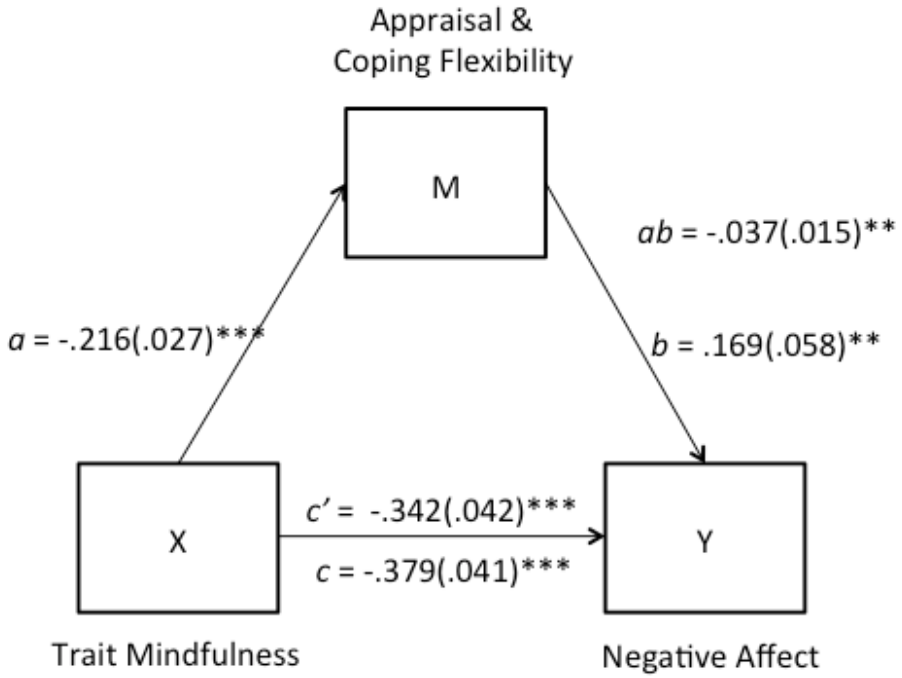

Table 33

Coefficients for Appraisal and Coping Flexibility as a Mediator of the Relationship between Trait Mindfulness and Negative Affect

Variable	*B*	*95% CI*	*SE B*	*p*	R^2
a	-.216	[-.269, -.163]	.027	< .001	.173***
b	.169	[-.294, .025]	.058	< .01	
ab	-.037	[-.066, -.010]	.015	< .01	
c	-.379	[-.458, -.299]	.041	< .001	
c'	-.342	[-.425, -.259]	.042	< .001	

Note. CI = confidence interval.

****p* < .001*

In further investigation of path analyses, I conducted post-hoc analyses to better understand the directional reversal of the relationship between change uncertainty and dependent measures. Results revealed that when mindfulness and the mindfulness X change uncertainty interaction term were added

to the model, that the expanded models predicted more variability in dependent variables and reversed the direction of the original main effect relationship between change uncertainty and dependent measures.

Table 34

Regression Coefficients for Path Analysis with Negative Affect as Dependent Variable

Model	*R*	*R2*	*Adj. R2*	*SE*
1	.319	.102	.100	1.583
2	.515	.266	.264	1.432
3	.573	.329	.326	1.371

Table 35

Regression Coefficients for Path Analysis with Negative Affect as Dependent Variable

Model	*B*	*SE*	*Beta*	*t*
(Constant)	3.116	.084		37.191***
Uncertainty	1.064	.121	.319	8.792***
(Constant)	4.769	.154		30.989***
Uncertainty	1.152	.110	.345	10.498***
Mindfulness	-.421	.034	-.406	-12.344***
(Constant)	5.757	.192		29.926***
Uncertainty	-.952	.284	-.285	-3.355**
Mindfulness	-.673	.045	-.649	-14.825***
Interaction	.522	.065	.734	7.984***

****p < .001, **p < .01*

Table 36

Regression Coefficients for Path Analysis with Identified Motivation as Dependent Variable

Model	*R*	*R2*	*Adj. R2*	*SE*
1	.006	.000	-.001	1.363
2	.199	.040	.037	1.337
3	.199	.040	.035	1.338

Table 37

Regression Coefficients for Path Analysis with Identified Motivation as Dependent Variable

Model	*B*	*SE*	*Beta*	*t*
(Constant)	4.988	.072		69.136***
Uncertainty	-.016	.104	-.006	-.157
(Constant)	5.650	.144		39.328***
Uncertainty	.019	.102	.007	.184
Mindfulness	-.169	.032	-.199	-5.295***
(Constant)	5.671	.188		30.197***
Uncertainty	-.026	.277	-.010	-.095
Mindfulness	-.174	.044	-.206	-3.928***
Interaction	.011	.064	.019	.176

Table 38

Regression Coefficients for Path Analysis with Intrinsic Motivation as Dependent Variable

Model	*R*	*R2*	*Adj. R2*	*SE*
1	.158	.025	.024	1.520
2	.475	.225	.223	1.356
3	.480	.230	.227	1.352

Table 39

Regression Coefficients for Path Analysis with Intrinsic Motivation as Dependent Variable

Model	*B*	*SE*	*Beta*	*t*
(Constant)	4.763	.080		59.217***
Uncertainty	-.487	.116	-.158	-4.194***
(Constant)	6.446	.146		44.248***
Uncertainty	-.398	.104	-.129	-3.829***
Mindfulness	-.429	.032	-.448	-13.276***
(Constant)	6.185	.190		32.583***
Uncertainty	.159	.280	.052	.566
Mindfulness	-.362	.045	-.379	-8.087***
Interaction	-.138	.064	-.211	-2.140*

Table 40

Regression Coefficients for Path Analysis with Turn Over Intentions as Dependent Variable

Model	*R*	*R2*	*Adj. R2*	*SE*
1	.232	.054	.052	1.268
2	.258	.066	.064	1.261
3	.339	.115	.111	1.228

Table 41

Regression Coefficients for Path Analysis with Turn Over Intentions as Dependent Variable

