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The Impact Of Cyberloafing And Mindfulness On Employee Burnout

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THE IMPACT OF CYBERLOAFING AND MINDFULNESS ON EMPLOYEE BURNOUT

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DEDICATION

I would like to dedicate my dissertation to my family who have supported and encouraged me. Especially my parents, who helped make this possible with their continued love and support. I would also like to dedicate this dissertation to my fiancé, Ryan Schmidt who has continued to motivate and support me throughout graduate school. I would also like to dedicate this paper to my advisor Dr. Alyssa McGonagle who has continued to teach me how to conduct thorough research. This research would have not been possible without their love, support, and the belief in higher education.

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CHAPTER 1: INTRODUCTION

Technology advances and increased autonomy in the workplace have enabled employees to cope with stressors in unique ways. Work stress has been a major concern for organizations leading to many health initiative programs. Two types of coping that are becoming increasingly popular are mindfulness meditation (Grossman, Niemann, Schmidt, & Walach, 2004) and cyberloafing (Andressen, Torsheim, & Pallesen, 2014; Askew, Bukner, Taing, Ilie, & Bauer, 2014; Eastin, Glynn, & Griffiths, 2007; Henle & Blanchard, 2008; Liberman, Seidman, McKenna, & Buffardi, 2011; Lim & Chen, 2012; Reinecke, 2009; Ugrin & Pearson, 2013). Examining these two behaviors in parallel is important because they are two distinct behaviors on opposite ends of a coping continuum. Mindfulness (being in the present moment) is an engagement coping strategy, whereas cyberloafing (using the internet for personal use at work) is a form of disengagement coping. In addition, empirical studies have linked positive work outcomes such as reduced stress and burnout and increased positive attitudes to both mindfulness and cyberloafing (Brown & Ryan, 2003; Eastin et al., 2007; Lim & Chen, 2012; Regehr, Glancy, Pitts, & LeBlanc, 2014; Reinecke, 2009). Despite these investigations, there are no known studies that have examined the dynamic relationship of mindfulness and cyberloafing with work stressors and burnout. This study used a cross-lagged model in order to examine the relationship between work stressors and mindfulness/cyberloafing as they relate to work burnout. This is an important next step because these behaviors are an important element (i.e., coping) in the stress process.

In the United States mindfulness has become ubiquitous in pop culture and is currently being taught in schools and organizations across the country. Mindfulness is typically defined as the ability to be in the present moment and is characterized by an increased awareness of thought processes, surroundings, and behavior (Grossman et al., 2004). To provide a sense of the growing

popularity of mindfulness, a January 2015 Google search of mindfulness meditation and work returned 5.5 million hits. Furthermore, empirical evidence has linked mindfulness to increased job performance (Dane & Brummel, 2013), reduced burnout (Regehr et al., 2014), and positive attitudes (Brown & Ryan, 2003). However, this research does not examine directionality of the mindfulness–work outcomes relationships.

Despite the large push for positive forms of coping with stress, there has been an increase in other forms of coping behaviors that are not seen as positively as mindfulness. Counterproductive work behaviors (CWBs) are a collection of intentional behaviors ranging from theft to more innocuous forms such as leaving work early which cause harm (Bennett & Robinson, 2000; Penney & Spector, 2007; Spector et al., 2006). Although these behaviors are not typically considered coping strategies, there is some research that has shown that certain CWBs (e.g., withdrawal) are effective at reducing burnout (Krischer, Penney, & Hunter, 2010). CWBs have major implications for organizations and are estimated to cost companies billions of dollars annually (Bennett & Robinson, 2000; Krischer et al., 2010). Interestingly, individuals with depleted energy sources are more likely to perform CWBs (Banks, Whelpley, Oh, & Shin, 2012), which corroborates the need for organizations to help employees manage their resources to cope with stressors. One type of CWB that has become prevalent in the workplace is cyberloafing. Cyberloafing is the unauthorized use of the internet for non-work activities (Andressen et al., 2014). Some examples of cyberloafing are playing video games (Reinecke, 2009), using personal social media sites (Henle & Blanchard, 2008), online shopping, etc. (Andressen et al., 2014; Eastin et al., 2007). Although it is impossible to accurately quantify the impact cyberloafing has on organizations, there is empirical evidence that a majority of workers participate in cyberloafing during the workday (Andressen et al., 2014).

An initial reaction of some organizations regarding cyberloafing has been to implement policies, monitor employees' computer use, and to reprimand violators (Andressen et al., 2014; Henle & Blanchard, 2008; Ugrin & Pearson, 2013). Although these policies have been found to decrease the prevalence of cyberloafing (Andressen et al., 2014; Henle & Blanchard, 2008; Ugrin & Pearson, 2013), recent research indicates that cyberloafing occurs in the workplace regardless of organizational policies (Andressen et al., 2014). Also, with the invention of smartphones and tablets, workers are able to more discretely cyberloaf. These devices have also made it possible for workers outside of the traditional office job to participate in cyberloafing activities. Even though cyberloafing is considered a CWB that could be detrimental to organizations, there is some research that suggests that cyberloafing may not be as bad as once thought (Adams & Kirkby, 2002; Eastin et al., 2007; Lim & Chen, 2009; Lim & Chen, 2012; Reinecke, 2009). Several empirical studies have demonstrated that cyberloafing has positive effects on worker well-being (Adams & Kirkby, 2002; Eastin et al., 2007; Lim & Chen, 2009; Lim & Chen, 2012; Reinecke, 2009).

Even though workers are increasingly practicing both mindfulness and cyberloafing to cope with workplace stress, there are fundamental differences between the two strategies. Mindfulness, on one hand, is a behavior where an individual focuses on engaging in the present moment and assessing the internal and external environment (Goleman, 1988; Gordon, Shonin, Zangeneh, & Griffiths, 2014; Grossman et al., 2004; Henepola Gunaratana, 2002; Hulsheger, Alberts, Feinholdt, & Lang, 2013; Hulsheger, Lang, Depenbrock, & Fehrmann, 2014; Marlatt & Kristeller, 1999; Regehr et al., 2014; Sedlmeier et al., 2012). On the other hand, cyberloafing is an avoidant form of coping where an employee ignores the stimuli or work stressor by engaging in another activity to de-stress. Despite these fundamental differences, some evidence suggests that

both types of strategies may be effective at reducing stress (Brown & Ryan, 2003; Regehr et al., 2014; Reinecke, 2009). It is important to examine the longitudinal relations involving work stressors, mindfulness/cyberloafing, and burnout in order to gain a better understanding of the mediational role of coping.

In the current study, I used a longitudinal approach to examine the influence of work stress on these types of coping behaviors (mindfulness and cyberloafing) and, in turn, how they relate to burnout. I drew upon stress and coping theory and the respite literature to support my hypotheses. The respite literature focuses on the replenishment of resources through time off work such as: weekends, weeknights, and vacations. Respite research also examines the impact that detachment from work has on strain. Currently, there are very few respite studies that focus on work breaks that occur during the workday and their effects on employees' health and well-being (Fritz, Ellis, Demsky, Lin, & Guros, 2013). More research on work breaks during the workday is essential in order to gain a better understanding on how individuals replenish their resources during work. Cyberloafing is a type of work break where an individual uses the internet for personal pleasure (Eastin et al., 2007). Therefore, investigating the impact of employee work breaks (e.g.., cyberloafing) on employee burnout addresses a gap in the respite literature. In addition, results of this study will help guide organizations regarding whether or not there should be restraints of personal internet usage at work, especially if it is effective at reducing strain in the workplace.

In regards to mindfulness, one of the major gaps in the literature is that most of the workplace studies focus on the efficacy of mindfulness interventions as they relate to stress (Brown & Ryan, 2003), job satisfaction (Hulsheger et al., 2013), focus (Dane & Brummel, 2013), etc. However, there have been other studies that have found interventions increase mindfulness behaviors, but are not related to decreased levels of stress (Brown, Ryan, & Creswell, 2007;

Malarkey et al., 2012). It is important to examine the dynamic relation of mindfulness, job stressors, and burnout. Examining this will help advance the mindfulness literature by examining the role of mindfulness as a coping mechanism.

This paper is organized in the following way: I first begin with a brief review of job stressors and coping through describing the transactional theory of stress (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). Second, I review two other popular coping theories and how they apply to mindfulness and cyberloafing. I then review the cyberloafing and respite literatures. Next, I review conservation of resources theory (Hobfoll, 1989; 2001) and research on mindfulness and detail my study hypotheses. After reviewing the study methods, analyses, and results, I conclude with a discussion of the implications of this study and provide some future directions for research.

Coping with Workplace Stressors

Job stressors. Job stressors, in general, are any external demands at work that negatively affect employees' health or well-being (Hurrell, Nelson, & Simmons, 1998). Job stressors have been linked to decrements in job performance (Gilboa, Shirom, Fried, & Cooper, 2008), and increases in CWBs and strain (Lee & Ashforth, 1996; Meier & Spector, 2013). Role ambiguity is a common job stressor, characterized by lack of guidance about roles and responsibilities at work and unpredictability (Rizzo, House, & Lirtzman, 1970). Another common job stressor is role conflict, which occurs when there are two or more pressures and/or tasks and an inability to attend to both (Kahn, 1964). Role overload is characterized by work demands surpassing an individual's resources and is commonly linked to burnout (Gilboa et al., 2008). A reciprocal relationship between job stressors and strain has also been found; specifically between organizational constraints and CWBs (Meier & Spector, 2013). This cyclical relationship impacts both the

employee through lost resources (i.e., burnout) and the organization through CWBs. Overall, the link between workplace stressors and strain has been extensively supported in the empirical literature.

Coping. When there is a disruption in an individual's environment, one of the first things a person does is explore ways to cope. Coping with stress includes the ability to adjust to the situation or stressor through several regulatory processes (Compas et al., 2001). Lazarus and Folkman (1984) define coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person's resources." (pp. 993). There have been many theories of coping formulated to investigate and describe these cognitive changes/behaviors (Compas et al., 2001; Conner-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000; Folkman et al., 1986; Folkman & Lazarus, 1985; Krohne, 1996; Lazarus, 1993a; 1993b; Roth & Cohen, 1986; Skinner, Edge, Altman, & Sherwood, 2003). In addition, there has been some debate on whether or not an individual needs to be conscious that the cognitive changes or behavior is a coping mechanism for it to be considered coping (Compas et al., 2001). Some researchers believe that coping must be a conscious effort (Compas et al., 2001; Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b), whereas other researchers assert that coping can be unconscious or unintentional (Eisenberg, Fabes, & Guthrie, 1997; Skinner & Wellborn, 1994). People react to stressors utilizing a variety of different behaviors and cognitive strategies, and may not always label these strategies as forms of coping. The outcome of coping is more important than whether the individual is aware that the behavior or cognitive strategy is a form of coping.

There is not one theory that accounts for all forms of coping behavior, yet there are several coping theories that have organized coping into a manageable set of behaviors to help explain and

predict the coping process and outcomes (Skinner et al., 2003). The theories I draw upon are: the transactional theory of stress (Lazarus & Folkman, 1985), approach versus avoidant coping (Krohne, 1996; Roth & Cohen, 1986), and engagement/disengagement coping (Compas et al., 2001; Conner-Smith et al., 2000). In the search for optimal coping behaviors, the goal of coping is sometimes deemphasized. The ultimate goal of coping is the reduction of the stressor and the outcome of strain. Regardless of the strategy utilized, a coping behavior that leads to a reduction in strain can be considered successful (Krischer et al., 2010). In the following pages I review several coping theories and how they relate to cyberloafing and mindfulness. In the sections that follow, I create an argument for the proposition that both strategies are outcomes of work stress, and both are related to reduced strain (burnout).

Transactional theory of stress and coping. One of the most popular theories of stress and coping is the transactional theory of stress by Lazarus and Folkman (1985) which focuses on individual differences in perceptions of stress. The experience of stress is determined by how the individual evaluates or appraises the situation. Individuals assess the stressor and their personal resources to determine coping strategies using a series of appraisals. In the primary appraisal, individuals evaluate the event as either a threat or a challenge (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). Challenge appraisals are evaluations that the event is difficult or demanding (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). However, with challenge appraisals, the individual perceives that he or she can overcome the stressor through the use of coping strategies (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). Threat appraisals are judgments that the stressor is harmful and that an individual lacks the necessary resources to overcome the impact of the stressor (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). Therefore, threat appraisals often lead

an individual to not examine coping strategies due to the belief that a behavior will not lead to a resolution of the stressor (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b).

A common consequence of work stress is strain, which is the psychological, physical, and/or emotional outcome of stress (Hurrell et al., 1998). Both empirical research studies (Wallace et al., 2009) and meta-analytic reviews have supported the transactional theory of stress and the linkage between stress and strain (Podsakoff, LePine, & LePine, 2007). For example, challenge stressors (i.e., eustress) have positive work outcomes compared to hindrance job stressors, which have been linked to lower levels of job satisfaction, increased turnover, and increased withdrawal behaviors. Work demands such as job ambiguity, role conflict, role overload, and lack of work autonomy have been extensively examined in the literature as job stressors which have been linked to strain (Crawford, LePine, & Rich, 2010). A recent meta-analysis also supported that work demands are related to work engagement (Crawford et al., 2010). However, the nature of this relationship depended on the appraisal of the work demand (Crawford et al., 2010). Hindrance appraisals were negatively related to work engagement, whereas challenge appraisals were related to employee engagement (Crawford et al., 2010). Thus, some stressors (i.e., eustress) may be beneficial to employees if they initially appraise the work stressor as a challenge.

During secondary appraisals, individuals take stock of their resources to determine what can be done to maximize benefits and reduce harm (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). In this stage, individuals plan their coping strategies. Coping strategies are cognitive and/or behavioral modifications aimed at reducing the stressor or mitigating its negative impact (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a;

1993b). In other words, an individual copes by either changing his or her thinking, his or her behavior, or a combination of both.

Problem-focused versus emotion-focused coping. The coping framework advanced by Lazarus and Folkman (1985) and Folkman et al. (1986) is problem-focused and emotion-focused coping theory. Problem-focused coping (PFC) refers to the individual's attempts to cope with the stressor through changing the environment (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). This type of coping is typically characterized by using problem-solving strategies where the individual directly attempts to resolve the stressor. Emotion-focused coping (EFC) is a strategy that individuals use to mitigate the emotional impact of the stressor by altering their thinking (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). Individuals typically use PFC if they appraise that something can be done to alter the situation during the secondary appraisal (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). If it is determined that nothing can be done to resolve the problem, then EFC is typically used (Folkman et al., 1986; Folkman & Lazarus, 1985; Lazarus, 1993a; 1993b). Although both types of coping strategies can be used regardless of the situation or appraisal, PFC tends to be more effective if something can be done to resolve the stressor. An individual may or may not experience stress based on the evaluations of the situation and the efficacy of coping. In the next few sections, I review cyberloafing and mindfulness in the context of coping drawing upon different coping frameworks.

Cyberloafing and mindfulness are considered EFC strategies since neither directly relate to solving the source of stress. More importantly, neither of these modern strategies were included in the formulation of coping theory. For example, the internet at the time was in its infancy and mindfulness had not been introduced as a coping strategy in western culture. Cyberloafing is an

EFC strategy in which an individual redirects their attention to something more pleasurable online or on their computer that is not related to work. For example, a person may choose to take a moment to regain resources and modify their thinking through distracting oneself by surfing the internet, checking social media, or playing a game. A person may then be able to effectively cope with the situation after taking a mental break or distracting oneself.

Coping through using mindfulness techniques is focused more on the situation and not attaching emotion or judgment to the experience. A person who is mindful may be observing the stressor and all of the contextual factors, but not necessarily appraising the situation as a stressor. Since mindfulness focuses on acceptance of the situation and not necessarily a particular solution, it is reasonable to conclude that both of these coping strategies fit under the EFC framework.

Approach versus avoidant coping. Approach/Avoidant coping theory emphasizes individuals' initial reactions to stressors (Krohne, 1996; Roth & Cohen, 1986). Approach coping behaviors are characterized by an individual moving toward the stressor to obtain more information (Krohne, 1996; Roth & Cohen, 1986). Approach behaviors are usually effective in situations when the stressor or situation is controllable (Mullen & Suls, 1982; Roth & Cohen, 1986; Suls & Fletcher, 1985). A major emphasis of this theory is that individual differences and preferences guide the type of coping behavior that is utilized (Roth & Cohen, 1986). Krohne (1996) divides approach coping into behavioral or cognitive strategies. Approach-behavioral coping is a process where the individual uses behaviors to help gather facts about the stressor in order to resolve the conflict (Krohne, 1996). An example of approach-behavior coping is an employee experiencing job ambiguity asking their supervisor for more clarity in order to resolve the conflict. Approach-cognitive strategies are thinking techniques that focus on either changing the perception of the stressor or planning on how to cope with the situation (Krohne, 1996).

Conversely, avoidant coping strategies are behaviors that distance the individual from the source of stress (Krohne, 1996; Roth & Cohen, 1986). The individual, when confronted with a situation, avoids the stressor through distancing, distraction, and denial (Krohne, 1996; Roth & Cohen, 1986). Approach and PFC strategies have generally been supported as optimal approaches to coping (Littleton, Horsley, John, & Nelson, 2007; Shin et al., 2014; Suls & Fletcher, 1985). There is empirical support that avoidant strategies may be an important part of the coping process early on, and effective when a stressor is uncontrollable (Compas et al., 2001; Endler, Speer, Johnson, & Flett, 2000; Mullen & Suls, 1982; Suls & Fletcher, 1985). In other words, there may be benefits to taking time before confronting or dealing with a stressor in order to restore depleted energy sources (Compas et al., 2001; Roth & Cohen, 1986). To support this, a recent meta-analysis found that not all EFC (e.g., seeking social support) strategies were maladaptive (Shin et al., 2014).

There are costs and benefits to both types of coping strategies. Approach strategies can be effective because they can help an individual resolve the conflict or find ways to deal with the situation by gathering more information (Roth & Cohen, 1986). However, confronting a stressor head on may increase stress and exacerbate the situation, especially when the situation is uncontrollable (Endler et al., 2000; Roth & Cohen, 1986). For individuals practicing mindfulness, approach strategies may be beneficial because the individual is able to gather information about the stressor. The individual, through mindfulness, is able to increase their awareness, evaluate the situation, analyze their thoughts, and be able to identify a way to resolve the stressor through action or a change in perception. An individual not practicing mindfulness may not be able stay present and when confronted with a stressor may immediately begin to worry or experience anxiety about the future outcome.

Avoidant strategies also have both benefits and risks. Individuals who use avoidant strategies may be able to use the time to reduce stress levels and increase resources needed to cope with the stressor (Compas et al., 2001; Roth & Cohen, 1986). The downfall to this strategy is that often non-action and avoidance does not make the stressor go away and the individual will at some point need to deal with the situation. For example, a person with role overload who chooses to cyberloaf to distract themselves from their growing workload will still have to complete their work when they have finished surfing the internet. In other words, individuals may still choose to cope with workplace stress for a period of time through engaging in personal behaviors that are entertaining even though avoidance does not rectify the stressor. Cyberloafing, however, may benefit the individual because they are able to restore energy through stimulating themselves in an activity that is pleasurable to them.

Engagement versus disengagement coping. Disengagement coping is a type of coping which is similar to avoidant coping where the response to the source of stress is withdrawal (Compas et al., 2001; Conner-Smith et al., 2000). One distinct difference is that disengagement coping is a complete retreat from the source of stress through withdrawal, denial, and wishful thinking (Compas et al., 2001; Conner-Smith et al., 2000; Miller & Kaiser, 2001; Skinner et al., 2003). Engagement coping is similar to approach coping in which an individual confronts the source of stress through external behaviors or internal cognitions (Compas et al., 2001; Conner-Smith et al., 2000). There are two forms of engagement coping: primary control and secondary control.

The goal of primary control coping is to eliminate the stressor (Compas et al., 2001; Conner-Smith et al., 2000). The main emphasis of coping is on changing the environment in the person-environment conflict (Compas et al., 2001; Conner-Smith et al., 2000). Primary control

engagement coping behaviors are typically characterized by problem-solving techniques, emotion regulation strategies, and emotional expression (Compas et al., 2001; Conner-Smith et al., 2000; Miller & Kaiser, 2001). An example of primary control engagement would be an employee experiencing harassment filing a complaint with their supervisor.