Model	*B*	*SE*	*Beta*	*t*
(Constant)	3.570	.067		53.180***
Uncertainty	.604	.097	.232	6.223***
(Constant)	3.930	.135		29.012***
Uncertainty	.623	.097	.239	6.446***
Mindfulness	-.092	.030	-.113	-3.056**
(Constant)	4.609	.172		26.727***
Uncertainty	-.821	.254	-.315	-3.230**
Mindfulness	-.265	.041	-.327	-6.504***
Interaction	.358	.059	.645	6.114***

****p < .001, **p < .01*

Chapter 5: Discussion

The current dissertation explored the role of mindfulness as an employee resource and individual-level facilitator of change. The current studies aimed to extend existing research on mindfulness and organizational change by creating vignettes that would help to make measurement of organizational change more accessible and to study the value of mindfulness in periods of change uncertainty. Specifically, the research aimed to identify the implications of mindfulness for employee well-being, motivation, and retention in light of change uncertainty.

Pilot Study

The first series of analyses focused on the development and testing of the experimental vignettes and their efficacy in inducing various levels of change uncertainty amongst participants. In both pilot and main study analyses, participants demonstrated appropriate levels of change uncertainty based on the vignette condition they were randomly assigned to.

Main Study

Model 1: Hypotheses 1a, b, c

The literature concerning organizational change to date has repeatedly pointed to detrimental outcomes of change uncertainty on employees. Change uncertainty has been found to be predictive of negative employee and organizational outcomes, such as increased negative affect, strain, decreased motivation, and increased intentions to turn over (Bryson et al., 2013; Rafferty & Griffin, 2006; Reichers et al., 1997; van Emmerik et al., 2009).

Model one analyses in the current dissertation sought to assess participant responses to change uncertainty as primed by the manipulation vignettes created and assessed in the pilot study. Hypotheses 1(a, b, c) predicted that there would be main effect relationships between change uncertainty and dependent variables of negative affect, autonomous motivation, and intentions to turn over. Upon completing analyses, results for model one hypothesis testing revealed support for main effect

relationships between change uncertainty and dependent variables. With the exception of the relationship between change uncertainty and identified motivation, which was not supported by the data, findings support prior research that points to the detrimental relationships between change uncertainty and employee affect, motivation, and turn over intentions (Bryson et al., 2013; Rafferty & Griffin, 2006; Reichers et al., 1997; van Emmerik et al., 2009).

Model 2: Hypotheses 2a, b, c

Previous research has demonstrated consistent relationships between mindfulness and a number of outcomes relevant to managing the demands of change. Specifically, the mindfulness research demonstrates the benefits of mindfulness for well-being, affect, motivation, the breaking of habitual behavior, and turn over intentions (Brown & Ryan, 2003; Hafenbrack et al., 2013; Kiken & Shook, 2011; Reb et al., 2017; Schultz & Ryan, 2015).

Model two hypotheses aimed to assess the potential moderating effects of trait mindfulness on the relationships between change uncertainty and dependent variables from model one. Results of the analyses revealed that while trait mindfulness moderated the main effect between change uncertainty and negative affect, other moderation analyses were either not supported statistically or behaved in ways that ran counter to the directionality of hypotheses. For example, while trait mindfulness moderated the main effect relationship between change uncertainty and intrinsic motivation, the data demonstrated that heightened trait mindfulness was associated with reduced intrinsic motivation amongst participants. Similar findings emerged in the moderating effect of trait mindfulness on the main effect relationship between change uncertainty and turn over intentions, such that the moderating effect of trait mindfulness was associated with reduced intentions to turn over for those in the control group, and with increased intentions to turn over for those in the high-uncertainty group. Further, moderation hypotheses were not supported when identified motivation was used as the dependent variable in the model.

Findings demonstrated mixed support for previous research. While there were some consistencies with prior research that found mindfulness to be effective in reducing negative affect, the data did not support previous findings concerning the relationship between mindfulness and autonomous motivation (Brown & Ryan, 2003; Schultz & Ryan, 2015). Further, findings only partially replicated previous research that has traditionally found inverse relationships between mindfulness and turnover intentions (Reb et al., 2017).

Moderation analyses demonstrated that increases in trait mindfulness were associated with reductions in both identified and intrinsic motivation. While there could be several reasons for these findings, four in particular stand out. First, because mindfulness by its nature causes people to be more aware of their emotional states, mindful participants may have been more keenly aware of negative feelings in response to the change vignettes than their non-mindful counterparts, and this may have caused participants to feel less motivated to continue their duties with ABC Company (Brown & Ryan, 2003).

Second, because both identified and intrinsic motivation require individuals to connect with the pleasure or importance of tasks being asked of them, there is a possibility that the vignettes did not adequately cue participants to think of pleasurable or inherently important features of their work with ABC Company that would lead them to feel motivated to continue work for the company (Schultz & Ryan, 2015). For example, participants may have experienced more autonomous motivation had the vignettes cued them to the importance of their work (e.g., how their work serves the community) or to the elements of the work that were more pleasurable (e.g., a warm and friendly team dynamic).

Third, it is possible that trait mindfulness dampens the emotional arousal required to feel particularly energized and motivated to take on tasks. Upon further post-hoc investigation, correlational analyses revealed statistically significant inverse relationships between trait mindfulness and virtually every positive and negative emotion assessed in the PANAS scale used in the current study. These

findings suggest the possibility that mindfulness reduces high arousal for both positive and negative emotions (Brown & Ryan, 2003). Rather than causing people to feel high degrees of positive or negative emotional arousal, trait mindfulness might instead bring people into a more neutral or calm state where they experience more low arousal emotions that may not be adequately energizing as a driver of motivation. Please note, however, that the relationship between trait mindfulness and emotions could also be bi-directional, such that as emotional arousal increases people become less mindful. Additional studies would need to be conducted to ascertain causality in the relationship between trait mindfulness and affect.

Finally, according to Grossman (2008), there could be biases such as Hawthorne effects amongst participants who complete mindfulness scales. Such effects could lead more mindful individuals to systematically rate themselves lower on mindfulness scales than participants who are less mindful. For example, those who are more mindful on a day-to-day basis may be more aware of deficiencies in their attention and awareness simply because they are paying more attention to their moment-to-moment experiences. Awareness of such deficiencies could drive such a research participant to rate themselves as less mindful than someone who, perhaps, lacks this same level of self-awareness and is therefore less mindful.

Based on the above findings concerning trait mindfulness and autonomous motivation, it is possible that decreased autonomous motivation amongst those higher in trait mindfulness could also increase participants' intentions to turn over. As mentioned above, when considering trait mindfulness as a moderator of the main effect between change uncertainty and turn over intentions, increases in trait mindfulness were associated with lesser intentions to turn over amongst control group participants and greater intentions to turn over amongst those in the high-uncertainty condition.

While the relationship may be bi-directional and causality cannot be confirmed based on analyses, post-hoc correlational analyses revealed a statistically significant relationship between

autonomous motivation and turn over intentions, such that decreases in autonomous motivation were related to increases in turn over intentions. Because those high in trait mindfulness demonstrated lower levels of autonomous motivation, there is a possibility that the lack of motivation further perpetuated intentions to turn over in the high-uncertainty condition. Thus, some of the same issues that may have effected the moderation between change uncertainty and autonomous motivation could also influence the relationship between change uncertainty and turn over intentions (i.e., heightened awareness of emotions and lack of cues to pleasant or important features of the job).

Model 3: Hypotheses 3a, b, c

Several research studies have found consistent relationships between mindfulness and the ability to self-regulate. These studies have found evidence that mindfulness is predictive of cognitive, emotional, and behavioral self-regulation, and that self-regulation can help individuals to overcome habitual patterns of decision-making and behavior (Brown & Ryan, 2003; Hafenbrack et al., 2013; Howell & Buro, 2011; Howell et al., 2010; Kiken & Shook, 2011). Previous studies further demonstrate relationships between self-regulation and the dependent variables (negative affect, autonomous motivation, and turn over intentions) used in the current dissertation (Leroy et al., 2013; Short et al., 2016; Wibowo & Paramita, 2021).

Model three hypotheses aimed to extend the above findings by assessing the role of self-regulation as a mediator of the relationships between trait mindfulness and dependent variables. Results of the mediation analyses revealed that self-regulation did explain the relationships between trait mindfulness and both forms of autonomous motivation and between trait mindfulness and turn over intentions. Self-regulation did not, however, explain the relationship between trait mindfulness and negative affect. Findings support previous research concerning the positive relationship between mindfulness and self-regulation (Short et al., 2016; Wibowo & Paramita, 2021), as well as the relationships between self-regulation and motivation (Leroy et al., 2013) and self-regulation and turn

over intentions (Wibowo & Paramita, 2021). The findings do not, however, support prior research concerning the relationship between self-regulation and negative affect (Short et al., 2016).

One potential reason that self-regulation may not explain the relationship between trait mindfulness and negative affect could be due to the subscales used in the CCFQ questionnaire (Gabrys et al., 2018). Upon further investigation into the potential mediating effects of self-regulation, analyses revealed that while the Cognitive Control Over Emotion subscale did not mediate the relationship between trait mindfulness and negative affect, the Appraisal and Coping Flexibility subscale did. This could imply that that relationship between trait mindfulness and negative affect is not explained by the ability to cognitively control emotions, but rather by being able to flexibly appraise and cope with the problems and emotions one experiences.

Path Analyses

Final path analyses demonstrated mixed support for the overarching theoretical model. Main effects for change uncertainty and negative affect and change uncertainty and turn over intentions were supported pathways, while those for identified and intrinsic motivation were not statistically significant. Analyses of moderation pathways further revealed that all moderation pathways were statistically significant with the exception of the moderation pathway for change uncertainty and identified motivation. Further, all mediation analyses were supported in the path analyses with the exception of the mediation pathway for negative affect, which was not statistically significant.

One peculiar finding in the path analyses was that when the full model was assessed, all main effect relationships changed in their directionality. For example, previously positive relationships between change uncertainty and dependent variables of negative affect and turn over intentions reversed to inverse relationships. Findings imply that there is likely some suppression occurring in the data. Such suppression could stem from high levels of correlation between independent variables (change uncertainty and trait mindfulness) and their combined interaction term (change uncertainty x

trait mindfulness). Suppression could also mean that the interaction term for mindfulness and change uncertainty accounts for so much of the variability in dependent variables that the main effect relationships between change uncertainty and dependent measures reversed.

For example, post-hoc regression analyses demonstrated that while change uncertainty accounted for approximately 10% of the variance in negative affect, adding mindfulness to the model accounted for 27%. Finally, adding the trait mindfulness X change uncertainty interaction to the model, accounted for approximately 33% of variance in negative affect and reversed the directionality of the main effect between change uncertainty and negative affect. The same pattern was found in post-hoc analyses for intrinsic motivation. While change uncertainty predicted 2.5% of the variance in turn over intentions, the addition of trait mindfulness to the model accounted for approximately 22.5% of the variance. The addition of the interaction term to the model explained 23% of the variance and reversed the direction of the original main effect relationship between change uncertainty and turn over intentions.

Implications for Research

Change in organizations often takes place with an emphasis on organizational outcomes and fails to consider the repercussions of change and uncertainty on employees. The current study aimed to identify one personal resource that could assist employees in managing the implications of change. Based on findings, future research could expand upon the current study by continuing to identify the ways in which employees could be better resourced for change both within and outside of organizations. For example, the current study provides support for the relationship between trait mindfulness and the reduction of negative affect in organizational change settings (Glomb, 2011). Findings do not, however, generalize the standing relationship in the literature between trait mindfulness and autonomous forms of motivation, and demonstrate mixed support for research on mindfulness and its implications for turn over intentions (Brown & Ryan, 2003; Reb et al., 2017). Based

on current findings, future research could consider the ways in which trait mindfulness acts on individuals' positive and negative affect to further understand whether trait mindfulness creates low arousal states that dampen motivation.