The goal of secondary control coping is to change the perception of the stressor or situation through a series of cognitive changes (Compas et al., 2001; Conner-Smith et al., 2000). Mindfulness is an engagement coping strategy that combines both primary and secondary control coping. Cyberloafing, however, is a disengagement coping strategy which employs distraction or withdrawal from the stressor. In other words, the employee seeks to restore balance to the person-environment conflict through non-judgmental observation or pleasure-seeking distractors.

The impact of stress. As mentioned in the section above, many workplace stressors have been linked to strains (Bakker & Demerouti, 2007; Bakker, Demerouti, de Boer, & Schaufeli, 2003; Bakker, Demerouti, & Euwema, 2005; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Gilboa et al., 2008; Hurrell et al., 1998). Role overload is one of the most common workplace stressors (Gilboa et al., 2008) and is characterized by an abundance of work tasks/responsibilities in combination with a limited amount of resources (i.e., time). This may be due to internal demands of the job or an employee volunteering to take on more assignments and in turn increasing their workload (Gilboa et al., 2008). It is postulated that an employee who volunteers to take on more tasks may be less likely to perceive the job load as a stressor because they are in control of their extra workload. However, meta-analytic research indicates that role overload is negatively related to job performance regardless of whether an individual volunteers or is assigned the extra work (Gilboa et al., 2008). Another common workplace stressor role ambiguity, operationalized as when the role or job requirements are not clearly defined.

One common strain that has been linked to role overload is burnout (Lee & Ashforth, 1996). Burnout is a common response to prolonged or chronic work stressors and is characterized by emotional exhaustion (i.e., fatigue), cynicism, and personal ineffectiveness (Demerouti, Mostert, & Bakker, 2010; Lee & Ashforth, 1996; Maslach, Jackson, & Leiter, 1996). It is important to examine how these coping strategies relate to job stress in order to gain a better understanding of the stress process. When a worker is experiencing a stressor at work, coping with the situation through cyberloafing or mindfulness may help the employee restore or maintain resources which may in turn buffer against burnout at work.

Drawing on the coping literature I propose that workers at the onset of stress will choose to cope with the stressor in a number of ways. An individual may choose to cyberloaf, be mindful, or utilize other coping behaviors to reduce the job stressor. Previous research on approach versus avoidant coping has found that personal preference dictates an individual's coping strategy (Roth & Cohen, 1986). Therefore the type of coping strategy used (mindfulness versus cyberloafing) may be a matter of personal preference. Perceived job stressors lead to increases in coping in general. Therefore, I propose that role overload will contribute to cyberloafing and mindfulness behaviors.

H1: Role overload positively predicts subsequent cyberloafing behaviors.

H2: Role overload positively predicts subsequent mindfulness behaviors.

Burnout. Burnout is a phenomena characterized by a number of symptoms in response to prolonged periods of work stress (Demerouti et al., 2010; Lee & Ashforth, 1996; Maslach et al., 1996). In this paper I draw on both the Maslach Burnout Inventory (MBI) and the Copenhagen Burnout Inventory (CBI) in order to describe the concept of work burnout (Kristensen, Borritz, Villadsen, & Christensen, 2005; Maslach et al., 1996). In the MBI model, there are three

dimensions of burnout (Maslach et al., 1996). The first dimension of burnout is emotional exhaustion, defined as when an individual lacks energy or is fatigued. It can also be conceptualized as a loss of energy resources (Hobfoll, 1989; 2001). The second characteristic of burnout is depersonalization or cynicism which is a disconnection or detachment towards people. The last dimension is reduced personal accomplishment, defined as a lack of accomplishment, low productivity, and incompetence (Maslach et al., 1996). Burnout is most commonly described using the MBI framework. However, recently some researchers have begun to criticize the MBI due to lack of empirical support that all three characteristics must be present in order for the phenomena to be considered burnout syndrome (Kristensen et al., 2005). Another issue with the earlier theories of burnout is that it was originally restricted to employees that do "people work" (Kristensen, et al., 2005). Currently most researchers acknowledge that burnout is a common response to job stress regardless of the type of occupation (Kristensen, et al., 2005) and that the core component of burnout is fatigue or emotional exhaustion (Demerouti et al., 2010; Kristensen et al., 2005; Lee & Ashforth, 1996; Maslach et al., 1996). To address some of the concerns raised by the MBI framework, the (CBI) conceptualized burnout as physical and/or emotional exhaustion (Kristensen et al., 2005). Due to some of the methodological concerns with the MBI framework, I use the CBI model and conceptualized burnout in my study as emotional exhaustion/fatigue.

Cyberloafing

Definition of cyberloafing. Cyberloafing, personal internet usage, or cyberslacking refers to employees' use of the internet for personal entertainment, business or social connections during work (Andressen et al., 204; Askew et al., 2014; Eastin et al., 2007; Henle & Blanchard, 2008; Liberman et al., 2011; Lim & Chen, 2012; Reinecke, 2009; Ugrin & Pearson, 2013). This definition of cyberloafing means that any type of non-authorized computer/device use at work can

be considered a form of loafing. One of the main issues with the construct definition is that it describes a wide-range of behaviors and the frequency can also vary (i.e., there are distinct differences between a person spending fifteen minutes catching up with friends on a social media site and logging into that same site multiple times an hour which could potentially distract them from work). There is also a lot of debate on whether use of the computer during work hours for personal business is really a loafing behavior or has a negative impact on the organization (Zoghbi-Manrique-de-Lara, 2012). There are some commonalities among the different types of cyberloafing despite the fact that the construct consists of a wide range of behaviors. First, all cyberloafing behaviors are characterized by personal use of internet during work hours. Secondly, employees are taking an unauthorized break from work by using a computer or smart device even if they are performing different work tasks. Lastly, regardless of the cyberloafing task performed, these breaks may be beneficial by allowing an employee to restore their resources.

One of the main reasons organizations have tried to prevent cyberloafing is concern about loss of productivity (George, 1996; Griffiths, 2003). An individual who is participating in non-work activities during work hours is unable to attend to work tasks. This can be considered a form of stealing from the organization, commonly called time theft (Ugrin & Pearson, 2013). Also, cyberloafing is thought to lead to lower levels of job performance because energy resources being used on these non-work activities are depleting energy that could be used on job duties (Ugrin & Pearson, 2013). Even though cyberloafing is considered a CWB and has been considered detrimental to organizations, most research actually supports the notion that cyberloafing is advantageous to employee well-being (Eastin et al., 2007; Henle & Blanchard, 2008; Lim & Chen, 2012; Reinecke, 2009; Ugrin & Pearson, 2013). For example, studies have found that cyberloafing is related to positive emotions (Lim & Chen, 2012), buffered the effects of boredom at work (Eastin

et al., 2007), and has a negative relationship with work strain (Reinecke, 2009). Thus it may be premature to conclude that cyberloafing should be banned from the workplace. Another study that examined work withdrawal behaviors and production deviance (intentionally working slower) found that these behaviors mitigated strain in response to workplace stressors (Krischer et al., 2010). It may be that playing a video game or checking social media gives employees an opportunity to take a break from work and replenish their energy resources. Next, I discuss the prevalence of cyberloafing in the workplace.

Demographics of cyberloafers. Due to technology advances, cyberloafing is now possible regardless of occupation. Many studies report that a large number of respondents cyberloaf (Andressen et al., 204; Askew et al., 2014; Eastin et al., 2007; Henle & Blanchard, 2008; Liberman et al., 2011; Lim & Chen, 2012; Reinecke, 2009; Ugrin & Pearson, 2013). One study found that 82% of employees reported cyberloafing to some degree throughout the workday (Eastin et al., 2007). Cyberloafing tends to be reported at higher levels by men and younger workers even though employees across all demographics report cyberloafing (Andressen et al., 2014; Eastin et al., 2007; Lim & Chen, 2012). Interestingly, in the study by Andressen et al. (2014) top-level managers were the biggest offenders of cyberloafing despite their negative attitudes toward these types of behaviors. Another study also found support that education, level in the organization, and social status are positively related to cyberloafing (Garrett & Danziger, 2008). This may be due to the fact that higher status employees generally have more access to the tools necessary to cyberloaf (e.g., Tablets, IPhones, laptops, etc.) which would enable them to be able to cyberloaf at higher levels than individuals in the lower levels of an organization. Also, increased autonomy, higher education levels, and occupational status afford employees more freedom and opportunity to cyberloaf (Garrett & Danziger, 2008).

Antecedents of cyberloafing. One of the most important factors in predicting cyberloafing behavior is whether or not an individual has the means to cyberloaf. Individuals who do not have internet access through their work computer or a smartphone will not be able to cyberloaf. However, in 2014 there were 3 billion internet users globally and an estimated 1.75 billion smartphones (Internetworldstats.com). Due to the fact that a majority of white collar U.S. workers are enabled with technology, most workers have the ability to cyberloaf in the workplace.

Another antecedent of cyberloafing is social influences or norms in the workplace (Askew et al., 2014; Liberman et al., 2011). Cyberloafing by coworkers signals that the behavior is acceptable which influences whether or not an individual participates in the observed behavior (Askew et al., 2014). An individual is much more likely to cyberloaf if there is a norm within the organization or in his or her work group that it is acceptable to handle personal business online during work hours (Askew et al., 2014; Liberman et al., 2011). If it is strongly discouraged in the workplace, an individual is less likely to participate in cyberloafing. Organizational sanctions, policies, and IT tracking have been found to deter the frequency of cyberloafing (Andressen et al., 2014); however, other research supports that employees will loaf if they are confident that they will not get caught (Askew et al., 2014).

An individual's likelihood of cyberloafing is also dependent on his or her overall attitude about the behavior (Askew et al., 2014). Attitudes have been found to be a substantial factor in the prediction of behavior (Glasman & Albarracin, 2006). Social psychology research has found a strong positive link between attitudes and behavior when the attitude is stable and easily assessable (Glasman & Albarracin, 2006). If an employee is frequently in situations where they observe a coworker cyberloafing, their own attitude about the personal use of the internet during work becomes more accessible. Additionally, the theory of attitude-behavior linkage through stability

has found that the more experience an individual has with the behavior, the more stable their attitude will be with the object (Ajzen, 1996; Ajzen & Sexton, 1999; Glasman & Albarracin, 2006). To support this theory, there is evidence that attitudes towards cyberloafing do predict the frequency of cyberloafing activities (Askew et al., 2014; Liberman et al., 2011; Lim & Chen, 2012). In fact, a majority of individuals have reported that they have a positive attitude of the usage of social media for personal use at work which has been linked to actual usage (Askew et al., 2014; Lim & Chen, 2012; Liberman et al., 2011). This supports the notion that positive attitudes about cyberloafing predict actual loafing on the job.

There are other factors that have been identified as contributing factors to cyberloafing beyond attitudes. For example, boredom at work has been shown to increase cyberloafing (Eastin et al., 2007). In these situations, cyberloafing may help an employee pass the time or keep them engaged in something during work hours (Eastin et al., 2007). Another potential motivating factor is the reduction of monotony through increasing variety in work tasks (Eastin et al., 2007). In jobs where there is a lack of task variety, cyberloafing may help an individual stay engaged by allowing them to have a variety of things to do throughout the day so that the work is less repetitive.

Employees may also be motivated to use cyberloafing as a coping mechanism in order to relieve stress. There have been a few empirical studies that have shown that cyberloafing is negatively related to workplace stress (Andressen et al., 2014; Henle & Blanchard, 2008; Lim, & Chen, 2009; Lim, 2002; Reinecke, 2009). For example employees have reported cyberloafing as a response to role ambiguity and role conflict (Andressen et al., 2014; Henle & Blanchard, 2008). However, not all work stressors have been found to be positively related to cyberloafing. A few studies found that role overload was negatively related to cyberloafing (Andressen et al., 2014; Henle & Blanchard, 2008). In the case of role overload, it may be counterproductive/ineffective

for an employee to cyberloaf because it will likely lead to workload increases while the person is cyberloafing. An individual that cyberloafs and neglects work may then experience an increased amount of workload stress. This may be why cyberloafing is found to be an effective coping behavior for job stressors such as role ambiguity and role conflict compared to role overload. However, I suggest that role overload is a job stressor that may prompt employees to escape through cyberloafing in order to cope and restore resources. Role overload has been most strongly linked to fatigue (Lee & Ashforth, 1996). Workers in turn may attempt to recover energy resources through taking a virtual break (i.e., cyberloafing).

Another work stressor that has been examined in relation to cyberloafing is organizational justice. Organization injustice has been associated with increases in cyberloafing behaviors (Lim 2002; Restubog et al., 2011), indicating that cyberloafing may be deployed in response to perceived workplace injustice (Fox, Spector, & Miles, 2001). One of the main gaps within the cyberloafing literature is that most of the studies utilize cross-sectional data collection methods. Thus, it cannot be determined if cyberloafing is in response to work stress or if it causes work stress because the worker is not performing their work duties (increase in role overload). Additionally, since there have not been any longitudinal studies of cyberloafing and strain, it is difficult to determine if cyberloafing mediates the relationship between job stressors and burnout.

Resources

There is some empirical support that employees are motivated to cyberloaf when their energy resources are compromised. One study found that individuals are more likely to cyberloaf when their resources are depleted. In a quasi-experiment, Wagner et al. (2012) found a greater surge in cyberloafing behaviors were observed during daylight savings time or periods of time when sleep quality was compromised. One of the explanations for this is that individuals that have

lower resources due to lack of sleep may have less self-control than individuals that have a normal level of energy resources (Restubog et al., 2011; Wagner et al., 2012). Next, I discuss conservation of resources theory by Hobfoll (1989) and how this may help explain the motivation to cyberloaf at work.

Resource conservation. The current literature on cyberloafing behavior can be framed/interpreted by the theory of conservation of resources (COR) developed by Hobfoll (1989). COR theory is a motivational theory that explains the relationship between stressors and strain (Hobfoll, 1989; 2001). COR theory is based on the premise that individuals have a fixed amount of resources (Hobfoll, 1989; 2001). In addition, people are motivated to gather, maintain and prevent the loss of resources (Hobfoll, 1989; 2001). Hobfoll classifies resources into four types: objective, condition, personal, and energy (1989; 2001). Examples of objective resources are tools that enable an individual to perform their job (e.g., computer). Another example of an objective resource is money which enables individuals to buy or obtain other resources. Condition is another type of resource which refers to social skills, social network, and status (Hobfoll, 1989; 2001). Personal resources are internal sources of self-efficacy, self-esteem and other self-evaluations (Hobfoll, 1989; 2001). The last resource in COR is energy levels or the amount of personal vigor (Hobfoll, 1989; 2001). According to COR theory, individuals are motivated to obtain and prevent the loss of these four types of resources (Hobfoll, 1989; 2001).

One of the major premises of COR is that there are finite amounts of resources available (Hobfoll, 1989; 2001). Ego depletion theory, similar to COR, asserts that there are a limited and finite amount of mental resources (Baumeister, Bratslavsky, Muraven, & Tice, 1998). When an individual is using their mental resources during the coping process, ego depletion may occur, characterized by less self-control and self-regulation (Baumeister et al., 1998; Muraven, Tice, &

Baumeister, 1998). Self-regulation of emotions may reduce energy resources. Therefore if an individual is investing resources during coping (i.e., emotion regulation), he or she will have fewer available resources to invest in other coping processes. Both ego depletion and self-regulation theory have been supported by empirical studies which support that lowered mental resources impair self-control and functioning (Baumeister et al., 1998; Muraven et al., 1998). Additionally, there is evidence that workers exhibit increased CWBs when their energy resources are lower (Banks et al., 2012). Therefore individuals, who regulate their emotions during the coping process, may struggle to restore their resources and may perform behaviors they normally wouldn't (e.g., cyberloaf). Workload has been found to be most strongly linked to the emotional fatigue dimension of burnout (Lee & Ashforth, 1996). Therefore, I propose that, under circumstances where resources are diminished (e.g., during role overload), an employee may actually be more likely to cyberloaf as an attempt to restore their resources or escape their current role stress.

The foundation of COR theory is that individuals are driven to attain resources (Hobfoll, 1989; 2001). In the quest for obtaining resources, an individual will experience strain if they lose or is at risk of losing resources (Hobfoll, 1989; 2001). A person will also experience strain if there is a failed attempt to obtain resources after an ample amount of effort (Hobfoll, 1989; 2001). There are three main principles of COR theory. The first principle of COR theory is that resource loss has more of an impact than resource gain (Hobfoll, 1989; 2001). Therefore, if an individual has a loss of energy, they may be more likely to notice and respond to this than if they experienced a surge of energy. The next tenant of COR is that in order to gain, maintain, or prevent loss of resources, individuals must invest their resources (Hobfoll, 1989; 2001). Additionally, resource loss is associated with continued loss, whereas resource gain is related to further gains. The more resources an individual has, the more opportunities exist to invest his/her resources with less risk.

Therefore a person is able to obtain more resources. An example of this is financial investment. A person who has more financial capital is able to more readily invest in the stock market, not be as concerned about day to day fluctuations, and may be more likely to make risky decisions that may lead to resources exponentially increasing. On the contrary, a person who is living paycheck to paycheck does not have the ability to invest in stock, cannot afford to lose the money if invested, and therefore is more likely to either not invest or invest in something that is more stable and has a lower ROI. Therefore, the second individual invests less money (if at all) and will be less likely to increase their financial resources.

The last principle of COR asserts that the cycle of resource investment, gain, and loss is a dynamic process (Hobfoll, 1989; 2001). Stressors, motivation, resources and strain fluctuate daily (Hobfoll, 1989; 2001). Starting levels of resources also fluctuates. A person may at one time point have a large amount of personal resources, feel very self-efficacious, and have a plethora of energy due to a good night's sleep. The next day, the same person may fail his or her dissertation proposal and as a result have a decreased sense of self-efficacy (i.e., personal resources) and be unable to sleep as a result. In this situation a person may be at risk to experience a loss spiral where a loss of conditional resources (failed support of committee) led to lower personal resources (self-esteem and efficacy) which led to a lower amount of energy (lack of sleep). If the person is unable to gather more resources such a social support from family, sleep, and support from his or her advisor, they may be more likely to not perform at their optimal level at work and therefore may continue to experience loss.

However, success leads to future success. If a person is able to gain resources they are more likely to leverage and invest them to gain more resources which can lead to a gain cycle (Hobfoll, 1989; 2001). Take that same situation described in the above paragraph. Say the person passes

their dissertation proposal and gains the approval of his or her committee to conduct the research. They may experience an outpouring of both condition and personal resources, have a good night's sleep, and feel refreshed the next day. Therefore the person is able to contribute and add value at both work and to their research project which will lead to resource gain (e.g., achieve their PhD).

COR theory has been supported by several empirical studies (Brotheridge & Lee, 2002; Halbesleben, 2006; Hobfoll, 1989; 2001; Ito & Brotheridge, 2003). One stream of literature that is based on COR theory is respite. Respite, or a short period of rest or relief, is a line of research that focuses on the impact that weekends, days off work, and vacations have on individuals. One of the main key findings of respite is that individuals that are able to take breaks and time off are able to restore their resources (Bloom et al., 2009). Research that examines respite suggests that breaks are effective, but the effects are not long-lasting (Bloom et al., 2009). Additionally, although many respite researchers agree that work breaks are a form of respite, there is a lack of research in this area (Fritz et al., 2013). In the next section, I briefly review the respite literature and examine how COR and respite relate to cyberloafing.

Respite. According to the Merriam-Webster dictionary, respite is defined as "a short period of rest or relief from something difficult or unpleasant." Compared to research on the effects of weekend respite and vacations there is substantially less research on rest and lunch breaks during work and their impact on employees well-being (Fritz et al., 2013). There have been several studies which have found that respite restores energy levels and reduces burnout (Bloom et al., 2009; Davidson et al., 2010; Eden, 1990; Etizion, Eden, & Lapidot, 1998; Fritz & Sonnentag, 2005; Helliwell & Wang, 2014; Marzuq & Drach-Zahavy, 2012; Marzuq & Drach-Zahavy, 2012; Sonnentag, Unger, & Nagel, 2013; Sonnentag, Mojza, Demerouti, & Bakker, 2012; Vahle-Hinz, Bamberg, Dettmers, Friedrich, & Keller, 2014; Westman & Eden, 1997). For example, in a quasi-

experiment of sabbatical leave of university professors, individuals on leave were able to regain resources, prevent resource loss, and had higher levels of well-being compared to professors not on sabbatical (Davidson et al., 2010). Recovery is also beneficial to an organization. A diary study of workers found that daily non-work recovery periods predicted both work engagement and proactive work behaviors (Sonnentag, 2003).

However, research suggests that the activities an individual engages in during respite determines the effectiveness of respite (Fritz & Sonnentag, 2005Marzuq & Drach-Zahavy, 2012). For example, more social activity during periods of respite has been associated with increased energy and job performance (Fritz & Sonnentag, 2005). In addition, the amount of outside tasks (e.g., errands) impacted whether respite was effective at restoration of energy resources (Fritz & Sonnentag, 2005). Individuals with more errands and outside commitments were less successful at gaining energy during respite (Fritz & Sonnentag, 2005).

Respite is also related to positive emotions. Studies have found that full-time workers are happier during respite periods such as the weekend since they are able to socialize with friends and family for longer periods of time compared to weekdays (Helliwell & Wang, 2014). Individuals with fewer work social ties are more effective at restoring their resources on the weekend when they are able to get social support from family and friends. With the ability to connect virtually with one's network of friends from the workplace through cyberloafing on social media, an individual may be able to have small periods of respite at work. Overall, these studies support COR theory and the motivation of employees to invest their conditional and personal supplies in order to increase resources during working hours.

An example that supports the importance of what a person does during their respite is further exemplified by a longitudinal study of nurses who had weekend versus midweek respite

(Marzuq & Drach-Zahavy, 2012). The groups did not differ in emotional exhaustion and vigor when leisure activities were comparable (Marzuq & Drach-Zahavy, 2012). However, nurses who had mid-week respite were more likely to run errands instead of engage in relaxation techniques, and therefore fared worse compared to their cohort that had weekend respite and were able to spend more time relaxing (Marzuq & Drach-Zahavy, 2012). Even in cases where respite has been in the form of service (Army Reserves being called to active duty), it has been found that individuals experienced declines in burnout and job stress when returning to their regular jobs (Etizion et al., 1998). Both weekend and non-work experiences/respite relate to well-being and overall life/job satisfaction (Ryan, Bernstein, & Brown, 2010). Vacation has also been efficacious in restoring resources and reducing job burnout (Westman & Eden, 1997). However, post vacation burnout has been found to return to its pre-vacation levels rather quickly (Bloom et al., 2009). In one study it returned back to pre-vacation levels within three days (Westman & Eden, 1997). Therefore, short breaks and respite may hold the key to keeping burnout levels down.

Based on theoretical foundation of the coping literature (Compas et al., 2001; Conner-Smith et al., 2000; Folkman et al., 1986; Folkman & Lazarus, 1985; Krohne, 1996; Lazarus, 1993a; 1993b; Roth & Cohen, 1986; Skinner et al., 2003), COR theory (Hobfoll, 1989; 2001), and the respite literature, I propose that cyberloafing is a form of distraction/disengagement coping that helps individuals restore their resources so that they can cope with work stress. Even though there is literature that identifies distraction/disengagement coping as suboptimal compared to approach strategies (Littleton et al., 2007), there is also empirical support that these can be effective coping strategies (Shin, 2014; Suls & Fletcher, 1985). Drawing upon these meta-analytic findings and the respite literature, I propose that disengagement coping in the workplace is effective because it allows individuals to take a break and restore their resources. Often times workplace stressors are

beyond the control of the employee which provides further support that these behaviors may be effective in this context. A worker who is experiencing role overload may need to take a break and restore their resources prior to any type of PFC strategies being deployed. Despite the fact that workers may cyberloaf at the onset of work stress, it is possible that many workers are not consciously aware of the motivations to cyberloaf during work. In an attempt to restore resources an individuals may log into a social media site in order to obtain social support, surf the internet, or play video games/apps on their phone. In turn, these behaviors are proposed to be effective at restoring resources and reducing strain.

H3: Cyberloafing behaviors negatively predicts subsequent work burnout.

Mindfulness

Mindfulness is a type of meditation used in order to combat an emotional reaction to stress (Grossman et al., 2004). In mindfulness meditation, an individual does not judge any incoming stimuli, including negative thoughts or behaviors (Goleman, 1988; Grossman et al., 2004; Henepola Gunaratana, 2002; Hulsheger et al., 2013; Hulsheger et al., 2014; Marlatt & Kristeller, 1999; Regehr et al., 2014; Sedlmeier et al., 2012; Van Gordon et al., 2014). The practice is derived from Buddhism (Sedlmeier et al., 2012) and is characterized by increased awareness of surroundings, thought processes, and behavior in the present moment (Grossman et al., 2004). Marlatt and Kristeller's (1999) definition is "to be fully mindful in the present moment is to be aware of the full range of experiences that exist in the here and now" (pp. 68).

Mindfulness and mindfulness meditation are two terms that are often used interchangeably within the literature. However, mindfulness meditation in general refers to a meditation practice in which an individual focuses on their external surroundings (e.g., sounds) and internal stimuli (e.g., breath) with the goal of being present during meditation (Henepola Gunaratana, 2002). This

type of meditation practice is thought to increase an individual's ability to be more present in their day to day life (Henepola Gunaratana, 2002). Mindfulness; however, is the general ability to be present and aware of one's external/ internal environment (Brown & Ryan, 2003). Although mindfulness meditation practice is thought to increase mindfulness in general, it is not a pre-requisite to general mindfulness. Furthermore, a person does not need to be meditating to experience mindfulness. I draw upon both the mindfulness meditation and mindfulness literatures in the following sections in order to support my hypotheses.

Definition of mindfulness. Western practices of mindfulness focus on the ability to be present and fully engaged both with the external and internal world simultaneously. Another definition of mindfulness is the ability to be present, unbiased, and fully accepting of "what is". Another form of mindfulness meditation is when an individual focuses on both their internal (e.g., thoughts/functioning) and external experiences. Characteristics of a mindfulness meditation practice include remaining aware of sensory experiences (e.g., sight, smell, surroundings), along with one's thoughts, and the breath (Goleman, 1988; Grossman et al., 2004; Henepola Gunaratana, 2002; Hulsheger et al., 2013; Hulsheger et al., 2014; Marlatt & Kristeller, 1999; Regehr et al., 2014; Sedlmeier et al., 2012; Van Gordon et al., 2014). Mindfulness has also been found to produce neural changes in the interior cingulate cortex, insula, temporo-parietal junction, and the fronto-limbic network (Hölzel et al., 2011; Sedlmeier et al., 2012).

Mindfulness meditation is sometimes confused with other more traditional forms of meditation. One of the major differences between the two is that traditional forms of meditation focus on completely turning off your brain or focusing on one object or thought. This form of meditation is similar to disengagement coping, in which an individual mentally disengages with the world and stressor in order to cope (Manocha, Black, Sarris, & Stough, 2011). Interestingly,

this type of relaxation and coping technique has been found to be effective in mitigating workplace stress (Manocha et al., 2011). An empirical study of yoga and meditation found that the practice of these two activities reduced work-related burnout and mitigated the relationship between burnout and job performance (Singh, Suar, & Leiter, 2011). Therefore, there is some evidence that traditional mediation practices have positive effects on employees' overall well-being and health.

Mindfulness has been examined in the psychological literature over the last few decades; however, until recently there was a lack of an organizing framework (Hölzel et al., 2011). Hölzel et al. (2011) theorized that mindfulness is composed of body awareness, emotion regulation, increased concentration, and lack of attachment to self (Hölzel et al., 2011). Furthermore, Hölzel et al. (2011) proposed that the emotion regulation component of mindfulness is composed of cognitive reappraisal and decreased reactivity through unbiased judgment. This theoretical framework is important because it has integrated multiple theories in order to explain the mechanisms in which mindfulness operates.

A similar construct that is related but distinct from mindfulness is flow (Komagata & Komagata, 2010; Reid, 2010). Flow is an experience that is characterized by absorption in an activity or work task, enjoyment, and intrinsic motivation (Bakker, 2005; 2008; Demerouti, Bakker, Sonnentag, & Fullagar, 2012). The state of flow has also been described as being so involved in task that time seems to stop (Bakker, 2005, 2008; Csikszentmihalyi, Harper, & Row, 1990). Both flow and mindfulness are characterized by engagement and absorption in the present moment (Komagata & Komagata, 2010; Reid, 2010). Second, both concepts have been empirically linked to psychological well-being and therefore have been increasing in popularity in recent years (Komagata & Komagata, 2010; Reid, 2010).

Despite these similarities, there are some differences between mindfulness and flow. Flow is total absorption and engagement with a task (Bakker, 2005, 2008; Csikszentmihalyi et al., 1990; Reid, 2010), whereas mindfulness is total absorption with the experience and is not dependent on a particular task (Grossman et al., 2004). In other words, a person does not have to be involved in an intrinsically motivating task in order to experience mindfulness. Mindfulness can occur even at times where a person is performing a task that is not necessarily motivating. Lastly, flow describes a state in which a person is so engrossed with the task that sensory or awareness of surroundings and time seem to dissipate, compared to mindfulness where the person is aware of the entire experience. Again, mindfulness is characterized by being present, aware of internal and external stimuli, and unbiased judgement (Goleman, 1988; Grossman et al., 2004; Henepola Gunaratana, 2002; Hulsheger et al., 2013; Hulsheger et al., 2014; Marlatt & Kristeller, 1999; Regehr et al., 2014; Sedlmeier et al., 2012; Van Gordon et al., 2014).

Mindfulness-based interventions. Mindfulness has become popular in recent years and is currently being taught in schools and organizations, and used in psychotherapy. Singh, Lancioni, Wahler, Winton, and Singh (2008) found that many clinicians are beginning to use mindfulness techniques in cognitive behavioral therapy to reduce psychological distress. Schoeberlein et al. (2004) conducted semi-structured interviews of schools across the U.S. which revealed that a growing number of school systems are adapting mindfulness-based training programs. Results of these structured interviews reveal that these programs have been connected to higher GPA, fewer absences, and lower levels of aggression (Schoeberlein et al., 2004). Organizations have also begun to integrate mindfulness in the workplace. Google, for instance, frequently hosts mindfulness-based intervention classes which focus on mindfulness techniques and business issues (Woods, 2012). These types of classes both within schools and organizations

focus on developing an individual's ability to concentrate, not become distracted, and fully engage in the moment. The classes also focus on teaching people to process the environment without judgment or concern about the past or future. Initial empirical examinations of these types of programs have been promising, linking mindfulness meditation training to a number of benefits (Bergomi, Tshacher, & Kupper, 2012: Black & Fernando, 2014; Leroy, Anseel, Dimitrova, & Sels, 2013; Malarkey, Jarjoura, & Klatt, 2013; Mrazek, Franklin, Phillips, Baird, & Schooler, 2013; Schoeberlein et al., 2004; Van Gordon et al., 2014). In addition, there have been several studies that have shown the benefits of traditional meditation on an individual's health (Manocha et al., 2011). Meditation, or the act of quieting the mind, has been related to decreased stress, anxiety, and depression (Manocha et al., 2011).Reviews of mindfulness-based interventions have revealed that mindfulness can be applied to occupational health concerns such as work-related stress and workaholism (Van Gordon et al., 2014).

Examinations of mindfulness-based training in schools have also found improvements in mindfulness. Children in kindergarten through six grade showed improvement in attention and self-control (Black & Fernando, 2014). These behaviors persisted several weeks after the initial training program (Black & Fernando, 2014). Another study that utilized a randomized trial of a two week mindfulness-based intervention found increased GRE scores in the reading comprehension section through increased working memory capacity (Mrazek et al., 2013). These effects were mediated by reducing distractions in test-takers that were more prone to drifting thoughts (Mrazek et al., 2013). Mindfulness has physiological implications as well. There is some initial evidence that mindfulness-based interventions at work may lower the risk for cardiovascular disease (Malarkey et al., 2013). For example, lower cortisol levels were found in participants in an intervention group compared to a control group when the participants' body mass index (BMI)

was less than 30 (Malarkey et al., 2013). Organizations may also benefit from mindfulness-based interventions due to mindfulness being associated with higher levels of workplace engagement (Leroy et al., 2013). Therefore, there are many practical uses of mindfulness at work. Furthermore, some targeted interventions have revealed that this type of meditation may be easily applied to reduce the impact of work stress (Grossman et al., 2004).

Meditation, mindfulness, and work. There is empirical evidence dating back several decades that the practice of traditional meditation has a positive effect on work productivity, learning, job satisfaction, turnover rates, better interpersonal relationships, well-being, and increased safety behaviors (Frew, 1974; Hulsheger et al., 2013; Zhang & Wu, 2014). There recently has been more attention on the application of mindfulness meditation at work (Dane & Brummel, 2013). Some preliminary research on mindfulness has revealed a link between mindfulness and better job performance (Dane & Brummel, 2013). In addition, a meta-analysis of mindfulness stress reduction programs found that mindfulness was related to both physical and psychological well-being in a variety of situations (Grossman et al., 2004). One explanation for these findings is that the increased ability to be aware and present leads to an increased capacity to cope with stressors and thus reduce strain (Grossman et al., 2004).

There is also some evidence that individuals who are more mindful are happier, have more positive emotions, and are more emotionally stable (Brown & Ryan, 2003). Mindfulness has been observed to reduce work stress levels and negative emotional states (Brown & Ryan, 2003). There is additional evidence that mindfulness is an effective buffer of stress. In another meta-analysis that examined the impact of mindfulness meditation on physicians (an occupation that is associated with a high burnout rate) mindfulness was found to significantly reduce burnout (Regehr et al., 2014). Furthermore, mindfulness has been found to be an effective coping strategy for employees

who lack job autonomy (Schultz, Ryan, Niemiee, Legate, & Williams, 2014). A study of mindfulness and supervisor styles revealed that mindfulness can actually buffer the negative effects of control/lack of autonomy (Schultz et al., 2014). Additionally, mindfulness was linked to lower levels of burnout, turnover intentions, and need frustration (Schultz et al., 2014). However, this study used cross-sectional data Therefore, the role of mindfulness in the job stressor-strain relationship cannot be determined. Overall, many of the empirical investigations of mindfulness at work indicate that mindfulness may be an effective coping strategy to mitigate strain. Next, I discuss the importance of detachment in the restoration of resources and how mindfulness may lead to greater recovery and lower levels of exhaustion.

Mindfulness and detachment. Recovery is an important factor in the prevention of workplace strain (Demerouti et al., 2012). One of the core components of restoration during a work break is the ability to psychologically detach (Davidson et al., 2010; Etzion et al., 1998; Sonnentag & Bayer, 2005; Sonnentag, Kuttler, & Fritz, 2010; Sonnentag, Mojza, Binnewies, & Scholl, 2008; Sonnentag, 2012; Sonnentag et al., 2013). Psychological detachment is essential in order to fully recover from prolonged periods of work and stress (Etzion et al., 1998; Sonnentag & Bayer, 2005; Sonnentag et al., 2008; Sonnentag et al., 2010; Sonnentag et al., 2010; Sonnentag, 2012; Sonnentag et al., 2013). Psychological work detachment is defined as an individual's ability to disconnect from work (Etzion et al., 1998). Many individuals are unable to stop thinking about work after they have left due to work stressors, unfinished tasks, and work conflicts (Sonnentag et al., 2010). Employees who have high workloads have an even more difficult time detaching from work (Sonnentag & Bayer, 2005). There is a considerable amount of evidence that psychological detachment is important to recovery and well-being (Etzion et al., 1998; Sonnentag & Bayer, 2005; Sonnentag et al., 2008; Sonnentag et al., 2010; Sonnentag et al., 2010; Sonnentag, 2012; Sonnentag

et al., 2013). The inability to psychologically detach from work leads to emotional exhaustion and a greater need for respite (Sonnentag et al., 2010). In addition, psychological detachment from work has been observed to buffer work relationship conflicts (Sonnentag et al., 2013).

Individuals who are able to psychologically detach have higher levels of overall well-being (Sonnentag et al., 2013). A diary study found that detachment from work led to a stronger relationship between flow and work energy (Demerouti et al., 2012). There is some longitudinal evidence that higher levels of mindfulness throughout the workweek are associated with more stable levels of psychological detachment from work and better sleep quality (Hulsheger et al., 2014). Since mindfulness is the practice of being in the present moment, employees who are mindful are less likely to hold on to past work stressors and are able to more easily detach from past work situations. Mindfulness also aids in detachment from work and other experiences throughout the day so that individuals are better able to sleep (Hulsheger et al., 2014). Thus, the practice of mindfulness may assist employees in detaching at work from one work experience to the next. Therefore, it is expected that mindful employees have lower levels of emotional exhaustion compared to individuals who are not mindful, and who may be unable to detach from all of the work stressors that take place during the day.

Therefore, based on the respite literature and studies of mindfulness at work, I assert that individuals who are mindful may have lower levels of strain because they do not hold onto past work stress. Also, mindfulness-based interventions teach individuals to cope with work by processing information in a non-judgmental way. This may protect the individual from negative emotions and allow a person to analyze the situation and engage in critical thinking. Therefore, when there are job stressors, an individual that is in a "mindfulness state" may be able to analyze and address the job stressor more easily than individuals who are not mindful. In addition, those

practicing mindfulness utilize an engagement coping technique in order to process the information needed to find solutions to the situation. There is an ample amount of evidence that suggests that engagement, approach, and PFC strategies are associated with better coping outcomes (Skinner et al., 2003). In line with this, I propose that mindfulness predicts lower levels of burnout.

H4: Mindfulness behaviors negatively predicts subsequent work burnout.

In this paper I take a novel approach and examination of modern coping strategies that are utilized by workers. Again, it is important to examine both cyberloafing (disengagement) and mindfulness (engagement) coping strategies concurrently due to the fact that they are dissimilar but potentially equally effective ways of coping with workplace stress. Job stressors such as role overload are hypothesized to increase both cyberloafing (Hypothesis 1) and mindfulness (Hypothesis 2) and these behaviors will in turn reduce burnout. This is one of many possible explanations of the relationship between stress and burnout. Specifically, in this research I am testing that role overload positively predicts cyberloafing and mindfulness, and in turn, these coping behaviors negatively predict work burnout. Even though this paper focuses on these coping strategies, there are several other coping mechanisms and variables that explain the job stressor-work burnout relationship. Therefore, I do not propose that cyberloafing and mindfulness will fully mediate the relationship between job stressors and burnout. These are just two of many potential ways to explain the stressor-strain process. Therefore, I propose that there will be indirect effects (Please see Figure 1 for a summary of all of the Hypotheses in the current study).

H5a: There is an indirect relationship between role overload and work burnout through cyberloafing.

H5b: There is an indirect relationship between role overload and work burnout through mindfulness.

CHAPTER 2: METHOD

Participants and Procedure

Participants were recruited using Amazon's Mechanical Turk site. In order to participate in the study, individuals had to have full-time employment and live in the United States. The rationale to restrict participation in the study to residents of the U.S. is due to the fact that some countries have more strict controls on internet access. For example, in China social media sites such as Facebook are not available. In addition, I restricted the survey posting to participants who had above a 95% approval rate on all Human Intelligence Tasks (HITs). The final sample size was 219 and included participants who completed all three surveys (please see data screening section below) and correctly inputted the code into Amazon so that their data could be linked. The sample contained 124 males (57%) and 94 females (43%). The average tenure of employees was 5.90 years and the average age of participants was 34.39 years. The sample overall was well-educated with 88% of participants reporting some college education and over half (56%) reporting having a least one four-year degree. Half of the participants were salaried employees (50%) and half were hourly workers (50%). A majority had access to both a smartphone (89%) and a computer (86%) throughout the day. Most of the participants reported not having any experience with meditation (only 8% reported attending a meditation class and 6% attending a mindfulness training class). For more details on the demographics of the sample please see Tables 1a and 1b.