Future research could also refine the vignettes used for the current dissertation to create more nuanced scenarios that provide study participants with more explicit information as to the importance and pleasurable features of their work in each vignette (Schultz & Ryan, 2015). Use of such vignettes can make the measurement of organizational change responses more feasible and could be a starting point for future research with respect to change resources for employees.

Further, if Grossman's (2008) concerns regarding Hawthorne effects on mindfulness scores are valid, then including multiple measures of mindfulness and sampling specifically mindful and non-mindful groups may be helpful in determining the presence of Hawthorne phenomena in mindfulness data. For example, assessing experience levels with mindfulness and considering the relationships between experience and trait mindfulness scores could help to uncover Hawthorne effects that may be present. Further, sampling from groups with similar amounts of mindfulness training or experience could also help to identify differences between mindful and non-mindful individuals.

Finally, based on previous findings concerning the many benefits of state-level mindfulness on individual outcomes, it would also be of value to consider the implications of state mindfulness interventions in organizational settings, to investigate whether momentary mindfulness might have a stronger short-term effect on affect, motivation, and turn over intentions than dispositional mindfulness (Hafenbrack et al., 2013; Kiken & Shook, 2011). While state mindfulness is short-lived, it may have a more powerful and immediate short-term effect that could help employees to more effectively cope with change in the moment. Previous research further suggests that six-to-eight-week state mindfulness interventions may help to improve trait mindfulness amongst participants (Bowen et al., 2009; Carmody & Baer, 2008; Kiken et al. 2015). If found to be a viable resource for employees facing organizational

change, state mindfulness could be recommended as a routine intervention for employee well-being, motivation, and commitment.

Implications for Practice

In extending the lessons from the current study to practice, findings revealed a relationship between mindfulness and reductions in negative affect that employees feel in response to change uncertainty. This finding aligns with previous research on mindfulness and well-being and supports the notion that investing in mindfulness training and interventions could benefit employees' well-being during periods of organizational change (Glomb, 2011). With this in mind, practitioners could utilize these findings as impetus to invest in more mindfulness programming and interventions in the workplace, as longer-term mindfulness interventions have been found to improve various trait mindfulness skills (Bowen et al., 2009; Carmody & Baer, 2008; Kiken et al. 2015). These interventions could range from company-wide trainings to simple day-to-day activities that help to calm employees and build a present-mindedness that facilitates less negative emotional arousal while enhancing moment-by-moment self-awareness and self-regulation.

Further, in contrast to previous studies, implications of the current study suggest that trait mindfulness may not be enough for employees to feel autonomously motivated to continue with their job responsibilities in light of organizational change (Brown & Ryan, 2003). Because autonomous forms of motivation rely on the ability of employees to connect external requests with their own internal motives, it may also be important to remind employees of how the work connects to their values, motives, and beliefs, in addition to creating conditions that make the work feel pleasant or important to employees (Schultz & Ryan, 2015).

Finally, based on findings from the dissertation study, in relatively stable work environments, trait mindfulness may reduce employees' intentions to turn over. Thus, as practitioners it may be beneficial to introduce mindfulness training when the work environment is stable, as opposed to waiting

until change is already occurring to introduce mindfulness interventions. In high-uncertainty change situations, trait mindful employees may be slightly more inclined to turn over as they would likely be more aware of unpleasant feelings around change uncertainty (Brown & Ryan, 2003). Due to the inverse relationship between change uncertainty and negative employee and organizational outcomes, efforts to reduce uncertainty throughout change processes would likely improve employee outcomes as well (Bryson et al., 2013; Rafferty & Griffin, 2006; Reichers et al., 1997; van Emmerik et al., 2009).

Strengths and Limitations of the Current Study

As an application of current research in the field, the dissertation study provides some support for the notion that mindfulness can serve as a resource to employees subject to organizational change. Specifically, in its relationship with reduced negative affect, mindfulness could serve as a buffer against the inherent stresses of the change process for participants (Brown & Ryan, 2003). While individual employees may not have control over the outcomes of change, the presence of personal resources like mindfulness may help to provide some control and regulation of the self as employees face the inevitability of change (Brown & Ryan, 2003; Glomb et al., 2011).

The current study also helped to further identify a viable set of vignettes for use in future organizational change and uncertainty research. The vignettes stand to reduce the challenges of measuring change responses and provide more experimental control than researchers would likely experience in a field setting. Vignettes can be modified for use with varying research questions and to prime different states amongst study participants.

Further, the data generalized previous findings concerning mindfulness and negative affect to organizational change settings, and identified the role of self-regulation in explaining the relationships between trait mindfulness and autonomous motivation as well as the relationship between trait mindfulness and turn over intentions. Taken together, the above findings suggest that mindfulness

could be of some benefit for employees in organizational change settings, and set the stage for further investigation of mindfulness as a resource to employees in the workplace.

In terms of limitations, data were collected from MTurk survey takers and were not collected with employees who were going through a real organizational change. While this sampling method and vignette approach allowed for the collection of data when an organization undergoing actual change was not available, it does create some limitations in terms of the immersiveness of the experience. Participants may have responded differently, for example, had they been going through an actual downsizing effort within their organization rather than imagining themselves within a hypothetical scenario. The vignettes, while effective in inducing change uncertainty, may not have adequately captured the complexity of organizational life. Real work environments, for example, may have had some beneficial features that would motivate employees to continue with their work responsibilities in spite of change. These beneficial work features could have cued participants to elements of the work that were pleasant or important, and as such, may have inspired greater motivation (Aguinis & Bradley, 2014; Schultz & Ryan, 2015).

Further, amongst the three experimental conditions utilized in the pilot study, the low-uncertainty group had the smallest number of participants. Upon further investigation of survey completion, disqualification, and removals, the low-uncertainty group had the largest number of removed cases (80 cases were dropped/quit for the low-uncertainty group compared to 56 for the high-uncertainty group, and 61 for the control). The greatest attrition amongst low uncertainty group participants was immediately upon beginning the survey section of the study following the sentence activity associated with the vignette. Attrition at this point in the study may be due to the fact that the low-uncertainty vignette was longer than the other two vignettes and likely required more time to read, review, complete attention checks, and respond to the sentence exercise. The additional effort for this condition may have caused some participants to not want to continue with the survey following the

vignette activity. This means that the remaining participants in the low-uncertainty group may have been exceptionally conscientious compared to the participants that quit the survey and possibly even more conscientious than those in other conditions with shorter vignettes. The above differences may have caused a systematic difference between groups (Nunan et al., 2018). Ensuring that vignettes are both shorter and more consistent in length across conditions could help to avoid potential systematic errors in the future.