I restricted the first survey to 800 participants. The survey was posted on Mechanical Turk and available to M-Turk workers who met the criteria outlined above. After 800 participants completed the survey and input the random code into M-Turk, the posting was terminated. Then for each subsequent survey I restricted the number of participants (survey two was restricted to 450 participants and survey three was restricted to 230 participants) due to resource limitations.

Survey two and survey three were only visible to M-Turk workers who passed the data screening process and completed the previous survey(s). Each survey was available for completion on a first come first serve basis. For example, the second survey was posted on 703 M-Turk Human Intelligence Tasks (HITs) workers' pages because they had completed the first survey and took the survey in a reasonable amount of time (for more information please see the data screening section). The first 450 to complete the survey in the second wave were included in the study and invited to take the third and final survey. Participants were compensated $2.00 for each survey that they completed.

Since sample size recommendations for longitudinal mediation tests using SEM analysis has not yet been defined (Cole & Maxwell, 2003), I was unable to conduct a power analysis to determine the optimal sample size. Most articles and books that discuss sample size recommendations for SEM use the number of parameters or paths being estimated or recommend that the sample be no smaller than 200 observations (Iacobucci, 2010). However, Monte Carlo studies have revealed that sample sizes of even 100-150 observations are sufficient (Iacobucci, 2010). I chose a sample size of 800 for time one in order to account for attrition during the three waves of data collection. Overall the final sample size was sufficient with 219 participants completing all three time points.

In order to control for the possibility of burnout priming the survey respondents, I placed the burnout items in the survey after the mindfulness and cyberloafing questions. Demographics such as: type of job, gender, age, hours worked, and tenure were also collected. Please see Appendix A for a complete list of demographic questions. All measures were administered at all three time points to mitigate concerns with common method variance and to ensure that causal, reversed causal, or reciprocal relationships between the variables could be examined (de Lange,

Taris, Kompier, Houtman, & Bongers, 2003; Zapf, Dormann, & Frese, 1996). I collected the survey data at three time points in order to examine the coping process between work stress, cyberloafing, mindfulness, and burnout. The data were collected in one-week intervals for the following reasons. First, there is little empirical research that gives guidance on the stress and coping process and the appropriate amount of time needed to elapse in order examine these effects (de Lange et al., 2003; Maslach, Schaufeli, & Leiter, 2001). Second, in order to eliminate other potential causes for the effects such as maturation or job change, a shorter time frame was preferred. Third, a short time lag helped minimize attrition from the study. In addition, from a theoretical standpoint, both the construct of cyberloafing and mindfulness are coping processes that are ephemeral, suggesting that a short time period is appropriate and sufficient in order to test the proposed hypotheses.

Measures

Mindfulness. To measure mindfulness, the Southampton mindfulness questionnaire (SMQ) was used (Chadwick et al., 2008). This scale measures mindfulness behaviors in response to stress. The scale options were based on a 5-point scale (1) *strongly disagree* to (5) *strongly agree*. In addition, the SMQ statement "usually when I experience distressing thoughts and images" was altered to "When I experienced a stressful thought or work situation over the last week." The items were changed to past tense in order to capture behaviors over the last week. For example, "I am able to just notice them without reacting" was altered to read "I was able just to notice them without reacting." The coefficient alpha was acceptable for all three time points ranging from .89 to .91. Please see Appendix B.

Cyberloafing. To measure cyberloafing the 19-item scale by Lim (2002) and extended by Henle and Blanchard (2008) was used. Items are rated on a 5-point scale ranging from (1) *not at*

all (5) *a great deal.* Respondents that perform any of these behaviors as part of their job were asked to denote this by selecting (0) *not applicable*. An example item is "Sent/received instant messaging." The coefficient alpha was acceptable and equivalent across all three time points (α = .94). Please see Appendix C.

Job stressors. To measure role overload, three items from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1983) were used. An example item is "I have too much work to do to do everything well." Respondents were able to select the following options: (1) *strongly disagree* to (5) *strongly agree.* The coefficient alpha ranged from .82 to .86 for all three time points. Please see Appendix D.

Work burnout. To measure work burnout, one of the three scales from the CBI (Kristensen et al., 2005) was used. Six of the seven items were used to measure work-related burnout. An example item from that scale is "Do you feel that every working hour is tiring for you?" Respondents were asked to rate the scale on a 5-point Likert-type scale ranging from (1) *never (to a low degree)* to (5) *always (to a very high degree)* depending on the question. The item "Do you have enough energy for family and friends during leisure time?" was negatively related to all of the other items in the scale. The item may not be appropriate to use in a work related burnout scale since it is not related to work. The six item scale had an acceptable coefficient alpha ranging from .92 to .94, please see Appendix E.

Other Measures

In addition to hypothesized measures a few additional measures of work stress and coping were added in order to conduct some exploratory analyses and to better understand the results.

Overall burnout. An additional scale from the CBI (Kristensen et al., 2005) was added to measure general burnout. The six item scale of life related burnout was used. An example item is

"How often do you feel tired?" Respondents were asked to rate the scale on a 5-point Likert-type scale ranging from (1) *never (to a low degree)* to (5) *always (to a very high degree)* depending on the question. The coefficient alpha ranged from .92 to .93. For more information please see Appendix E.

Problem-focused coping. To measure problem-focused coping four items from the BRIEF cope measure were used (Carver, 1997). Respondents rated each item on a 5-point scale (1) *strongly disagree* to (5) *strongly agree*. The coefficient alpha was acceptable ranging from .84 to .86. An example item is "I've been taking action to try and make the situation better." Please see Appendix F.

Work-Family conflict. To measure WFC a six item scale by Matthews, Kath, and Barnes-Farrell (2010) was used which assesses work interfering with family (WIF) and family interfering with work (FIW). The items measured time, strain, and behavior based conflict (Matthews et al., 2010). An example item is: "I am often so emotionally drained when I get home from work that it prevents me from contributing to my family." Items were rated using a 5-point Likert-type scale ranging from (1) *strongly disagree* to (5) *strongly agree*. The coefficient alpha ranged from .83 to .85. Please see Appendix G.

Withdrawal. To measure work and job withdrawal a 13-item measure was used. An example question is "Thought about leaving your job." Participants were asked to rate stress reactions using a 4-point Likert-type scale ranging from (1) *never* to (4) *many times* (Hanisch & Hulin, 1990). The coefficient alpha was in the acceptable range for all three time points ($\alpha = .87$ to $\alpha = .88$). Please see Appendix H.

Social desirability. Ten items were used to measure social desirability (Strahan & Gerbasi, 1972). Respondents responded to each item as (0) *false* or (1) *true*. An example item is "I

sometimes feel resentful when I don't get my way." The reliability of the scale was acceptable (α = .78 to α = .80). Please see Appendix I.

Data screening

A total of 800 M-Turk workers completed the survey at time one. In order to be paid and identified as an M-Turk worker who completed the survey, a worker must input the code generated in the survey into the posting (i.e., HIT) on M-Turk's website. If a worker does not input a code on the website they are not recognized as a worker by Amazon or compensated for participating in the survey. A total of 60 people clicked on the survey, but did not complete the HIT. Of the 60 workers that did not complete the HIT, 34 did not participate in the survey at all (did not answer any questions in the survey). The remaining 26 filled out at least a portion of the survey. Seven of the 26 completed the entire survey, but did not input a code into M-Turk so they were not able to complete the rest of the study. A total of 800 participants completed the survey at time one on Amazon Mechanical Turk (including the steps required for identification and pay). The data were inspected and participants who filled out the survey in less than five minutes (n = 97) were excluded from the study and not invited to complete the survey at time two. In total, 703 of the 800 participants were invited to take the second survey. The survey was only posted and made available to these 703 participants and the posting was set to terminate after 450 M-Turk participants completed the second survey. A total of 411 M-Turk workers completed the second survey. I examined the data based on three IER items that were embedded in the survey (e.g., "If you are reading this please select strongly agree") to detect insufficient effort responding. All of the participants that completed the second survey were invited to complete the final survey since none of the respondents missed more than one of the three IER items. Of the 411 participants that filled out the second survey, 230 completed the third survey. An analysis of the responses to the

IER items was also conducted for the third survey. A majority of participants passed all three IER items (224 of the 230). The remaining six participants passed two out of the three IER items. Therefore all of the 230 participants were retained at this stage in the data screening process. The data was also screened to identify participants with extensive missing data. While most of the participants completed the entire survey, 11 had extensive missing data (over half of the survey) and did not input the correct code into Amazon at time three and therefore could not be identified within the dataset. The 11 participants were deleted leaving a final sample of 219 participants.

In order to examine the differences between participants that did not complete the entire study and the final sample, some additional descriptive statistics and analyses were conducted. First, I removed all of the participants who completed all three surveys and were identifiable from wave one (n = 219) so that I could examine the two groups in terms of demographics and responses to the scales. The group that did not complete the study included participants that completed survey one and did not input a code into M-Turk (n = 7), participants that completed the study and could not be identified and removed from time one (n = 11), and participants that did not complete all three time points (n = 571). The goal was to examine if there were any differences between participants that did not complete the entire study (n = 589) and the final sample (n = 219). Both demographics and t-tests were generated to determine if there were any key differences between the final sample and the participants that did not complete all three time points.

Overall, there were no notable differences between participants that did not complete the entire study and the final sample. For example, there were no differences between the final sample and participants that did not complete the survey in terms of gender and the two groups had similar tenure (participants who did not complete study = 5.00 years, final sample = 5.90 years). They also reported having the approximately the same access to smartphones (88%) and computers (85%)

during work hours. Respondents who did not complete the study were slightly younger (31.96 years) and more educated with 90% reporting having at least some college. There were also more hourly workers who did not complete the study (60%) compared to the final sample (50%). The participants who did not complete the study reported more exposure to meditation classes with 12% reporting meditation training and 8% reporting mindfulness classes. However, exposure to meditation was still relatively low. Please see Table 2a and 2b for more information about the participants who did not complete the study. In addition, the means and standard deviations of all study variables were computed for the participants who did not complete the requirements of the study (please see Table 3).

I also conducted t-tests to compare responses to the variables in order to further inspect the differences between these two populations (see Table 4). There were some differences between the two samples in their responses to the variables in the survey. There was a significant difference between the final sample (M = 3.36, SD = .64) and participants who did not complete the study (M = 3.25, SD = .59) on self-reported mindfulness; $t(809) = -2.20$, $p = .028$, indicating that the final sample reported higher levels of mindfulness than the participants who did not complete the study. There were also significant differences between the final sample (M = 1.88, SD = .75) and participants who did not complete the study (M = 2.06, SD = .74) on cyberloafing behaviors; $t(803) = 3.01$, $p = .003$ and cybersupport; $t(792) = 2.18$, $p = .029$ (final sample M = 2.34, SD = .93; did not complete study M = 2.49, SD = .85). The final sample reported lower levels of cyberloafing and cybersupport compared to participants who did not complete the study. The participants who did not complete the study (M = 3.87, SD = .65) reported significantly lower levels of PFC compared to the final sample (M = 3.99, SD = .59); $t(806) = -2.42$, $p = .016$. The final sample also reported significantly lower levels of overall burnout (M = 2.55, SD = .83), work burnout (M =

2.51, *SD* = .59), and withdrawal behaviors (*M* = 1.83, *SD* = .53) compared to participants who did not complete the study: overall burnout (*M* = 2.68, *SD* = .78); *t*(808) = 2.16, *p* = .031, work burnout (*M* = 2.77, *SD* = .73); *t*(804) = 2.13, *p* = .033, and withdrawal (*M* = 2.00, *SD* = .56); *t*(808) = 3.83, *p* < .001.

Overall, participants who did not complete the study reported higher levels of burnout, withdrawal behaviors, cyberloafing, and cybersupport compared to the final survey participants. Since burnout and withdrawal behaviors are characterized by lower levels of energy and depersonalization these participants may be less likely to stick with the survey study. In addition the higher levels of cyberloafing, cybersupport, and withdrawal behaviors may suggest that these participants may have been engaging in other forms of withdrawal instead of completing the surveys since the surveys were open on a first come first serve basis and terminated after a certain number of participants completed the survey. Furthermore, participants who completed the survey during time one that did not respond consciously and took the survey in under five minutes were excluded from the second survey (n = 97) and some participants failed to meet the requirements to be included in the study (input a code into the M-Turk website) which may partially explain the differences between the two groups.

I followed procedures posed by Malone and Lubansky (2012) in order to further inspect the data. The data were further screened by conducting descriptive statistics. I examined the minimum and maximum values for all of the items, inspected the histograms, and reviewed the VIF and tolerance values. There were no issues with multicollinearity (i.e., there were no tolerance levels below .10). Next, I transformed all of the variables into *Z* scores to identify if there were any univariate outliers. I used the cutoff score of 3.29 which is significant at the .001 level. I also

examined the dataset for multivariate outliers by conducting a multiple regression with Mahalanobis distance. No univariate or multivariate outliers were found.

Analysis

I used path analysis to test the three wave cross-lagged model with indirect effects. More specifically, I used the steps outlined by Cole and Maxwell (2003) in order to test hypotheses. Analyses were performed using M-Plus version 6.11 to conduct the path analysis (rather than test structural equation models with measurement and structural components) due to the number of paths in the cross-lagged model and the sample size (see Figure 2). Prior to testing the hypothesized model I conducted a CFA of the time one variables to examine the factor structure and the psychometric properties of the measures.

In the first step, I tested a full model which contained all possible cross-lagged paths. Next, I examined equivalence of the cross-lagged relationships between role overload, mindfulness, cyberloafing, and work burnout by constraining each set of cross-wave paths to be equal (Cole & Maxwell, 2003). Each set of the cross-wave paths (e.g., path a1 in Figure 2: role overload during time one to mindfulness time two, and role overload time two to mindfulness time three) were constrained to be equal (see Figure 2). A chi-square difference test was conducted to compare the reduced model (where all of the equivalent cross-wave paths between time one, two and three were constrained to be equal) to the full model. Since there was evidence that not all of the cross-wave pairs were equivalent across time, each pair of cross-wave relations were individually constrained and a series of chi-square difference tests were conducted. For example, the paths labeled x (see Figure 2) were constrained to be equal and all other paths in the cross-lagged model were freely estimated. Each individual constraint was then compared to the full model. This process was repeated until all of the paths in the cross-lagged model were tested in order to identify which

variables were not equivalent across the waves. The final reduced model was determined. Next, I conducted a test of omitted paths (see Cole & Maxwell, 2003) where I removed all paths that were not in the hypothesized model. This model was then used to test the hypotheses. I expected a significant direct path between the independent (job stressors) and dependent (burnout) variables. For example, job stressors measured at time one was expected to be significant and positively related to burnout at time three without going through either cyberloafing or mindfulness in the hypothesized model which would indicate partial mediation. I then conducted supplemental analyses by conducting a path analysis which contained only my hypothesized paths in the model.

CHAPTER 3: RESULTS

Means and standard deviations. All means and standard deviations of the study variables for the final sample (n = 219) can be found in Table 5. The sample overall reported moderately high levels of PFC (Time 1 M = 3.99, SD = .59; Time 2 M = 3.98, SD = .62; Time 3 M = 3.90, SD = .67) which were well above the midpoint of the scale. In addition, participants reported moderate levels of mindfulness which were slightly above the midpoint (Time 1 M = 3.36, SD = .64; Time 2 M = 3.40, SD = .66; Time 3 M = 3.44, SD = .69). Given the fact that the survey was posted online during traditional working hours, it was surprising that cyberloafing was reported at relatively low levels (Time 1 M = 1.88, SD = .75; Time 2 M = 1.81, SD = .71; Time 3 M = 1.76, SD = .68). I also examined the cyberloafing items that were related to social support such as text messaging, social media, etc. Participants reported cyber support at slightly higher levels, but were still below the midpoint of the scale (Time 1 M = 2.34, SD = .93; Time 2 M = 2.28, SD = .92; Time 3 M = 2.24, SD = .88). Social desirability was also slightly above the midpoint of the scales (Time 1 M = .52, SD = .27; Time 2 M = .52, SD = .27; Time 3 M = .52, SD = .27) suggesting that participants responded to about half of questions with socially desirable responses.

The sample also reported relatively low levels of role overload (Time 1 M = 2.45, SD = .89; Time 2 M = 2.45, SD = .94; Time 3 M = 2.47, SD = .98), work burnout (Time 1 M = 2.51, SD = .93; Time 2 M = 2.50, SD = 1.01; Time 3 M = 2.45, SD = 1.02), overall burnout (Time 1 M = 2.55, SD = .83; Time 2 M = 2.49, SD = .87; Time 3 M = 2.43, SD = .89), WFC (Time 1 M = 2.29, SD = .80; Time 2 M = 2.22, SD = .80; Time 3 M = 2.19, SD = .82), and withdrawal behaviors (Time 1 M = 1.83, SD = .53; Time 2 M = 1.83, SD = .55; Time 3 M = 1.79, SD = .55). The relatively low levels of role overload and burnout may be a function of the sample since they may have had time to participate/complete the surveys while on the job. There may also be a reluctance of these

participants to report cyberloafing behaviors due to the fact that they are enrolled as Amazon Turk workers where they are compensated for completing surveys online and can be identified by Amazon. The low levels of cyberloafing may indicate some fear of repercussions by reporting cyberloafing behaviors during work. Another possibility is that these employees may not have time to cyberloaf at work.

Bivariate correlations. Overall, many of the inter-variable correlations were as expected (please see Table 6). First, I examined the relationship between job stress and work burnout. Role overload at time one was positively related to work burnout at time one ($r = .67$, $p < .001$), time two ($r = .61$, $p < .001$), and time three ($r = .58$, $p < .001$). There was a similar pattern observed for role overload measured at time two with work burnout at time one ($r = .63$, $p < .001$), time two ($r = .64$, $p < .001$), and time three ($r = .62$, $p < .001$). In addition, there was a positive and significant relationship between role overload measured at time three and work burnout measured at time one ($r = .63$, $p < .001$), work burnout measured at time two ($r = .63$, $p < .001$), and work burnout measured at time three ($r = .63$, $p < .001$). The inter-variable correlations support the previous literature that there is a positive relationship between job stress and work burnout.

Role overload time one had a significant, but small positive relationship with cyberloafing at time one ($r = .14$, $p < .05$). Role overload measured at time two was also significant and positively related to cyberloafing during time two ($r = .14$, $p < .05$) and time three ($r = .16$, $p < .05$). There was also a significant and positive relationship between role overload measured at time three and cyberloafing measured at time one ($r = .15$, $p < .05$) and time three ($r = .15$, $p < .05$). Overall, these results offer support for Hypothesis 1 (Job stress positively predicts cyberloafing). Interestingly, there were no relationships between job stress and a subset of the cyberloafing behaviors that focused on social support. There is some research that indicates that people seek

social support (e.g., supervisor support) at the onset of job stress (Shin et al., 2014). However, there was not an observed relationship between cyber social connections and job stress.

Another popular job stressor, WFC, had a similar pattern with cyberloafing. WFC at time one was significant and positively related to cyberloafing at time one (r = .16, p < .05) and time three (r = .14, p < .05). WFC at time two was positively and significantly related to cyberloafing at time one (r = .16, p < .05), time two (r = .18, p < .01), and time three (r = .18, p < .01). WFC measured at time three was significant and positively related to cyberloafing at time one (r = .20, p < .01), time two (r = .19, p < .01), and time three (r = .21, p < .01). Overall the positive results between job stressors and cyberloafing provide some initial support that job stress may increase cyberloafing behaviors.

In order to provide further support for the relationship between job stress and disengagement coping, the inter-variable correlations between withdrawal behaviors (disengagement coping) and role overload were examined. In general, there was a positive relationship between job stress (i.e., role overload) and withdrawal behaviors. Role overload at time one was significantly related to withdrawal behaviors at time one (r = .34, p < .001), time two (r = .32, p < .001), and time three (r = .34, p < .001). In addition, role overload at time two was significant and positively related to withdrawal behaviors reported at time one (r = .31, p < .001), time two (r = .33, p < .001), and time three (r = .36, p < .001). Lastly, role overload measured at time three was significantly related to withdrawal behaviors at time one (r = .32, p < .001), time two (r = .35, p < .001), and time three (r = .37, p < .001).