Also, amongst participants with low reported trait mindfulness scores, control group participants tended to have at or near average scores on measures such as affect, motivation, and intentions to turn over. Mean scores across these variables for the control group very closely resembled scores for participants reporting low trait mindfulness in the high-uncertainty group. While scores amongst those in the control group were near average on the seven-point Likert-type scales used in the survey, findings may imply that the control group vignette could benefit from more refinement and focus to avoid too much participant projection.

Finally, the study relied on self-report data in which participants shared subjective reports of their own attitudes, affect, and intentions. While this data was appropriate for the current study, there is always a possibility of bias in the responses of study participants when they are asked to self-report. Respondents may exaggerate or minimize their responses to items as an attempt to save face, be heard, or otherwise, and as such, findings must be considered with these potential biases in mind.

Conclusion

The goal of the current study was to apply previous research to understand the potential benefits of mindfulness as a resource to employees in organizational change settings. The pilot study assessed the effectiveness of manipulation vignettes in inducing various levels of change uncertainty amongst participants, and the main study utilized the piloted vignettes to assess the benefits of mindfulness as a personal resource to employees in organizational change settings. This research

introduces a new tool for future experiments concerning organizational change, demonstrates the negative outcomes of change uncertainty, finds support for the role of mindfulness in enhancing employee well-being during periods of change, and explores the role of self-regulation as an explanatory variable in relationships between mindfulness and important outcomes, such as motivation and turn over intentions. Contrary to previous research, trait mindfulness did not increase autonomous motivation amongst participants, and increased intentions to turn over in the high-uncertainty group. Future research and practice should continue to investigate the implications of change for employees and the ways in which employees can be more fully resourced to effectively cope with and potentially thrive in organizational change settings.

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Appendices

Appendix A: Informed Consent Form

Subject: Your Thoughts About Changes at ABC Company
The purpose of the current survey is to assess your thoughts concerning changes at ABC Company.

Should you decide to participate in the current study, you will be asked to complete a 20-minute survey. The current study will not require any identifying information, and thus, will not pose any risk to your confidentiality, anonymity, or your role as an MTurk worker. No individual information will be released to Amazon or any other third party.

The current study and survey were created by independent researchers that are not affiliated with Amazon or MTurk. Responses will be used to understand how employees respond to change in organizations and will help to advance knowledge of how to create sustainable change in organizations.

While there are minimal risks associated with this study, you are free not to answer any question(s) that make you feel uncomfortable. You can skip that question and withdraw from the study altogether. ***If you skip a question or decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded.***

As a token of gratitude for your time, you will receive compensation of $0.65 for your participation in this survey. ***Please note that your pay will be commensurate with the percentage of the survey completed. If any section is left incomplete or if you skip a question, your responses will NOT be recorded and you will only receive partial payment for the percentage of the survey completed.***

The results of the study will be used for scholarly purposes only. The results from the study will be presented in educational settings and at professional conferences, and the aggregated results may be published in a professional journal in the field of organizational psychology.

Qualifying for the Study:

In order to qualify for the current study, you must:

- Be at least 18 years of age
- Must be registered as an MTurk worker in the United States

Contact Information:

If you have any questions about this study, feel free to contact:

Primary Researcher: Mona Farid-Nejad **Phone**: (760) 224-2522 **Email:** Mona.Farid-Nejad@cgu.edu
Research Advisor: Stewart Donaldson, Ph.D. **Email**: Stewart.Donaldson@cgu.edu

You may print a copy of this Informed Consent Form for your records.

If you are interested in participating in this study, please select the button below as confirmation that you have read and agree to the above statements. If you are not interested in proceeding with the study, please exit the survey now.

○ I have read the above statements and agree to participate in the survey

Appendix B: Vignettes

Ambiguous/High-uncertainty Condition
Imagine you are an employee in the marketing department of ABC Company. You've spent the last 12 years working at ABC. In your department there are currently 80 employees.

Your company has been struggling financially in recent years with stock prices continually dropping quarter after quarter. In light of the recent COVID-19 pandemic, your company decides to downsize in an attempt to save money and cut spending on payroll. As a part of the downsizing process, the company has decided to lay off employees throughout the organization and in your department.

The criteria with respect to who will be laid off have not been made clear, and layoffs are happening sporadically over the span of several months with no advanced communication and no end in sight.

Remaining employees in your department are shocked and spread thin due to work being redistributed to an ever-shrinking pool of department employees.

Employees are also working from home and do not fully understand their new tasks or what to prioritize, and managers are too busy to train employees directly and answer questions. You learn a lot at your job every day.

Many remaining employees are confused, overwhelmed, and afraid that they may also be laid off and are uncertain about their ability to find another job within the industry.

Unambiguous/Low-uncertainty Condition

Imagine you are an employee in the marketing department of ABC Company. You've spent the last 12 years working at ABC. In your department there are currently 80 employees.

Your company has been struggling financially in recent years with stock prices continually dropping quarter after quarter. In light of the recent COVID-19 pandemic, your company decides to downsize in an attempt to save money and cut spending on payroll. As a part of the downsizing process, the company has decided to lay off employees throughout the organization and in your department. Exactly 30 employees from your department will be laid off.

The criteria with respect to who will be laid off include:

- Employees who have consistently failed to make progress on their professional development goals over four consecutive quarters, as stated in their development plan.
- Employees who have been reported to Human Resources for workplace misconduct.
- Employees who have been rated as low performers by their immediate supervisors on the top three skills needed for their jobs for the last three performance review periods.

It has been laid out that layoffs will begin promptly on June 1st and will be completed by June 14th.