When examining the relationship between job stress (i.e., role overload) and mindfulness, there was a significant and negative relationship between role overload at time one and mindfulness time one (r = -.45, p < .001), mindfulness time two (r = -.41, p < .001), and

mindfulness time three (r = -.36, p < .001) indicating that higher levels of mindfulness is related to lower levels of job stress. There was a similar pattern observed between role overload measured at time two and mindfulness: time one mindfulness (r = -.44, p < .001), time two mindfulness (r = -.47, p < .001), and time three mindfulness (r = -.41, p < .001). In line with the previous observations, role overload measured at time three was significant and negatively related to mindfulness at time one (r = -.41, p < .001), mindfulness at time two (r = -.46, p < .001), and mindfulness at time three (r = -.43, p < .001). This is inconsistent with Hypothesis 2 which hypothesized that job stress predicts higher levels of mindfulness. Overall, the inter-variable correlations between job stress and mindfulness suggest that people who engage in more mindful behaviors are less likely to report/experience role overload.

I also examined the relationship between role overload and PFC. When examining the relationship between job stress (i.e., role overload) and PFC, there was a significant and negative relationship between role overload at time one and PFC time one (r = -.21, p < .01), PFC time two (r = -.22, p < .01), and PFC time three (r = -.14, p < .05) indicating that higher levels of PFC is related to less role overload. Role overload at time two also had a significantly negative relationship with PFC at time one (r = -.26, p < .01), time two (r = -.27, p < .01), and time three (r = -.23, p < .01). Lastly, I examined the bi-variate correlations between role overload at time three and PFC. Role overload at time three significant and negatively related to PFC: time one (r = -.25, p < .01), time two (r = -.26, p < .01), and time three (r = -.17, p < .01). PFC was also significantly negatively related to work burnout at all time points. PFC at time one was significant and negatively related to work burnout at time one (r = -.18, p < .01), time two (r = -.22, p < .01), and time three (r = -.20, p < .01). The pattern between PFC and work burnout is consistent across all three time points with the exception of work burnout time three and PFC at time one which was

non-significant (please see table 6). Overall, the bivariate correlations between role overload, PFC, and work burnout suggests that more PFC behaviors are associated with lower levels of role overload and work burnout.

Next, I examined the inter-variable correlations between cyberloafing and work burnout. Despite the fact that there were no significant correlations between cyberloafing and work burnout, cyberloafing was related to overall burnout which measures overall fatigue. Cyberloafing measured at time one was positive and significantly related to overall burnout at time one (r = .14, p < .05). In addition, cyberloafing measured at time three was significantly related to overall burnout at time three (r = .14, p < .05). Overall, there was not much support for the relationship between cyberloafing and burnout. The relationships found also are in the opposite direction than what was hypothesized.

I then examined the relationship between mindfulness and work burnout. In line with the Hypothesis 4, there were significant negative relationships between mindfulness and work burnout. Mindfulness at time one was significant and negatively related to work burnout at time one (r = -.53, p < .001), work burnout at time two (r = -.51, p < .001), and work burnout at time three (r = -.52, p < .001). Mindfulness measured at time two also was negatively related to work burnout at time one (r = -.51, p < .001), time two (r = -.55, p < .001), and time three (r = -.54, p < .001). There was also a similar negative pattern between mindfulness and overall burnout (please see Table 6). Overall, the correlations between mindfulness and burnout provide initial support for Hypothesis 4.

Confirmatory factor analysis. The data were first examined to confirm that it met the assumptions of maximum likelihood. Prior to creating the full model and testing the hypotheses, I conducted a CFA of the hypothesized variables measured at time one (i.e., role overload,

mindfulness, cyberloafing, and work burnout) to test the measurement model. The goal of the CFA was to examine the psychometric properties of the measures and the factor structure (Cole & Maxwell, 2003). I only used the final sample (n = 219) and data collected during time one since the goal was to examine the factor structure of the scales and the factor loadings prior to testing the full model. The overall model was a poor fit to the data, χ^2 (1169) = 2690.05, $p < .001$, CFI = .76, RMSEA = .07[90% CI = .07, .08], SRMR = .08. However, all of the standardized factor loadings were well above .50 with the exception of the mindfulness scale. Two of the items standardized factor loadings were low: "I judged myself as good or bad, depending on what the thought/work situation was about" (β = .35) and "I judged the thought/work situation as good or bad" (β = .40). Interestingly, both of the items are very similar to each other. The rest of the factor loadings for mindfulness ranged from β = .48 to β = .79. However, mindfulness is composed of several different types of behaviors (e.g., being present, awareness of external/internal environment, acceptance, etc.) which may explain why some of the items have lower standardized factor loadings. All of the factor loadings for cyberloafing were above .52 (β = .52 to β = .76). The fact that some of the standardized factor loadings are lower for the cyberloafing scale is not surprising because cyberloafing is a broad construct which attempts to measure several different types of behaviors a person can perform on the internet.

Next, I inspected the modification indices to determine if correlated residuals or other issues could potentially be driving the poor fit of the measurement model. I examined the modification indices for the SMQ mindfulness scale first. There was some evidence of correlated residuals among the items. For example, items such as: "I was able to accept the experience" and "I accepted myself the same whatever the thought/work situation was about" had some evidence of residual covariance. Several of the other mindfulness items that were identified in the

modification indices shared a similar sentiment. However, the items are commingled in this scale and it is difficult to determine how to divide the items into sub-dimensions such as being present, acceptance, emotion regulation, etc. The SMQ was originally developed with four bi-polar sub-factors by the author in an unpublished manuscript. The four factors were dropped during the scale development and never published making it unclear how to test the items on the four factors to see if this increases the fit of the model. A paper which reviewed all of the current scales defined the four bi-polar factors of the SMQ as follows. The first bi-polar dimension was composed of awareness to lost in cognition. The second dimension was defined as ability to stay in contact with different cognitions to avoidance. The third dimension was acceptance of thoughts/oneself to judgment. Finally, the last dimension was letting go/non-reactiveness to rumination and worry (Bergomi et al., 2013). An EFA conducted during scale development indicated that the items were best explained by one factor (Bergomi et al., 2013; Chadwick et al., 2008). Therefore, the SMQ has traditionally been treated as a one factor scale and the authors suggest that researchers utilize the scale as one dimension (Bergomi et al., 2013; Chadwick et al., 2008). Despite these limitations, reviews of mindfulness scales indicate that the SMQ has been used in several empirical investigations (Baer, Walsh, & Lykins, 2009; Bergomi et al., 2013; Chadwick et al., 2008). Unfortunately, there are no known studies that have re-examined this scale utilizing structural equation modeling. Future studies should consider contacting the author to obtain more information about the aforementioned sub-dimensions and revise the scale using more advanced statistical methods.

Next, I examined the cyberloafing scale modification indices. Items related to personal internet usage such as personal emails, social media, personal websites, and text messaging indicated some residual covariance. Again, this is a validated scale which has been utilized in a

majority of the cyberloafing investigations (Askew et al., 2014; Henle & Blanchard, 2008; Liberman et al., 2011; Lim & Chen, 2002; Lim & Chen, 2012; Restubog et al., 2011). However, structural equation modeling and the presence of sub-dimensions were not utilized during scale development process. The cyberloafing scale was re-analyzed by Lim and Teo (2005) and a few items were combined, some items were dropped, and the scale was divided into two dimensions "browsing" and "emailing." I compared their scale to the scale I used and reanalyzed the data by retaining items similar to their scale, dropping others, and having the items load on to two factors. This did improve the fit, but is was still below the recommended CFI cutoff of .95. In addition, several of the items that I dropped are more relevant to the current state of the internet (e.g., social media) while retaining items that are increasingly becoming less popular (e.g., chat rooms). Therefore, I decided to retain the original scale which has been used by a majority of the cyberloafing researchers because the costs outweighed the benefits. Cyberloafing is a broad construct with a number of behaviors. Future research may want to consider trying to parse out the items to increase the fit for structural equation modeling. Overall, both scales are measuring constructs that include several different behaviors making it more challenging for all of the factor loadings to load onto the same dimension without potential issues with fit.

The three factor loadings for role overload were above .71 (β = .71, β = .82, β = .83). All of the factor loadings for work burnout loaded ranged from β = .75 to β = .85. Next, I examined the factor correlations in the CFA. Mindfulness at time one was not related to cyberloafing at time one, r = -.12, p = .084. However, role overload was positively related to work burnout (r = .75, p < .001) and cyberloafing (r = .18, p = .015), but negatively related to mindfulness (r = -.53, p < .001). Work burnout was also positively related to cyberloafing (r = .15, p = .033) and negatively

related to mindfulness (r = -.59, p < .001). Therefore, there were no concerns with discriminant validity due to the fact that none of the factors were highly correlated.

Path analysis. The first model tested contained all of the hypothesized variables and allowed for all of the paths to be freely estimated. Overall, the model was an acceptable fit to the data, χ^2 (21) = 38.43, p = .012, CFI = .99, RMSEA = .06[90% CI = .03, .09], SRMR = .04 with the RMSEA slightly higher than the recommended value of .05. Next, I tested the model for equivalence (Cole & Maxwell, 2003). To test for equivalence, a reduced model was tested where I constrained all of the equivalent cross-wave paths in the model to be equal across waves (please see Figure 2). Each pair of cross-wave paths was constrained to be equal. For example, I constrained the path between role overload at time one and mindfulness time two to be equal to the path between role overload time two and mindfulness time three (i.e., path a1 in Figure 2). I also constrained all of the cross-wave paths for each factor to be equal. For example, the path between mindfulness at time one and time two was constrained to be equivalent to the path between mindfulness at time two and time three (i.e., path m1 in Figure 2). The reduced model with all of the variables constrained to be equal was a worse fit, χ^2 (39) = 274.31, p < .001, CFI = .90, RMSEA = .16[90% CI = .15, .19], SRMR = .17. A chi-square difference test was conducted to compare the full model (where all of the paths were freely estimated) to the reduced model which constrained the paths to be equal (Cole & Maxwell, 2003). The chi-square difference test was significant, the chi-square change ($\Delta\chi^2$ (18) = 235.88, p < .05) was above the critical χ^2 (18) = 28.87, indicating that not all of the relationships between the variables are equivalent across time points. In the next step, I constrained one by one each path type and tested the fit of each model to the full model by conducting a series of chi-square difference tests. The goal was to identify which paths were not equivalent across time points. Five paths were significantly above the critical χ^2 (2) = 5.99

indicating partial invariance of the variables (Cole & Maxwell, 2003). A chi-square difference test of the mindfulness paths (χ^2 (23) = 71.99, p = .012, $\Delta\chi^2$ (2) = 33.56, p < .05) was significant (m1 path please see Figure 1). The cyberloafing paths constrained were also significant (χ^2 (23) = 82.36, p < .001, $\Delta\chi^2$ (2) = 43.93, p <.05) when compared to the full model (please see path m2 in Figure 1). In addition, both role overload (χ^2 (23) = 88.09, p < .001, $\Delta\chi^2$(2) = 49.66, p <.05) and work burnout (χ^2 (23) = 100.88, p < .001, $\Delta\chi^2$(2) = 62.45, p <.05) were a significantly worse fit (refer to Figure 1 paths x and y). Lastly, the paths between role overload and burnout (path c) when constrained, was a significantly worse fit compared to the full model (χ^2 (23) = 45.26, p = .004, $\Delta\chi^2$(2) = 6.83, p <.05). This suggests that these paths are not equivalent across the three waves of data (see Cole & Maxwell, 2003). All other chi-square difference tests were not statistically significant. I used the revised constrained model (i.e., all paths constrained to be equal except paths x, m1, m2, y, c) as the base model which was a good fit to the data, χ^2 (29) = 44.31, p = .034, CFI = .99, RMSEA = .05[90% CI = .01, .08], SRMR = .05 (please see Figure 3). In the next step I conducted the test of omitted paths by eliminating all of the paths that are not in the proposed model while retaining the control of prior levels of the variables (see Cole & Maxwell, 2003). The following paths were removed: mindfulness time three on role overload time one, cyberloafing time three on role overload time one, work burnout time three on mindfulness time one, work burnout time three on cyberloafing time one, and work burnout time three and time two on role overload time one in order to test the hypothesized model. The model was a poor fit to the data, χ^2 (35) = 171.91, p < .001, CFI = .94, RMSEA = .13[90% CI = .11, .15], SRMR = .06. In addition, I compared this model to the full model utilizing a chi-square difference test, $\Delta\chi^2$(6) = 127.60, p <.05, which was above the critical chi-square (critical χ^2 (6) =12.59). This indicated that the more parsimonious model is not appropriate to use to test the hypotheses (Cole & Maxwell, 2003).

Therefore, I used the constrained model to test my hypotheses which are reviewed in the next section (see figure 3).

Hypothesis testing. I examined the standardized estimates in the cross-lagged model for my hypothesized paths (please see Figure 3). Hypothesis 1, that job stress at time one would positively predict mindfulness at time two was not supported in the cross-lagged model, β = -.02 p = .442. Hypothesis 2, that job stress at time one would positively predict cyberloafing at time two was also not supported, β = .01, p =.489. In addition, cyberloafing (H3), β = .01, p = .523, and mindfulness (H4), β = -.03, p = .113, did not predict work burnout after controlling for previous levels of work burnout. Since the first four hypotheses were not supported, partial mediation was not examined utilizing this model (i.e., H5a and 5b). In the next section, I report the results of the supplemental analyses which demonstrates some support for the proposed hypotheses utilizing another method of path analysis and conceptualization of the model. However, these results are only included to demonstrate some preliminary support for the hypotheses while highlighting the importance of controlling previous levels of the dependent variable.

Supplemental analysis. In order to further examine the hypotheses. I tested a just-identified model in order to examine if there was some support for mediation. The model contained only the hypothesized paths and did not control for prior levels of the dependent variables. Although this is a less rigorous test of mediation, I wanted to conduct supplemental analyses to see if there was support for the hypotheses when examining the relationships between variables as opposed to examining if there was change. Since I utilized a longitudinal data collection method, I was able to examine a more parsimonious model to see if cyberloafing and mindfulness mediated the relationship between job stressors and work burnout (Cole & Maxwell, 2003). It is possible that mediation of cyberloafing and mindfulness on the role overload – work burnout relationship

may have not been captured due to time constraints of the study (i.e., not enough time elapsing to see a significant change). More specifically, I tested an alternative model with only the following factors: role overload time one, mindfulness time two, cyberloafing time two, and work burnout time three. I removed all variables and paths not in the hypothesized model in order to examine if there is support for the hypotheses that was not captured in the cross-lagged model. This may be due to the short time frame of the study (only three weeks) or the fact that the coping behaviors analyzed are momentary (cyberloafing and mindfulness). I expected significant direct paths between the independent (job stressors) and dependent (burnout) variables. For example, job stressors measured at time one was expected to be significantly and positively related to burnout at time three without going through either cyberloafing or mindfulness in the model which would indicate partial mediation. The model was a good fit, χ^2 (1) = .45, $p < .001$, CFI = 1.00, RMSEA = .00[90% CI = .00, .15], SRMR = .01. Hypothesis 1, role overload at time one would positively predict mindfulness at time two was not supported, $\beta = -.41$, $p < .001$, because the path was in the opposite direction than hypothesized. However, role overload did negatively predict mindfulness suggesting that individuals that report lower levels of role overload at time one have higher levels mindfulness behaviors at time two. Hypothesis 2, job stress at time one would positively predict cyberloafing at time two was also not supported, $\beta = .10$, $p > .05$. Additionally, hypothesis 3, Cyberloafing behaviors will negatively predict work burnout was not supported, $\beta = .04$, $p > .05$. However, the results of these analyses provide some support for Hypothesis 4, Mindfulness behaviors negatively predicted work burnout, $\beta = -.36$, $p < .001$.

I examined the mediation effects of the hypothesized model through testing both the direct and indirect effects. The direct effects of job stressors at time one and burnout at time three will help determine the strength of the relationship between the independent and dependent variables.

I inspected the mediation effects of mindfulness, as in the case of Hypothesis 2 and 4 through estimating the effect of job stressors on burnout through the path of the mediator (mindfulness). I only report the results of Hypothesis 5b since cyberloafing was not related to role overload or work burnout. Role overload at time one did significantly predict work burnout at time three, $\beta = .42$, $p < .001$, supporting that there is a direct effect between job stressors and work burnout. There was an indirect relationship between role overload and work burnout through mindfulness, $\beta = .15$, S.E. = 03, $p < .001$, providing partial support for Hypothesis 5b (please see Figure 4 for the final model with the significant paths).

Another model was tested in order to provide further support that mindfulness is a partial mediator of the job stressor-strain relationship. To test this I removed the direct path between job stressors and burnout. A significant chi-square test would indicate that the model is missing significant paths (Cole & Maxwell, 2003). This will help support that paths are needed in the model to account for the mediation and identify a model that is unbiased. In order to test the model for full mediation a chi-square difference test was conducted comparing the full mediation model to the hypothesized model. The model was a poor fit, $\chi^2 (2) = 52.74$, $p < .001$, CFI = .69, RMSEA = .34[90% CI = .26, .42], SRMR = .10. In addition the chi-square difference test supported that the full mediation model was a significantly worse fit ($\chi^2 (1) = 3.84$, $p < .05$, $\Delta\chi^2 = 52.29$, $p > .05$), providing some further support for Hypothesis 5b utilizing this method of path analysis.

Moderation analysis. Another analysis was conducted to examine mindfulness as a moderator. There has been some empirical evidence that mindfulness can act as a buffer the effects of work stress (Schultz et al., 2014). In line with the previous research, I examined the possibility of mindfulness moderating the relationship between role overload and burnout. High levels of mindfulness was expected to mitigate the relationship between role overload and work burnout,

compared to individuals that exhibit less mindfulness. To test mindfulness as a moderator, I calculated an interaction term of role overload at time one and mindfulness at time two. Next, I ran a multiple regression analysis and entered role overload time one and mindfulness time two into the first step and the interaction term into the second step to predict work burnout at time three. However, the results were not significant; β = -.40, t = -1.76, ΔR^2 = .008, p = .080, mindfulness did not moderate the relationship between role overload and burnout.

CHAPTER 4: DISCUSSION

The goal of the study was to understand the role of cyberloafing and mindfulness in relation to job stressors and burnout. The current study enhances the coping literature by examining two constructs that have previously not been examined as mediators of the relationship between role overload and burnout. In addition, neither cyberloafing nor mindfulness have been examined in parallel as coping strategies despite the fact that they are behaviors that are on opposite sides of the engagement/disengagement coping model. Since the prevalence of cyberloafing and mindfulness continues to expand, it is essential to understand how these behaviors affect the workplace stress and strain process. It was expected that accounting for cyberloafing and mindfulness in the job stressor/burnout model would support the positive effects of coping on work burnout.

I used the methods outlined by Cole and Maxwell (2003) to test a cross-lagged model of mediation. This allowed me to control for prior levels of the dependent variables and thus control for potential confounds (Cole & Maxwell, 2003). These methods enabled me to generate unbiased estimates to test my hypotheses. One potential reason the results were not supported is that there may have been an insufficient amount of time to see the mediational effects of cyberloafing and mindfulness on the job stressor-strain relationship. Since there may not have been enough time to see change in the cross-lagged panel model, a supplemental analysis was conducted in order to see if there was any evidence that supports the hypotheses proposed in the study. Since the cross-lagged model is preferred due to the ability to provide unbiased estimates, I will focus mainly on the results of the hypothesized model in the discussion section and call for researchers to continue to use these methods to test mediation models.

When the prior levels of the dependent variables were not controlled for in the supplemental analysis, there was some evidence of mindfulness partially mediating the relationship between role overload and work burnout. However, it is important to mention that these estimates are inflated since one potential confound (prior levels of the dependent variables) was omitted from this analysis. However the supplemental analysis was important for two reasons. First, since the data was collected at three time points, I was able to examine if there was any support for the mediation of mindfulness on the job stressor-strain relationship (Cole & Maxwell, 2003). Second, it highlights the importance of modeling decisions by demonstrating how two different models testing for mediation (cross-lagged controlling for prior levels of the dependent variables versus a path analysis model which contained only the factors and time points that were of interest in this study) can lead to different conclusions. Using steps outlined by Cole and Maxwell (2003) provided a more robust test of longitudinal mediation. It is important for researchers to continue to use this type of analysis in order to examine more accurate estimates.

Key findings. The current study extended the cyberloafing literature, by examining this behavior under a coping lens as opposed to a loafing or CWB. Generally, cyberloafing has been ignored by the I/O literature. Examining cyberloafing using an I/O approach is important given that it is such a common behavior displayed by employees in the workplace. Results of previous studies suggest that not all CWBs are harmful and that some of these behaviors may be effective at reducing strain (Adams & Kirkby, 2002; Eastin et al., 2007; Lim & Chen, 2009; Lim & Chen, 2012; Reinecke, 2009). This is the first known study that examines cyberloafing as a form of coping despite the fact that there has been some empirical support that this behavior is actually beneficial and not detrimental to workers (Adams & Kirkby, 2002; Eastin et al., 2007; Lim & Chen, 2009; Lim & Chen, 2012; Reinecke, 2009). This is in line with the research conducted by

Krischer et al. (2010) which also found that CWBs were effective coping strategies. However, Krischer et al. (2010) used a cross-sectional method, making it impossible to determine a causal link from withdrawal to burnout. The proposed study addressed a major gap in the literature by using a longitudinal investigation of the role of a CWBs on the stressor-strain process.

Unfortunately, using a more rigorous research design (longitudinal mediation model) did not support the previous research on cyberloafing. This further confirms the need for studies to abandon cross-sectional data analysis. Cyberloafing was not found to lower work burnout and only a modest correlation was found between role overload and cyberloafing. The results suggest that cyberloafing may not be related to job stress or burnout. However, cyberloafing may not be an appropriate coping behavior for role overload. It is possible that other job stressors or more general measures of job stress may be related to cyberloafing. Workers who are overloaded with work may not utilize cyberloafing methods to cope with stress. The study did show some preliminary evidence that withdrawal behaviors are negatively related to work burnout. This suggests that withdrawal behaviors and possibly cyberloafing may exacerbate burnout.

In addition, there may be several other motivating factors of employee cyberloafing beyond coping. Another potential motivating factor to cyberloaf may be to restore equality when there is perceived workplace injustice. This is supported by equity theory (Adams, 1965) where individuals compare their input (i.e., effort) to output (i.e., pay) ratio to their coworkers' input/output ratios to determine if rewards are equally distributed. In cases when the employee believes there is inequality, he or she may be motivated to restore balance by withholding effort (e.g., cyberloafing). Perceptions of organizational injustice has been linked to increased CWBs (Fox et al., 2001; Krischer et al., 2010) and cyberloafing (Lim 2002; Restubog et al., 2011). Thus

not all motivations to cyberloaf (e.g., perceptions of organizational injustice) are beneficial to workers or to organizations.

Overall, there were low levels of cyberloafing reported in this study which may partially explain why there was a lack of a relationship between role overload, cyberloafing, and burnout. Future research on cyberloafing should ensure that the sample engages in these behaviors. The lack of cyberloafing in the sample made it difficult to test the effects of job stressors on cyberloafing and how in turn cyberloafing relates to work burnout. Perhaps the sample or method used could be changed in future studies to be more generalizable. It may be the case that the participants were reluctant to report cyberloafing on M-Turk. Past research on cyberloafing utilized websites where the participants were not identifiable (e.g., online gaming website) and may have felt more comfortable being candid. Previous research has found support for cyberloafing being beneficial to workers (Adams & Kirkby, 2002; Eastin et al., 2007; Lim & Chen, 2009; Lim & Chen, 2012; Reinecke, 2009); however, this study did not find support for this. It is important for organizations to weigh the potential pros and cons when deciding what policies to implement in the workplace regarding cyberloafing.

In addition, it is important to have a better understanding of the impact these behaviors may have on worker health and well-being. More research is needed to examine the impact of cyberloafing over time. The importance of this research is only increasing in importance given the likelihood that technology and smartphones will continue to be available and easily accessible in the workplace. A recent study found that work stress is linked to approximately 120,000 deaths per year and $190 billion dollars in medical costs (Goh, Pfeffer, & Zenios, 2014). If cyberloafing increases work burnout, organizations have a large incentive to educate employees on the maladaptive effects of cyberloafing in the workplace. It is important for future research to examine

how cyberloafing impacts worker wellbeing since there was not enough evidence in the current study to draw any conclusions. Cyberloafing may impact workers ability to concentrate on their work duties which leads to increases in burnout due to the amount of resources expended on personal activities.

In the case of mindfulness, there has been numerous studies which have focused on the efficacy of mindfulness training programs (Black & Fernando, 2014; Leroy et al., 2013; Malarkey et al., 2013; Mrazek et al., 2013; Schoeberlein et al., 2004; Van Gordon et al., 2014). Interestingly, there has been a lack of research that has examined the impact that mindfulness has on workplace stressors and burnout in the absence of a training program or intervention. Many workers have taken mindfulness meditation classes which have been found to have positive results in organizations (Woods, 2012) and schools (Schoeberlein et al., 2004). However, the construct of mindfulness is considered both a state and a trait (Brown & Ryan, 2003) and therefore should be examined in absence of a training program in order to gain a better understanding of the effects of this construct on employees health and work stress.

This study advanced the mindfulness literature by utilizing a longitudinal design. Most studies that have examined mindfulness have used either cross-sectional or pre/post-tests to measure the efficacy of mindfulness training programs. Collecting three waves of data allowed for examination of all potential causal relationships between job stressors, mindfulness, and burnout. If future studies find that mindfulness is an effective strategy to reduce strain, organizations will have further support that this type of health initiative program is effective at reducing burnout.

In addition, there were unexpected findings in the current study. Both the supplemental analysis and the bivariate correlations revealed that more mindful employees do not report as much role overload as their less mindful counterparts. At the onset of job stress/role overload,

mindfulness behaviors were expected to increase as a person attempts to cope. However, a significant negative relationship between role overload and mindfulness was observed. My hypothesis was incorrect in terms of the nature of the relationship between mindfulness and role overload. Based on the results of this study, I propose that mindfulness is a strategy utilized during the primary appraisal of a stressor. This may be because more mindful people are able to assess workload in a non-judgmental way, accept the added workload, and remain present while performing the tasks. Thus, mindful employees may less likely to appraise the situation as a stressor. Drawing on the transactional theory of stress by Lazarus and Folkman (1985), employees that are more mindful may be more likely to appraise a situation as a challenge as opposed to a threat. Therefore, mindful individuals will likely have lower levels of the perception of role overload. In addition, there was some evidence that mindfulness partially mediates the relationship between role overload and burnout. Overall, the supplemental analysis did provide some initial support that mindfulness may reduce appraisals of stress and lead to lower levels of burnout. Further research is needed to gain a better understanding of why mindful employees are less likely to report job stress or experience work burnout.

An alternative explanation and potential direction for future studies is to examine the relationship mindfulness and cyberloafing have on subsequent perceptions of role overload. For example, it may be that cyberloafing and mindfulness precede role overload. Therefore, role overload may partially mediate the relationship between mindfulness and work burnout. Mindfulness may help an employee remain present and perform their work duties regardless of how many additional assignments are allocated to them. If so, it would be expected that higher levels of mindfulness would lead to lower levels of role overload.

Cyberloafing may also precede role overload. More time spent on personal matters during the workday and cyberloafing is likely to increase a person's workload since they are spending less time on their work duties. Previous research did find that cyberloafing is negatively related to role overload (Andressen et al., 2014; Henle & Blanchard, 2008). In this case, a person's perception of role overload may be elevated and lead to an increased experience of job stress/role overload. Thus, role overload may partially explain the relationship between cyberloafing and work burnout. Unfortunately, the sample did not report a large amount of cyberloafing making it difficult to test these relationships. Some exploratory analyses were conducted. However, given the short amount of time that elapsed in this study, there was no evidence of change in levels of role overload and work burnout when examining cyberloafing or mindfulness as exogenous variables.

Another key finding is that over the course of the study, there was a small, but noticeable effect on the reporting of mindfulness, cyberloafing, and work burnout. In other words, there was a potential effect of the study on self-reports of these behaviors. Self-reports of cyberloafing (wave one M = 1.88, SD = .75; wave two M = 1.81, SD = .71; wave three M = 1.76, SD = .68) and work burnout (wave one M = 2.51, SD = .93; wave two M = 2.50, SD = 1.01; wave three M = 2.45, SD = 1.02) decreased during each wave. Whereas mindfulness behaviors slightly increased during each subsequent time point (wave one M = 3.36, SD = .64; wave two M = 3.40, SD = .66; wave three M = 3.44, SD = .69). Although the mean changes were small, it suggests that the study may have slightly altered individuals' behaviors. Increases in mindfulness over the course of the study may have been due to the items in the scale inadvertently teaching individuals how to practice mindfulness during stressful work encounters.

Limitations and future directions. The current study addressed the limitations of previous studies through collecting longitudinal data and utilizing a cross-lagged model. Although some previous limitations were addressed, there are also some limitations of the current study which can be opportunities for future research. One of the main limitations of this study is that all of the data collected in this study utilized a self-report survey method. Future studies should consider examining the proposed hypotheses using objective measures such as blood pressure (stressor) or time spent on websites (cyberloafing). This will help eliminate the potential mono-method biases which may distort the relationships between the constructs.

Another limitation of the study is that the data was collected in one week intervals. It is possible that it may take longer to see how the coping process mediates the relationship between job stressors and burnout. In addition, it is unlikely that a person's work load would change within one week. Due to this limitation there was not enough time to elapse to be able to capture fluctuations in work load, burnout, and the potential coping behaviors (e.g., cyberloafing and mindfulness). Future studies should consider allowing more time to elapse between waves in order to allow the coping behaviors to affect the job stressor-strain relationship. Another potential study design that should be considered is a diary study since the coping behaviors are short in duration and are typically used at the onset of a stressful situation. Seeing the daily effects of utilizing cyberloafing and mindfulness on burnout levels at the end of the workday may lead to a better understanding of how these coping behaviors relate to job stressors and burnout. There is some empirical evidence that even long periods of respite (vacation) decay very quickly (Bloom et al., 2009; Westman & Eden, 1997). A recent diary study found that mindfulness was negatively related to emotional exhaustion and increased job satisfaction (Hülsheger et al., 2013). Shorter time periods may be needed to evaluate the relationship between cyberloafing and work burnout.

It also may be the case that some people prefer one coping method over the other, utilize both, or use different coping methods depending on the type of job stress. There is some literature on approach versus avoidant coping which suggests that people choose one type of coping method over the other due to personal preferences (Roth & Cohen, 1986). Another possibility is that the coping method chosen may be highly dependent on the type of job stress. Research suggests that avoidant coping strategies such as cyberloafing may be optimal in situations when the job stressor is beyond the employees' control (Compas et al., 2001; Endler et al., 2000; Mullen & Suls, 1982; Suls & Fletcher, 1985). Another possibility is that employees may engage in cyberloafing initially in order to restore their resources and then are able to use engagement strategies such as mindfulness after some time has elapsed. It is important to examine other research design methods in future studies so that the relationship between job stressors, mindfulness, cyberloafing, and burnout can be further examined.

With the substantial amount of literature which supports that cyberloafing and mindfulness are related to lower levels of burnout, it is surprising that the hypotheses of the current study were not supported. More research is needed in order to examine how coping plays a role in the job stressor-strain relationship. Some have argued that coping is better described as a moderator and that higher levels of coping during job stress mitigates burnout; however, there is mixed empirical support for this conclusion (Brotheridge, 2001). Analyses were conducted to examine if cyberloafing and mindfulness moderated the relationship between job stress and burnout; however, moderation was not supported by the current study.

There needs to be further research on cyberloafing especially since the results of this study counter previous research which found a negative relationship between cyberloafing and work burnout. Organizations may want to consider holding off on any modifications of existing policies

until more research is conducted. For example, one of the main assumptions of cyberloafing is that it may negatively impact productivity. To date, there are no known studies that have examined the impact of cyberloafing on job performance and productivity. A little bit of cyberloafing at work may be respite, effective at restoring resources, and may not impact work productivity. However, cyberloafing in excess may be a form of procrastination and severely effect a worker's job performance. Future studies may want to examine the potential of a non-linear relationship of cyberloafing with workplace outcomes. Another potential future research area is the impact of cyberloafing on safety. Even if cyberloafing is an effective coping strategy, it may not be beneficial in certain occupations and could possibly put employees at a greater risk of being injured. One useful example is the job of a driver. In this job distracting oneself through playing a game on one's smartphone while driving could put both the driver and other drivers at risk. Therefore it is important to mention that cyberloafing is not appropriate for all jobs.

Differences between the cyberloafing and mindfulness scales may have also contributed to the lack of support for cyberloafing as a potential coping behavior. Mindfulness was measured using the SMQ, which is a scale used to measure mindfulness during psychological distress (Chadwick et al., 2008). Thus, the stem "usually when I am experiencing distressful thoughts or images" was altered to "when I experienced a stressful thought or work situation over the last week" so that I could measure mindfulness in response to work stress. However, the cyberloafing scale was not developed to measure a stress response. Therefore, the instructions did not ask participants if their behaviors were a result of work stress. The difference between the scale instructions made it difficult to determine if cyberloafing was a stress response. Future studies that examine cyberloafing as a potential coping mechanism may want to use a stem similar to the one used in the mindfulness measure so that participants can report whether or not they utilize the

internet as an attempt to cope. There are also differences between types of workers and their perception of cyberloafing. Salaried workers typically have more flexibility at work and therefore may consider personal use of the internet as an excusable work break and be less likely to report it. Whereas, in the case of hourly workers who have more defined work breaks, workers may engage in these behaviors during their lunch/breaks or during work. Since, internet usage during a work break is not considered cyberloafing there is likely some differences between hourly and salaried workers' perceptions of internet usage at work. Therefore, future studies may want to examine alternative ways to measure internet usage during work.

Another limitation of the current study is that the sample overall reported low levels of job stress, work burnout, and cyberloafing. Because most of the M-Turk workers filled out the survey during traditional work hours (e.g., between 9am to 5pm) it may be that these workers do not experience role overload since they have time to fill out surveys. An examination of types of jobs confirms that many of the workers reported jobs that are typically performed during traditional work times. Consequently, there were also low levels of work burnout reported. This makes it difficult to test the mediating mechanisms of coping when the sample in general is not experiencing job stress or burnout. Future research should consider using a different sampling method as opposed to utilizing M-Turk. Overall, opinions about the use of M-Turk or other crowdsourcing methods is mixed (Landers & Behrend, 2015). Some reviewers have voiced concerns with the use of M-Turk, with others citing these types of methods as a potential opportunity to obtain a more diverse sample (Landers & Behrend, 2015). Nonetheless, a large amount of psychological research has utilized a crowdsourcing method; however, it is important to explore different populations of workers or data collection methods where there is some more control over the study (e.g., workers that have similar job types). Another potential issue is that the inclusion criteria only required that

workers only work at least 30 hours per week and the number of hours worked was not asked in the survey. Therefore, it is possible that workers were included in the study that only had part-time employment and therefore would be less likely to report role overload.

Additionally, since this is the first known study which examines cyberloafing as disengagement and mindfulness as an engagement coping strategies, other types of coping behaviors/strategies have been omitted from the hypothesized model. Some additional analyses were performed to examine the mediational effects of PFC and withdrawal behaviors. However, there was no support for these behaviors mediating the job stressor-strain relationship. Despite the importance of examining these strategies in isolation to examine the impact on strain, future research should expand on this by examining multiple coping strategies. A majority of research studies on stress and coping have utilized a cross-sectional data collection methods. Future research should replicate these methods to examine the mediating mechanisms of other coping behaviors. Utilizing a cross-lagged model will help advance the coping literature and help obtain better estimates of the effects of coping on strain. The cross-lagged mediational model utilized in this study did not support the notion that coping mediates the relationship between job stressors and burnout. After controlling for the measures predicting themselves (e.g., job stress at time one predicting job stress at time two) there was no evidence that supports that cyberloafing or mindfulness partially mediated the relationship between job stressors and strain. This calls into question the previous research methods which did not utilize a cross-lagged mediational model to test these relationships. It is important for researchers to consider utilizing methods which provide better estimates of the effects of coping on job stressors and strain. The supplemental analysis further supports the need for more rigorous hypothesis testing. When only the focal variables were included in the path analysis some of the hypotheses in the study were supported. This illustrates

a need for agreement and consistency among researchers about the appropriate methods to test longitudinal mediation models.

Conclusion. Overall, this study is important because it expanded the coping literature and redefined certain constructs as potential coping strategies. This was important first step because there are several assumptions about cyberloafing and mindfulness that have not yet been tested. As organizations continue to use resources to prevent certain behaviors (i.e., cyberloafing) and create mindfulness training programs, this study suggests that organizations may want to hold off until there is a better understanding of the long-term benefits of these initiatives.

Table 1a

Participant Demographics

	n = 219	Percentage
Gender		
Male	124	56.6
Female	94	42.9
Highest Education Level		
Did not graduate high school	1	0.5
High School Graduate/GED	24	11.0
Some college	70	32.0
“College Graduate”	95	43.4
Some Graduate School	11	5.0
Post Graduate School	16	7.3
Race		
Asian, Asian American, or Pacific Islander	12	5.5
Black, African, or African American	18	8.2
Hispanic or Hispanic American	9	4.1
Native American or Alaskan Native	1	0.5
White, European, or European American	171	78.1
Two or more ethnicities	6	2.7
Other	1	0.5
Type of Pay		
Hourly	109	49.8
Salaried	108	49.3
Smartphone access		
Yes	195	89.0
No	20	9.1

Computer access		
Yes	188	85.8
No	30	13.7
Sit at Computer		
Yes	154	70.3
No	63	28.8
Industry		
Utilities	1	0.5
Construction	11	5.0
Manufacturing	10	4.6
Wholesale trade	2	0.9
Retail trade	28	12.8
Transportation and warehousing	5	2.3
Information	24	11.0
Finance and insurance	18	8.2
Real estate and rental and leasing	5	2.3
Professional, scientific, and technical services	19	8.7
Management of companies and enterprises	4	1.8
Administrative and support & waste management services	12	5.5
Educational services	18	8.2
Healthcare and social assistance	20	9.1
Arts, entertainment, and recreation	11	5.0
Accommodation and food services	13	5.9
Other services	14	6.4
Public administration and active duty military	2	0.9

Restrict Access to Websites			
	Yes	89	40.6
	No	101	46.1
	I don’t know	26	11.9
Web browsing at work			
	Yes	167	76.3
	No	51	23.3
Meditation class			
	Yes	18	8.2
	No	199	90.9
Mindfulness class			
	Yes	13	5.9
	No	205	93.6
Stressful week time 1			
	Yes	45	20.5
	No	171	78.1
Stressful week time 2			
	Yes	28	12.8
	No	188	85.8
Stressful week time 3		26	11.9
	Yes	32	14.6
	No	184	84.0

Table 1b

Participant Demographics

Demographics	Mean	Standard Deviation
Age	34.39	9.86
Organizational Tenure (years)	5.90	5.15

N = 219

Table 2a

Participant Demographics of participants who did not complete the study

	n = 589	Percentage
Gender		
Male	341	56.9
Female	246	41.1
Highest Education Level		
Did not graduate high school	2	0.3
High School Graduate/GED	60	10.0
Some college	204	34.1
"College Graduate"	235	39.2
Some Graduate School	34	5.7
Post Graduate School	53	8.8
Race		
Asian, Asian American, or Pacific Islander	38	6.3
Black, African, or African American	30	5.0
Hispanic or Hispanic American	35	5.8
Native American or Alaskan Native	3	.5
White, European, or European American	472	78.8
Two or more ethnicities	9	1.5
Other	0	0
Type of Pay		
Hourly	361	60.3
Salaried	223	37.2
Smartphone access		
Yes	527	88.0
No	53	8.8
Computer access		
Yes	509	85.0
No	76	12.7
Sit at Computer		