The remaining employees in your department are well-prepared and will receive thorough one-on-one training from their managers as to how to manage and prioritize the redistributed workload.

Though employees are working from home, they are holding daily videoconference meetings with their teams and managers, who are keeping employees informed of all changes as they happen. Employees all know exactly what work to prioritize and have one-on-one guidance from their immediate supervisors on how to complete their tasks. You learn a lot at your job every day.

Many employees feel that they understand the reasons for the layoffs and it is clear that you will not be laid off personally, as you do not meet the above layoff criteria and your role is still functioning and vital to the company.

For those who are being laid off, there are many other organizations currently hiring in the industry for similar roles and displaced employees are being given a severance packages that is intended to cover cost of living for six months. All displaced employees will also have free unlimited access to online training software intended to help former employees maintain and further develop their skills for rehire.

Control Group Prompt

Imagine you are an employee in the marketing department of ABC Company. You've spent the last 12 years working at ABC. In your department, there are currently 80 employees.

Every morning, you wake up at 7:30am and proceed to eat breakfast. After breakfast, you shower, get dressed, and brush your teeth before heading off on your 20-minute commute to the office. You arrive at the office at 9:00am and start your day.

Throughout the workday, you typically check emails and take a few meetings before lunch. In the afternoons, you spend a few hours working on your campaigns before heading home for the evening. You learn a lot at your job every day.

After leaving work, you usually get home, eat dinner, spend an hour or two doing a leisure activity, and go to bed at your usual bedtime.

Appendix C: Survey

Information and Prescreen

1. Please review the above scenario and type three sentences that caused you to feel un/certain?

2. How important is job security to you?

1	2	3	4	5	6	7
Not at all important	Very unimportant	Somewhat unimportant	Neutral	Somewhat important	Very important	Extremely important

3. How concerned are you for your own career security?

1	2	3	4	5	6	7
Not at all concerned	Very unconcerned	Somewhat unconcerned	Neutral	Somewhat concerned	Very concerned	Extremely concerned

4. In the above scenario, how long have you been working for ABC Company?
    a. 9 months
    b. 2 years
    c. 9 years
    d. 12 years

5. In the above scenario, what is the primary change that the organization is experiencing?
    a. Remote work
    b. Downsizing
    c. Leader development
    d. Paid sick leave

6. In the above scenario, what department are you asked to imagine you work for?
    a. Research and development
    b. Manufacturing
    c. Marketing
    d. Sales

7. **Age:** What is your age?
    a. 0–18 years old
    b. 18–24 years old
    c. 25–34 years old
    d. 35–44 years old
    e. 45–54 years old
    f. 55–64 years old
    g. 65-74 years old
    h. 75 years or older

Change Uncertainty Scale

Instructions: Please rate your level of agreement with the following statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

8. ABC Company is changing in an unpredictable manner.
9. I would be uncertain about how to respond to changes happening at ABC Company.
10. I would be unsure about the effects of the downsizing on my job at ABC Company.
11. I am often unsure how severely a change will affect my work.

Positive and Negative Affect Schedule & Additional Emotions

Instructions: Please indicate to what extent you feel each emotion listed below with respect to the scenario at ABC Company.

1	2	3	4	5	6	7
Not at all			Moderately			Extremely

12. Stressed
13. Interested
14. Scared
15. Enthusiastic
16. Upset
17. Calm
18. Nervous
19. Excited
20. Anxious
21. Irritable
22. Hopeful
23. Uncertain
24. Angry

25. Based on your responses above, why do you feel the way you do about the downsizing at ABC Company?

Multidimensional Work Motivation Scale (MWMS)

Instructions: Please rate your level of agreement with the following statements.

1	2	3	4	5	6	7
Not at all	Very little	A little	Moderately	Strongly	Very strongly	Completely

I would continue to put efforts into my job at ABC Company because...

26. I wouldn't, because I would really feel that I was wasting my time at work.
27. I would do little because I don't think that this work would be worth putting efforts into.
28. I don't know why I would continue to put effort into my work. It's pointless.
29. To get others' approval (e.g., supervisor, colleagues, family, clients...).
30. Because others would respect me more (e.g., supervisor, colleagues, family, clients...).
31. To avoid being criticized by others (e.g., supervisor, colleagues, family, clients...).
32. Because others would reward me financially only if I put enough effort into my job (e.g., employer, supervisor...).
33. Because others would offer me greater job security if I put enough effort into my job (e.g., employer, supervisor...).
34. Because I would risk losing my job if I didn't put enough effort into it.
35. Because I would have to prove to myself that I could.
36. Because it would make me feel proud of myself.
37. Because otherwise I would feel ashamed of myself.
38. Because otherwise I would feel bad about myself.
39. Because I would personally consider it important to put efforts into the job.
40. Because putting efforts into my job would align with my personal values.
41. Because putting efforts in this job would have personal significance to me.
42. Because I would have fun doing my job.
43. Because what I would do in my work would be exciting.
44. Because the work I would do would be interesting.

General Change Motivation

Instructions: Please rate your level of motivation for each of the following questions.

1	2	3	4	5	6	7
Completely unmotivated	Somewhat unmotivated	Slightly unmotivated	Neither motivated nor demotivated (i.e. neutral)	Slightly motivated	Motivated	Extremely motivated

45. In light of the changes at ABC Company, how motivated would you feel to continue with your day-to-day job?

Intentions to Turn Over

Instructions: Please rate your level of agreement with the following statements.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

46. I would feel motivated to continue my work at ABC Company for the long term.
47. I would intend to quit my job at ABC Company as soon as I could get a better offer.
48. In the space provided, please describe why you would want to stay or leave ABC Company.