Yes	401	66.9
No	182	30.4
Industry		
Agriculture, forestry, fishing, and hunting	6	1.0
Utilities	3	.5
Construction	15	2.5
Manufacturing	27	4.5
Wholesale trade	8	1.3
Retail trade	78	13.0
Transportation and warehousing	15	2.5
Information	51	8.5
Finance and insurance	43	7.2
Real estate and rental and leasing	9	1.5
Professional, scientific, and technical services	57	9.5
Management of companies and enterprises	13	2.2
Administrative and support & waste management services	19	3.2
Educational services	55	9.2
Healthcare and social assistance	52	8.7
Arts, entertainment, and recreation	45	7.5
Accommodation and food services	28	4.7
Other services	53	8.8
Public administration and active duty military	11	1.8
Restrict Access to Websites		
Yes	237	39.6
No	257	42.9
I don’t know	89	14.9

Login to websites at work			
	Yes	454	75.8
	No	134	22.4
Attended a meditation class			
	Yes	74	12.4
	No	510	85.1
Attended a mindfulness class			
	Yes	47	7.8
	No	538	89.8
Stressful week			
	Yes	137	22.9
	No	447	74.6

Table 2b

Participant Demographics for participants who did not complete the study

Demographics	Mean	Standard Deviation
Age	31.96	9.58
Organizational Tenure (years)	5.00	4.85

N = 589

Table 3

Means and standard deviations study variables for participants who did not complete the study

Variable	Mean	Std. Deviation	Scale
Mindfulness Time 1	3.25	0.59	1-5
Cyberloafing Time 1	2.06	0.74	0-5
WFC Time 1	2.34	0.78	1-5
Social Des. Time 1	0.51	0.23	0,1
PFC Time 1	3.87	0.65	1-5
Role Overload Time 1	2.52	0.87	1-5
Overall Burnout Time 1	2.68	0.78	1-5
Work Burnout Time 1	2.77	0.73	1-5
Withdrawal Time 1	2.00	0.56	1-4
Cyber Support Time 1	2.49	0.85	0-5

Note: N =589

Table 4
Independent t-test comparing the final sample and participants who did not complete the study

	Participants who did not complete		Final Sample		
	Mean	SD	Mean	SD	t-test
Mindfulness	3.25	0.59	3.36	0.64	-.2.20*
Cyberloafing	2.06	0.74	1.88	0.75	3.01*
WFC	2.34	0.78	2.29	0.80	0.85
Social Des.	0.51	0.23	0.58	0.15	-1.06
PFC	3.87	0.65	3.99	0.59	-2.42*
Role Overload	2.52	0.87	2.45	0.89	1.05
Overall Burnout	2.68	0.78	2.55	0.83	2.16*
Work Burnout	2.77	0.73	2.51	0.93	2.13*
Withdrawal	2.00	0.56	1.83	0.53	3.83**
Cyber Support	2.49	0.85	2.34	0.93	2.18*

Note: $*p < 0.05$ $**p < 0.01$

Table 5

Means and standard deviations for study variables in final sample

Variable	Mean	Std. Deviation	Scale
Mindfulness Time 1	3.36	0.64	1-5
Cyberloafing Time 1	1.88	0.75	0-5
WFC Time 1	2.29	0.80	1-5
Social Des. Time 1	0.52	0.27	0,1
PFC Time 1	3.99	0.59	1-5
Role Overload Time 1	2.45	0.89	1-5
Overall Burnout Time 1	2.55	0.83	1-5
Work Burnout Time 1	2.51	0.93	1-5
Withdrawal Time 1	1.83	0.53	1-4
Cyber Support Time 1	2.34	0.93	0-5
Mindfulness Time 2	3.40	0.66	1-5
Cyberloafing Time 2	1.81	0.71	1-5
WFC Time 2	2.22	0.80	1-5
Social Desirability Time 2	0.52	0.27	0,1
PFC Time 2	3.98	0.62	1-5
Role Overload Time 2	2.45	0.94	1-5
Overall Burnout Time 2	2.49	0.87	1-5
Work Burnout Time 2	2.50	1.01	1-5
Withdrawal Time 2	1.83	0.55	1-5
Cyber Support Time 2	2.28	0.92	0-5
Mindfulness Time 3	3.44	0.69	1-5
Cyberloafing Time 3	1.76	0.68	0-5
WFC Time 3	2.19	0.82	1-5
Social Des. Time 3	0.52	0.27	0,1
PFC Time 3	3.90	0.67	1-5
Role Overload Time 3	2.47	0.98	1-5
Overall Burnout Time 3	2.43	0.89	1-5
Work Burnout Time 3	2.45	1.02	1-5
Withdrawal Time 3	1.79	0.55	1-4
Cyber Support Time 3	2.24	0.88	0-5

N =219

Table 6

Correlations of all study variables

		1	2	3	4	5	6	7	8	9	10
1	Mindfulness	**.89**									
2	Cyberloafing	-.15*	**.94**								
3	WFC	-.33**	.16*	**.83**							
4	Social Desirability	.28**	-.11	-.13	**.78**						
5	PFC	.33**	-.14*	-.12	.16*	**.84**					
6	Role Overload	-.45**	.14*	.56**	-.20**	-.21**	**.82**				
7	Overall Burnout	-.52**	.14*	.56**	-.31**	-.14*	.59**	**.92**			
8	Work Burnout	-.53**	.13	.59**	-.30**	-.18**	.67**	.87**	**.92**		
9	Withdrawal	-.40**	.46**	.32*	-.43**	-.23**	.34**	.46**	.51**	**.87**	
10	Cyber support	-.16*	.93**	.10	-.13	-.11	.09	.12	.11	.44**	**.88**
11	Mindfulness	.73**	-.05	-.30**	-.33**	.36**	-.41**	-.48**	-.51**	-.35**	-.05
12	Cyberloafing	-.13	.72**	.12	-.12	-.15*	.10	.08	.09	.43**	.69**
13	WFC	-.35**	.16*	.80**	-.17	-.23**	.54**	.52**	.55**	.39**	.10
14	Social Desirability	.25**	-.06	-.06	.88**	.11	-.14	-.22**	-.23**	-.33**	-.10
15	PFC	.27**	-.12	-.12	.20**	.66**	-.22**	-.20**	-.23**	-.29**	-.07

*$p < 0.05$ **$p < 0.01$ N =219 1-10 are time 1 variables; 11-20 are time 2 variables; 21-30 are time 3 variables Cronbach's alpha is ted on the diagonal.

		11	12	13	14	15	16	17	18	19	20
1	Mindfulness										
2	Cyberloafing										
3	WFC										
4	Social Desirability										
5	PFC										
6	Role Overload										
7	Overall Burnout										
8	Work Burnout										
9	Withdrawal										
10	Cyber support										
11	Mindfulness	**.90**									
12	Cyberloafing	-.08	**.94**								
13	WFC	-.39**	.18**	**.85**							
14	Social Desirability	.30**	-.13	-.06	**.80**						
15	PFC	.33**	-.11	-.18**	.13*	**.85**					

Note: *$p < 0.05$ **$p < 0.01$ N =219 1-10 are time 1 variables; 11-20 are time 2 variables; 21-30 are time 3 variables Cronbach's alpha is presented on the diagonal.

		1	2	3	4	5	6	7	8	9	10
16	Role Overload	-.44**	.13	.52**	-.16	-.26**	.80**	.56**	.63**	.31**	.09
17	Overall Burnout	-.51**	.14*	.56**	-.27**	-.16*	.57**	.85**	.81**	.46**	.12
18	Work Burnout	-.51**	.11	.59**	-.30**	-.22**	.61**	.79**	.89**	.45**	.07
19	Withdrawal	-.39**	.45**	.34**	-.39**	-.21**	.32**	.46**	.49**	.86**	.43**
20	Cyber support	-.13	.66**	.07	-.13	-.12	.06	.07	.09	.41**	.73**
21	Mindfulness	.69**	-.08	-.26**	.36**	.33**	-.36**	-.42**	-.43**	-.33**	-.07
22	Cyberloafing	-.10	.77**	.14*	-.15*	-.12	.12	.08	.08	.47**	.72**
23	WFC	-.43**	.20**	.74**	-.24**	-.23**	.56**	.60**	.61**	.41**	.15*
24	Social Desirability	.27**	-.14*	-.18**	.87**	.13	-.19**	-.28**	-.29	-.39	-.15*
25	PFC	.19**	-.20**	-.16*	.18*	.56**	-.14*	-.11	-.12	-.22**	-.19**
26	Role Overload	-.41**	.15*	.59**	-.16*	-.25**	.82**	.56**	.63**	.32**	.11
27	Overall Burnout	-.50**	.16*	.58**	-.29**	-.16*	.54**	.85**	.81**	.46**	.12
28	Work Burnout	-.52**	.13	.55**	-.31**	-.20**	.58**	.79**	.87**	.44**	.08
29	Withdrawal	-.41**	.41**	.33**	-.44**	-.25**	.34**	.46**	.51**	.85**	.40**
30	Cyber support	-.12	.71**	.10	.14*	-.08	.09	.05	.07	.43**	.78**

Note: *$p < 0.05$ **$p < 0.01$ N =219 1-10 are time 1 variables; 11-20 are time 2 variables; 21-30 are time 3 variables Cronbach's alpha is presented on the diagonal.

		11	12	13	14	15	16	17	18	19	20
16	Role Overload	-.47**	.14*	.55**	-.14*	-.27**	**.85**				
17	Overall Burnout	-.55**	.11	.57**	-.23**	-.20**	.60**	**.92**			
18	Work Burnout	-.55**	.09	.60**	-.24**	-.23**	.64**	.87**	**.94**		
19	Withdrawal	-.38**	.49**	.43**	-.32**	-.24**	.33**	.52**	.50**	**.88**	
20	Cyber support	-.06	.91**	.11	-.14	-.07	.09	.09	.07	.45**	**.87**
21	Mindfulness	.83**	-.08	-.31**	.33**	.34**	-.41**	-.47**	-.47**	-.33**	-.05
22	Cyberloafing	-.08	.87**	.18**	-.11	-.10	.16*	.11	.08	.49**	.77**
23	WFC	-.42**	.19**	.81**	-.13	-.15*	.56**	.58**	.62**	.38**	.12
24	Social Desirability	.33**	-.16	-.20**	.88**	.14*	-.20**	-.30**	-.33**	-.37**	-.14*
25	PFC	.33**	-.17*	-.22**	.15*	.55**	-.23**	-.17*	-.21**	-.21**	-.17*
26	Role Overload	-.46**	.12	.61**	-.12	-.26**	.84**	.59**	.63**	.35**	.09
27	Overall Burnout	-.52**	.12	.59**	-.24**	-.20**	.58**	.93**	.86**	.51**	.08
28	Work Burnout	-.54**	.11	.57**	-.26**	-.26**	.62**	.86**	.92**	.48**	.07
29	Withdrawal	-.41**	.45**	.41**	-.35**	-.25**	.36**	.53**	.51**	.88**	.42**
30	Cyber support	-.07	.80**	.13	-.12	-.05	.13	.10	.06	.45**	.84**

Note: *$p < 0.05$ **$p < 0.01$ N =219 1-10 are time 1 variables; 11-20 are time 2 variables; 21-30 are time 3 variables Cronbach's alpha is presented on the diagonal.

		21	22	23	24	25	26	27	28	29	30
16	Role Overload										
17	Overall Burnout										
18	Work Burnout										
19	Withdrawal										
20	Cyber support										
21	Mindfulness	**.91**									
22	Cyberloafing	-.07	**.94**								
23	WFC	-.38**	.21**	**.84**							
24	Social Desirability	.33**	-.16*	-.25**	**.80**						
25	PFC	.28**	-.17*	-.18**	.15*	**.86**					
26	Role Overload	-.43**	.15*	.60**	-.17**	-.17**	**.86**				
27	Overall Burnout	-.49**	.14*	.63**	-.30**	-.17*	.60**	**.93**			
28	Work Burnout	-.51**	.10	.62**	-.32**	-.18**	.63**	.89**	**.93**		
29	Withdrawal	-.39**	.45**	.45**	-.40**	-.21**	.37**	.55**	.52**	**.87**	
30	Cyber support	-.05	.90**	.15*	-.15*	-.16*	.13	.10	.07	.44**	**.87**

*Note: *p* < 0.05 ***p* < 0.01 N =219 1-10 are time 1 variables; 11-20 are time 2 variables; 21-30 are time 3 variables Cronbach's alpha is presented on the diagonal.

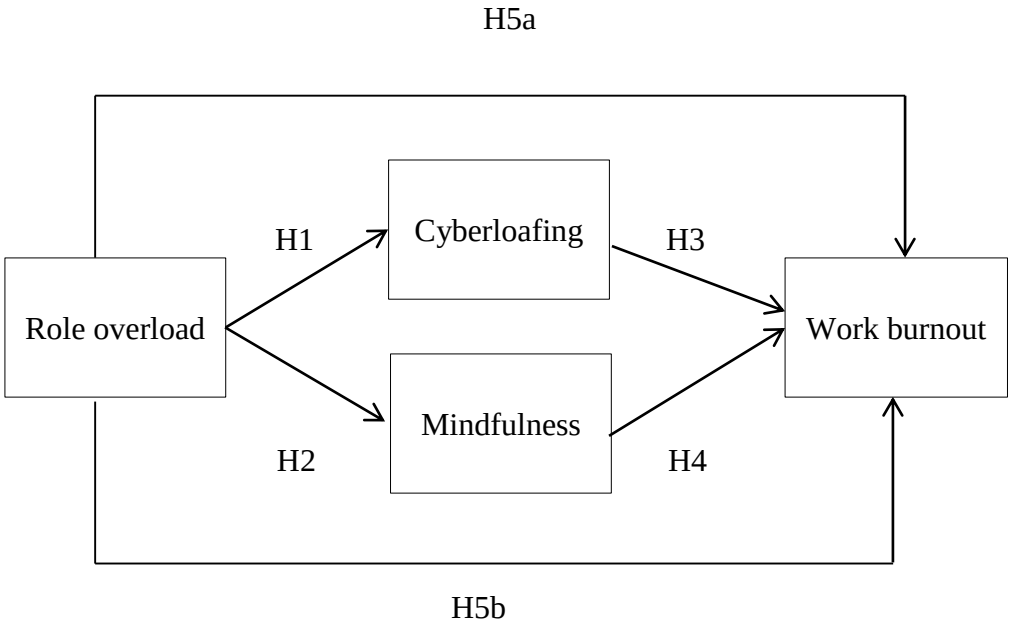

Figure 1. Proposed mediation model of cyberloafing and mindfulness on role overload and work burnout.

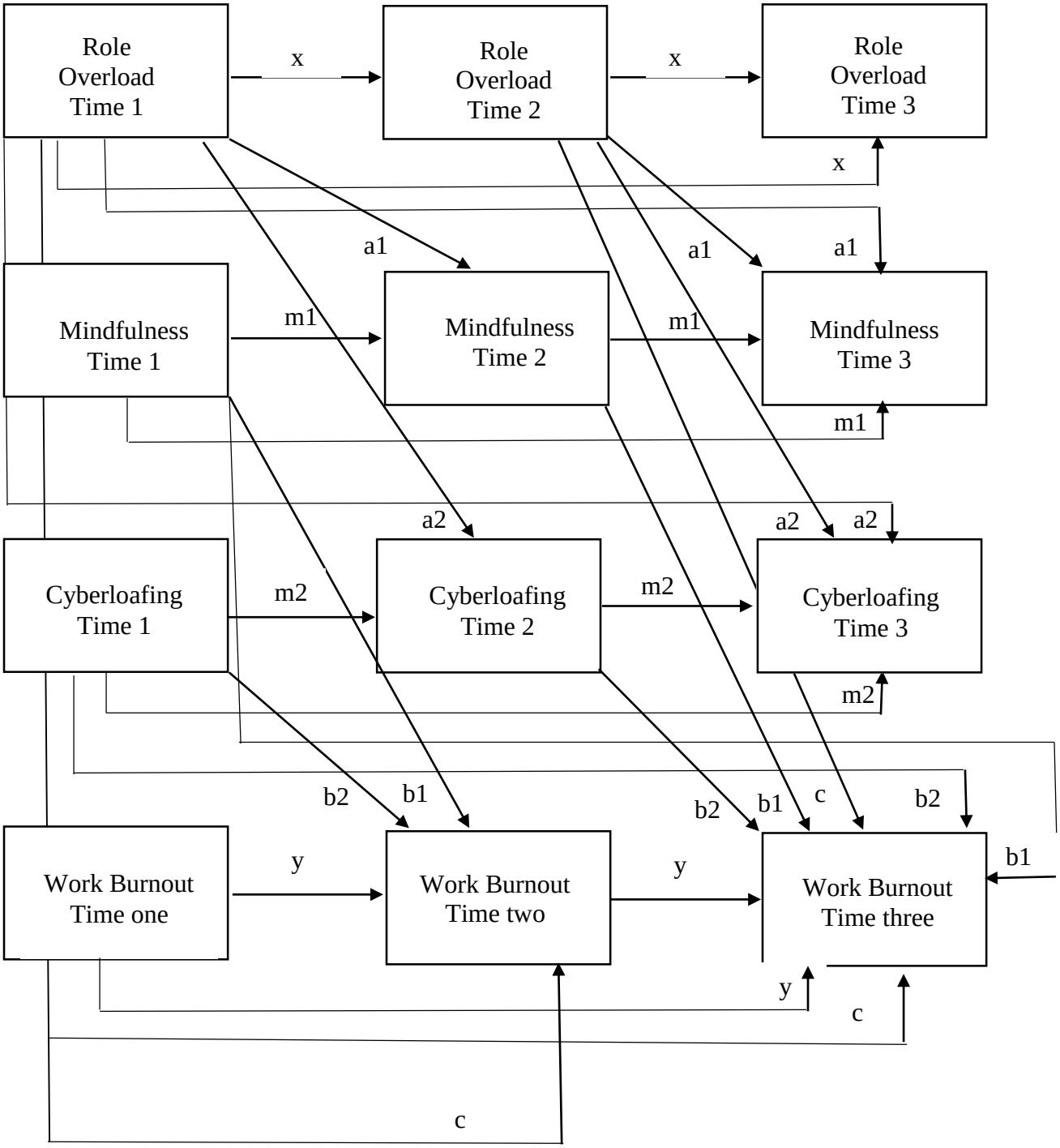

Figure 2. Illustration of each pair of cross-wave paths in the hypothesized model

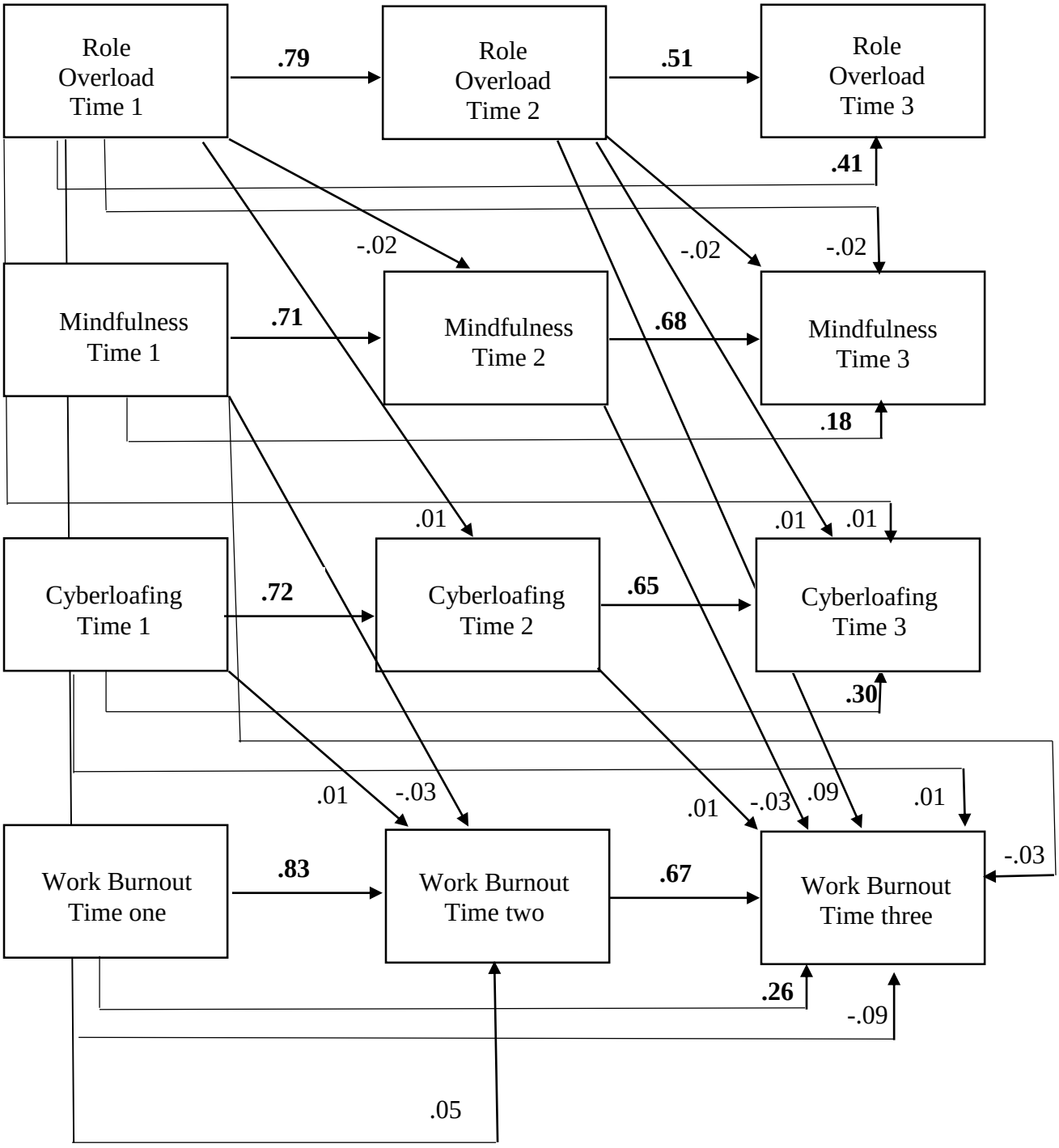

Figure 3. Results of the reduced model with paths constrained to be equal
Note: All factors measured at each time point were correlated with one another. Completely standardized factor loadings that are significant are displayed in bold. Paths x, m1, m2, y, and c (see Figure 2) were freely estimated.