Mindful Attention and Awareness Scale (MAAS)

Instructions: Below is a collection of statements about your everyday experience. Using the scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6	7
Almost never	Very infrequently	Somewhat infrequently	Neutral	Somewhat frequently	Very frequently	Almost always

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

63. I snack without being aware that I'm eating.

Single Item Concerning Experience with Mindfulness Practices

64. Describe your level of experience with mindfulness practices.

1	2	3	4	5	6	7
No experience	Tried it once	Tried it a couple of times	Tried it for a while and then stopped	I engage in mindfulness practices on and off	I engage in mindfulness practice fairly regularly	Expert

Cognitive Control and Flexibility Questionnaire

Instructions: The purpose of this questionnaire is to determine what you generally think/feel/do when stressful situations provoke negative thoughts and emotions. Of course, you may act differently depending on the situation, but try to think of what you usually think/feel/do when you are stressed or upset. Using the scale below, indicate the extent to which you agree or disagree with the following statements

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

65. I get easily distracted by upsetting thoughts or feelings.
66. My thoughts and emotions interfere with my ability to concentrate.
67. I have a hard time managing my emotions.
68. It's hard for me to shift my attention away from negative thoughts or feelings.
69. I feel like I lose control over my thoughts and emotions.
70. It's easy for me to ignore distracting thoughts.
71. It's difficult to let go of intrusive thoughts or emotions.
72. I find it easy to set-aside unpleasant thoughts or emotions.
73. I can remain in control of my thoughts and emotions.
74. I take the time to think of more than one way to resolve the problem.
75. I approach situations from multiple angles.
76. I consider situations from multiple viewpoints before responding.
77. I take the time to see things from different perspectives before reacting.
78. I take the time to think of several ways to best cope with a situation before acting.
79. I weigh out my options before choosing how to take action.
80. I manage my thoughts or feelings by reframing the situation.
81. I control my thoughts and feelings by putting the situation into context.
82. I can easily think of multiple coping options before deciding how to respond.

Attention Item

83. Please select “Disagree” for this statement. (This item will be embedded twice throughout the survey)

Control Variable – Perceived

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

84. I have a secure future in my current job or career.
85. I worry about the future of my current job or career.

Demographic Questions

Instructions: Please complete the following demographic questions.

86. Age: What is your age?
    a. 0–18 years old
    b. 18–24 years old
    c. 25–34 years old
    d. 35–44 years old
    e. 45–54 years old
    f. 55–64 years old
    g. 65-74 years old
    h. 75 years or older

87. Ethnic Origin: Please specify your ethnicity.
    a. Hispanic or Latino
    b. Black or African American
    c. Native American or American Indian
    d. White or Caucasian
    e. Asian / Pacific Islander
    f. Other:

88. Education: What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.
    a. Less than a high school degree
    b. High school graduate, diploma or equivalent (for example: GED)
    c. Some college credit, no degree
    d. Trade/technical/vocational training
    e. Associate’s degree
    f. Bachelor’s degree
    g. Master’s degree
    h. Professional degree

i. Doctorate degree

89. Marital Status: What is your current marital status?
    a. Single, never married
    b. Married or domestic partnership
    c. Widowed
    d. Divorced
    e. Separated

90. Employment Status: Are you currently employed outside of MTurk? If so, are you currently…?
    a. Employed part-time for wages (0-30 hours)
    b. Employed full-time for wages (30+ hours)
    c. Self-employed
    d. Out of work and looking for work
    e. A homemaker
    f. A student
    g. Military
    h. Retired
    i. Unable to work
    j. Not applicable

91. Gender: With what gender do you identify?
    a. Female
    b. Male
    c. Prefer to self-describe:

92. Children or Dependents: How many children or dependents (not including yourself) do you personally care for?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5+

93. Income: How much total combined money did all members of your household earn in 2019?
    a. $0 – $9,999
    b. $10,000 – $19,999
    c. $20,000 – $29,999
    d. $30,000 – $39,999
    e. $40,000 – $49,999
    f. $50,000 – $59,999
    g. $60,000 – $69,999
    h. $70,000 – $79,999
    i. $80,000 – $89,999
    j. $90,000 – $99,999
    k. $100,000 or more

94. Job Experience: How many years of work experience do you have ***in your current career***?
    a. None
    b. Less than 6 months
    c. 6 months to 1 year
    d. 1-2 years
    e. 2-3 years
    f. 3-4 years
    g. 4-5 years
    h. 5-9 years
    i. 10+ years

95. Job Experience: How many years of work experience do you have ***outside of your current career***?
    a. None
    b. Less than 6 months
    c. 6 months to 1 year
    d. 1-2 years
    e. 2-3 years
    f. 3-4 years
    g. 4-5 years
    h. 5-9 years
    i. 10+ years

Qualitative Follow-up

96. Any final thoughts about the changes at ABC Company?

Appendix D: Debriefing

Your Thoughts About Changes at ABC Company

Dear Participant:

During this study, you were asked to complete a 20-minute questionnaire with respect to Changes at ABC Company. The purpose of this study was to assess the role of mindfulness in your reactions toward changes at work.

You are reminded that your original consent document included the following information: the purpose of the study, any potential risks, and contact information of the research team. If you have any concerns about your participation or the data you provided in light of this disclosure, please discuss this with us. We will be happy to assist you with any inquiries you may have.

If you have any questions about this study, feel free to contact:
Researcher: Mona Farid-Nejad **Phone**: (760) 224-2522 **Email:** mona.farid-nejad@cgu.edu
Research Advisor: Stewart Donaldson, Ph.D. **Email**: Stewart.Donaldson@cgu.edu

If you have questions about your rights as a research participant, you may contact the Claremont Graduate University Institutional Review Board at:

Harper Hall 152
150 East Tenth Street
Claremont Graduate University
Claremont, CA 91711
Phone: (909) 607-9406
Fax: (909) 607-9655

We sincerely appreciate your participation in this study. Thank you for your time.

Mona Farid-Nejad

Appendix E: Pilot Sample Demographics

Table 42

Participant Age

Age	*n*	Percent
0 – 17 years old	0	0.000%
18 – 24 years old	12	7.453%
25 – 34 years old	73	45.342%
35 – 44 years old	44	27.329%
45 – 54 years old	18	11.180%
55-64 years old	10	6.211%
65-74 years old	4	2.484%
75 years or older	0	0.000%
Total	161	100.000%

Table 43

Participant Gender Identity

Gender Identity	*n*	Percent
Male	98	60.870%
Female	60	37.267%
Non-binary	1	0.621%
Prefer Not to Say	2	1.242%
Total	161	100.000%

Table 44

Participant Ethnicity

Ethnicity	*n*	Percent
White of Caucasian	128	79.503%
Black of African American	10	6.211%
Hispanic or Latinx	8	4.969%
Asian or Pacific Islander	6	3.727%
Native American or American Indian	3	1.863%
Middle Eastern	0	0.000%
Mixed Background	4	2.484%
Prefer not to Say	2	1.242%
Total	161	100.000%

Table 45

Participant Level of Education

Education Level	*n*	Percent
Did Not Graduate High School	1	0.621%
High School or Equivalent	19	11.801%
Trade or Vocational Training	4	2.484%
Associates Degree	13	8.075%
Bachelors Degree	83	51.553%
Masters Degree	39	24.224%
Professional Degree	1	0.621%
Doctoral Degree	0	0.000%
Prefer Not to Say	1	0.621%
Total	161	100.000%

Table 46

Employment Outside of MTurk

Employment Outside of MTurk	*n*	Percent
Employed Part-time (< 30 hours)	34	21.118%
Employed Full-time (30+ hours)	108	67.081%
Self-employed	10	6.211%
Unemployed and Looking for Work	2	1.242%
Homemaker	2	1.242%
Student	2	1.242%
Military	0	0.000%
Retired	0	0.000%
Unable to Work	1	0.621%
Not Employed Outside of MTurk	0	0.000%
Other	1	0.621%
Prefer Not to Say	1	0.621%
Total	161	100.000%

Table 47

Position Outside of MTurk

Position Outside of MTurk	*n*	Percent
Entry-level	20	12.422%
Supervisor	24	14.907%
Mid-level Manager	35	21.739%
Senior-level Manager	7	4.348%
Other	2	1.242%
Prefer Not to Say	73	45.342%
Total	161	100.000%

Table 48

Household Income 2020

Household Income	*n*	Percent
$0 – 9,999	1	0.621%
$10,000 – 19,999	7	4.348%
$20,000 – 29,999	14	8.696%
$30,000 - 39,999	23	14.286%
$40,000 – 49,999	16	9.938%
$50,000 – 59,999	27	16.770%
$60,000 – 69,999	20	12.422%
$70,000 – 79,999	19	11.801%
$80,000 – 89,999	9	5.590%
$90,000 – 99,999	10	6.211%
$100,000 +	14	8.696%
Prefer not to Say	1	0.621%
Total	161	100.000%

Table 49

Number of Dependents

Number of Dependents	*n*	Percent
0 dependents	58	36.025%
1 dependent	42	26.087%
2 dependents	49	30.435%
3 dependents	6	3.727%
4 dependents	1	0.621%
5+ dependents	4	2.484%
Prefer Not to Say	1	0.621%
Total	161	100.000%

Appendix F: Main Study Sample Demographics

Table 50

Participant Age

Age	*n*	Percent
0 – 17 years old	0	0.000%
18 – 24 years old	53	7.737%
25 – 34 years old	276	40.292%
35 – 44 years old	177	25.839%
45 – 54 years old	84	12.263%
55-64 years old	69	10.073%
65-74 years old	20	2.920%
75 years or older	6	0.876%
Total	685	100.000%

Table 51

Participant Gender Identity

Gender Identity	n	Percent
Male	391	57.080%
Female	288	42.044%
Non-binary	2	0.292%
Prefer Not to Say	4	0.584%
Total	685	100.000%

Table 52

Participant Ethnicity

Ethnicity	n	Percent
White of Caucasian	512	74.745%
Black of African American	69	10.073%
Hispanic or Latinx	30	4.380%
Asian or Pacific Islander	19	2.774%
Native American or American Indian	11	1.606%
Middle Eastern	3	0.438%
Mixed Background	41	5.985%
Total	685	100.000%

Table 53

Participant Level of Education

Education Level	n	Percent
Did Not Graduate High School	1	0.146%
High School or Equivalent	83	12.117%
Trade or Vocational Training	8	1.168%
Associates Degree	36	5.255%
Bachelors Degree	415	60.584%
Masters Degree	127	18.540%
Professional Degree	7	1.022%
Doctoral Degree	6	0.876%
Prefer Not to Say	2	0.292%
Total	685	100.000%

Table 54

Employment Outside of MTurk

Employment Outside of MTurk	n	Percent
Employed Part-time (< 30 hours)	105	15.328%
Employed Full-time (30+ hours)	475	69.343%
Self-employed	48	7.007%
Unemployed and Looking for Work	13	1.898%
Homemaker	10	1.460%
Student	5	0.730%
Military	3	0.438%
Retired	17	2.482%
Unable to Work	3	0.438%
Not Employed Outside of MTurk	2	0.292%
Other	2	0.292%
Prefer Not to Say	2	0.292%
Total	685	100.000%

Table 55

Position Outside of MTurk

Position Outside of MTurk	*n*	Percent
Entry-level	146	21.314%
Supervisor	168	24.526%
Mid-level Manager	206	30.073%
Senior-level Manager	84	12.263%
Other	21	3.066%
Prefer Not to Say	60	8.759%
Total	685	100.000%

Table 56

Household Income 2020

Household Income	*n*	Percent
$0 – 9,999	18	2.628%
$10,000 – 19,999	46	6.715%
$20,000 – 29,999	41	5.985%
$30,000 - 39,999	70	10.219%
$40,000 – 49,999	125	18.248%
$50,000 – 59,999	143	20.876%
$60,000 – 69,999	52	7.591%
$70,000 – 79,999	47	6.861%
$80,000 – 89,999	33	4.818%
$90,000 – 99,999	39	5.693%
$100,000 +	71	10.365%
Total	685	100.000%

Table 57

Number of Dependents

Number of Dependents	*n*	Percent
0 dependents	177	25.839%
1 dependent	178	25.985%
2 dependents	248	36.204%
3 dependents	59	8.613%
4 dependents	11	1.606%
5+ dependents	10	1.460%
Prefer Not to Say	2	0.292%
Total	685	100.000%