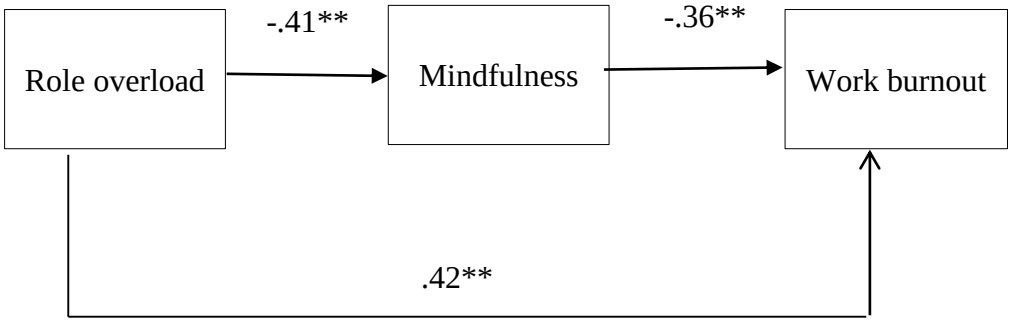

Figure 4. Results of supplemental analysis with standardized estimates.
Note: ***p < 0.001.

APPENDIX A

How many years have you been employed by your employing organization?

Do you have access to a computer throughout your work day?

Do you have access to a smartphone or Tablet throughout your work day?

Does your organization restrict the use of certain websites?

Are you able to log into social media or other websites for personal usage during your work day?

What is your age in years?

What is your gender? Male/Female

What is your race/ethnicity?

What is your highest level of education attained?

Which of the following best describes the industry in which you work?

What is your job title?

Have you ever taken a mindfulness class?

Have you ever taken a meditation class?

Do you have any final comments you would like to share? If so please feel free to type them here:

Are you an hourly or salaried employee?

Do you sit at a computer during the workday?

Has a significant work stressor occurred over the last week?

Do you have any final comments you would like to share? If so please feel free to type them here:

APPENDIX B

"Usually when I experience stressful thought or situation at work"

1. I was able just to notice it without reacting.
2. It took over my mind for quite a while afterwards. (R)
3. I judged the thought/work situation as good or bad. (R)
4. I felt calm soon after.
5. I was able to accept the experience.
6. I got angry that this happens to me. (R)
7. I noticed how brief the thoughts and work situations really were.
8. I judged myself as good or bad, depending on what the thought/work situation was about. (R)
9. I 'stepped back' and was aware of the thought or work situation without letting it take over.
10. I just noticed them and let them go.
11. I accepted myself the same whatever the thought/work situation was about.
12. In my mind I tried and pushed them away. (R)
13. I kept thinking about the thought or work situation after it was gone. (R)
14. I found it so unpleasant I had to distract myself not to notice them. (R)
15. I tried just to experience the thoughts or work situations without judging them.
16. I lost myself in the thoughts/work situations. (R)

R Reversed Coded

APPENDIX C

Cyberloafing

1. Checked non-work-related email
2. Sent non-work-related email
3. Received non-work-related email
4. Visited general news sites
5. Visited stock or investment-related web sites
6. Checked online personals
7. Viewed sports-related web sites
8. Visited banking or financial-related web sites
9. Shopped online for personal goods
10. Visited online auction sites (e.g., Ebay)
11. Sent/received instant messaging
12. Participated in online games
13. Participated in chat rooms
14. Visited newsgroups or bulletin boards
15. Booked vacations/travel
16. Visited virtual communities
17. Maintained a personal web page
18. Downloaded music
19. Visited job hunting or employment-related sites
20. Visited gambling web sites
21. Read blogs

22. Viewed adult-oriented (sexually explicit) web sites

APPENDIX D

Role Overload

1. I have too much work to do to do everything well.
2. The amount of work I am asked to do is fair. (R)
3. I never seem to have enough time to get everything done.

APPENDIX E

The Copenhagen Burnout Inventory

Personal burnout

1. How often do you feel tired?
2. How often are you physically exhausted?
3. How often are you emotionally exhausted?
4. How often do you think: “I can’t take it anymore’’?
5. How often do you feel worn out?
6. How often do you feel weak and susceptible to illness?

Work-related burnout

1. Do you feel worn out at the end of the working day?
2. Are you exhausted in the morning at the thought of another day at work?
3. Do you feel that every working hour is tiring for you?
4. Do you have enough energy for family and friends during leisure time? (R)
5. Is your work emotionally exhausting?
6. Does your work frustrate you?
7. Do you feel burnt out because of your work?

APPENDIX F

BRIEF Cope: PFC

1. I've been concentrating my efforts on doing something about the situation that I am in.
2. I've been taking action to try and make the situation better.
3. I've been trying to come up with a strategy about what to do.
4. I've been thinking hard about what steps to take.

APPENDIX G

Work-to-family

1. I have to miss family activities due to the amount of time I must spend on work responsibilities.
2. I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.
3. The behaviors I perform that make me effective at work do not help me to be a better parent and spouse.

Family-to-work

1. I have to miss work activities due to the amount of time I must spend on family responsibilities.
2. Because I am often stressed from family responsibilities, I have a hard time concentrating on my work.
3. Behavior that is effective and necessary for me at home would be counterproductive at work.

APPENDIX H

Withdrawal Scale

1. Made excuses to miss meetings

2. Drank alcohol after work because of things that happened at work.

3. Stayed home from work when you had even a minor illness.

4. Took frequent or long breaks.

5. Made excuses to go somewhere to avoid the workplace.

6. Went to work late.

7. Did not work to the best of your ability.

8. Wanted to leave work early.

9. Spent time on non-work activities (e.g. talking, e-mailing, web browsing) while at work.

10. Ignored non-essential tasks

11. Thought about leaving your job.

12. Tried to find another job.

13. Made plans to leave your job.

APPENDIX I

Social Desirability

1. I never hesitate to go out of my way to help someone in trouble.
2. I have never intensely disliked anyone.
3. There have been times when I was quite jealous of the good fortune of others.
4. I would never think of letting someone else be punished for my wrong doings.
5. I sometimes feel resentful when I don't get my way.
6. There have been times when I felt like rebelling against people in authority even though I knew they were right.
7. I am always courteous, even to people who are disagreeable.
8. When I don't know something I don't at all mind admitting it.
9. I am sometimes irritated by people who ask favors of me.
10. I have often played sick to get out of something.

REFERENCES

Adams, J., & Kirkby, R. J. (2002). Excessive exercise as an addiction: A review. *Addiction Research & Theory, 10*, 415–437.

Ajzen, I., & Sexton, J. (1999). Depth of processing, belief congruence, and attitude-behavior correspondence. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 117–138). New York: Guilford Press.

Ajzen, I. (1996). The directive influence of attitudes on behavior. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking motivation and cognition to behavior* (pp. 385–403). New York: Guilford Press.

Andressen, C., Torsheim, T., & Pallesen, S. (2014). Predictors of use of social network at work: A specific type of cyberloafing. *Journal of Computer-Mediated Communication, 19,* 906-921.

Askew, K., Buckner, J., Taing, M., Ilie, A., Bauer, J. (2014). Explaining cyberloafing: The role of the theory of planned behavior. *Computers in Human Behavior, 36,* 510-519.

Baer, R. A., Walsh, E., & Lykins, E. L. (2009). Assessment of mindfulness. In *Clinical handbook of mindfulness* (pp. 153-168). Springer New York.

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309-328.

Bakker, A. B., Demerouti, E., De Boer, E., & Schaufeli, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior*, *62*(2), 341-356.

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10,* 170–180.

Bakker, A. B. (2005). Flow among music teachers and their students: The crossover of peak experiences. *Journal of vocational behavior*, *66*(1), 26-44.

Bakker, A. B. (2008). The work-related flow inventory: Construction and initial validation of the WOLF. *Journal of vocational behavior*, *72*(3), 400-414.

Banks, G. C., Whelpley, C. E., Oh, I. S., & Shin, K. (2012). (How) are emotionally exhausted employees harmful?. *International Journal of Stress Management*, *19*(3), 198-216.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: is the active self a limited resource?. *Journal of personality and social psychology*, *74*(5), 1252-1265.

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, *85*(3), 349-360.

Bergomi, C., Tschacher, W., & Kupper, Z. (2012). The assessment of mindfulness with self-report measures: existing scales and open issues. *Mindfulness*, *4*(3), 191-202.

Black, D. S., & Fernando, R. (2014). Mindfulness training and classroom behavior among lower-income and ethnic minority elementary school children. *Journal of Child and Family Studies*, *23*(7), 1242-1246.

Bloom, J. D., Kompier, M., Geurts, S., de Weerth, C., Taris, T., & Sonnentag, S. (2009). Do we recover from vacation? Meta-analysis of vacation effects on health and well-being. *Journal of Occupational Health*, *51*(1), 13-25.

Brotheridge, C. M. (2001). A comparison of alternative models of coping: Identifying relationships among coworker support, workload, and emotional exhaustion in the workplace. *International Journal of Stress Management*,*8*, 1-14.

Brotheridge, C. M., & Lee, R. T. (2002). Testing a conservation of resources model of the dynamics of emotional labor. *Journal of Occupational Health Psychology, 7*(1), 57-67.

Brown, K., & Ryan, R. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 4*, 822-848.

Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, *18*(4), 211-237.

Cammann, C., Fichman, M., Jenkins, G. D., & Klesh, J. R. (1983). Assessing the attitudes and perceptions of organizational members. *Assessing organizational change: A guide to methods, measures, and practices, 71*, 138.

Carver, C. S. (1997). You want to measure coping but your protocol'too long: Consider the brief cope. *International journal of behavioral medicine*, *4*(1), 92-100.

Chadwick, P., Hember, M., Symes, J., Peters, E., Kuipers, E., & Dagnan, D. (2008). Responding mindfully to unpleasant thoughts and images: reliability and validity of the Southampton mindfulness questionnaire (SMQ). *British Journal of Clinical Psychology*, *47*(4), 451-455.

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: questions and tips in the use of structural equation modeling.*Journal of abnormal psychology*, *112*(4), 558-577.

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress and potential in theory and research. *Psychological Bulletin,* 127, 87-127.

Connor-Smith, J. K., Compas, B. E., Wadsworth, M. E., Thomsen, A. H., & Saltzman, H. (2000). Responses to stress in adolescence: Measurement of coping and involuntary stress responses. *Journal of Consulting and Clinical Psychology, 68*, 976–992.

Crawford, E., LePine, J., & Rich, B. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology, 95*, 834-848.

Csikszentmihalyi, M., Harper, & Row. (1990). Flow: The psychology of optimal experience.

Dane, E., & Brummel, B. J. (2013). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations, 67*, 105-128.

Davidson, O. B., Eden, D., Westman, M., Cohen-Charash, Y., Hammer, L. B., Kluger, A. N., & Spector, P. E. (2010). Sabbatical leave: who gains and how much? *Journal of Applied Psychology*, *95*(5), 953-964.

De Lange, A. H., Taris, T. W., Kompier, M. A., Houtman, I. L., & Bongers, P. M. (2003). "The very best of the millennium": longitudinal research and the demand-control-(support) model. *Journal of occupational health psychology, 8*, 282-305.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands resources model of burnout. *Journal of Applied Psychology, 86*, 499 –512.

Demerouti, E., Bakker, A. B., Sonnentag, S., & Fullagar, C. J. (2012). Work-related flow and energy at work and at home: A study on the role of daily recovery. *Journal of Organizational Behavior*, *33*(2), 276-295.

Demerouti, E., Mostert, K., & Bakker, A. (2010). Burnout and work engagement: A thorough investigation of independency of both constructs. *Journal of Occupational Health Psychology, 15*, 209-222.

Eastin, M., Glynn, C., & Griffiths. (2007). Psychology of communication technology use in the workplace. *CyberPsychology and Behavior, 10*, 436‑443.

Eden, D. (1990). Acute and chronic job stress, strain and vacation relief. *Organizational Behavior and Human Decision Processes, 45*, 175-193.

Eisenberg, N., Fabes, R. A., & Guthrie, I. (1997). Coping with stress: The roles of regulation and development. In J. N. Sandier & S. A. Wolchik (Eds.), *Handbook of children's coping with common stressors: Linking theory, research, and intervention* (pp. 41-70). New York: Plenum.

Endler, N. S., Speer, R. L., Johnson, J. M., & Flett, G. L. (2000). Controllability, coping, efficacy, and distress. *European Journal of Personality*, *14*(3), 245-264.

Etzion, D., Eden, D. and Lapidot, Y. (1998). Relief from job Stressors and burnout: reserve service as a respite. *Journal of Applied Psychology*, *83*, 577-585.

Folkman, S., & Lazarus, R. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48*, 150-170.

Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology, 50*, 992-1003.

Fox, S., Spector, P. E., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of vocational behavior*, *59*(3), 291-309.

Frew, D. R. (1974). Transcendental Meditation and productivity. *Academy of Management Journal*, *17*(2), 362-368.

Fritz, C., & Sonnentag, S. (2005). Recovery, health, and job performance: effects of weekend experiences. *Journal of Occupational Health Psychology*, *10*(3), 187-199.

Fritz, C., Ellis, A. M., Demsky, C. A., Lin, B. C., & Guros, F. (2013). Embracing work breaks: Recovering from work stress. *Organizational Dynamics*, *42*(4), 274-280.

Garrett, R. K., & Danziger, J. N. (2008). On cyberslacking: Workplace status and personal internet use at work. *CyberPsychology & Behavior*, *11*(3), 287-292.

George, J. F. (1996). Computer-based monitoring: Common perceptions and empirical results. *Mis Quarterly*, 459-480.

Gilboa, S., Shirom, A., Fried, Y., & Cooper, C. (2008). A meta-analysis of work demand stressors and job performance: examining main and moderating effects. *Personnel Psychology*, *61*(2), 227-271.

Glasman, L. & Albarracin, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude‑behavior relation. *Psychological Bulletin, 132,* 778‑822.

Goh, J., Pfeffer, J., & Zenios, S. A. The relationship between workplace stressors and mortality and health costs in the United States (in press).

Goleman, D. (1988). *The Meditative Mind: The Varieties of Meditative Experience*. GP Putnam's Sons.

Gordon, W., Shonin, E., Zang, M., & Griffiths, M. (2014). Work-related mental health and job performance: Can mindfulness help? *International Journal of Mental Health and Addiction, 12*, 129-137.

Griffiths, M. (2003). Internet abuse in the workplace: Issues and concerns for employers and employment counselors. *Journal of Employment Counseling, 40,* 87–96.

Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, *57*(1), 35-43.

Halbesleben, J. R. (2006). Sources of social support and burnout: a meta-analytic test of the conservation of resources model. *Journal of Applied Psychology*, *91*(5), 1134-1145.

Hanisch, K. A., & Hulin, C. L. (1990). Job attitudes and organizational withdrawal: An examination of retirement and other voluntary withdrawal behaviors. *Journal of Vocational Behavior, 37*, 60-78.

Helliwell, J. F., & Wang, S. (2014). Weekends and subjective well-being. *Social Indicators Research*, *116*(2), 389-407.

Henle, C. A., & Blanchard, A. L. (2008). The interaction of work stressors and organizational sanctions on cyberloafing. *Journal of Managerial Issues*, 383-400.

Henepola Gunaratana, B. (2002). Mindfulness in plain English. *Somerville, MA: Wisdom Publications*.

Hobfoll, S. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*(3), 513-524.

Hobfoll, S. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology: An International Review*, *50*(3), 337-421.

Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science*, *6*(6), 537-559.

Hülsheger, U. R., Alberts, H. J., Feinholdt, A., & Lang, J. W. (2013). Benefits of mindfulness at work: The role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of Applied Psychology, 98*(2), 310-325.

Hülsheger, U. R., Lang, J. W., Depenbrock, F., Fehrmann, C., Zijlstra, F. R., & Alberts, H. J. (2014). The power of presence: The role of mindfulness at work for daily levels and change trajectories of psychological detachment and sleep quality. *Journal of Applied Psychology, 99*(6), 1113-1128.

Hurrell Jr, J. J., Nelson, D. L., & Simmons, B. L. (1998). Measuring job stressors and strains: where we have been, where we are, and where we need to go. *Journal of Occupational Health Psychology*, *3*(4), 368-389.

Iacobucci, D. (2010). Structural equations modeling: Fit indices, sample size, and advanced topics. *Journal of Consumer Psychology*, *20*(1), 90-98.

Ito, J. K., & Brotheridge, C. M. (2003). Resources, coping strategies, and emotional exhaustion: A conservation of resources perspective. *Journal of Vocational Behavior*, *63*(3), 490-509.

Kahn, R. L., Wolfe, D. M., Quinn, R., Snoek, J. D., & Rosenthai, R. A. (1964). *Organizational stress.* New York: Wiley.

Komagata, N., & Komagata, S. (2010). Mindfulness and flow experience.

Krischer, M. M., Penney, L. M., & Hunter, E. M. (2010). Can counterproductive work behaviors be productive? CWB as emotion-focused coping. *Journal of Occupational Health Psychology*, *15*(2), 154-166.

Kristensen, Borritz, Villadsen, & Christensen. (2005). The Copenhagen burnout inventory: A new tool for the assessment of burnout. *Work & Stress, 19*, 192-207.

Krohne, H. W. (1996). *Individual differences in coping*. John Wiley & Sons.

Landers, R. N., & Behrend, T. S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, mechanical turk, and other convenience samples. *Industrial and Organizational Psychology*, 1-23.

Lazarus, R. S. (1993). From psychological stress to the emotions: A history of changing outlooks. *Annual Review Psychology, 44*, 1-21.

Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine, 55*, 234-247.

Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. In W. D.Gentry (Ed.), *Handbook of behavioral medicine*. New York: Guilford Press.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of applied Psychology*, *81*, 123-133.

Leroy, H., Anseel, F., Dimitrova, N. G., & Sels, L. (2013). Mindfulness, authentic functioning, and work engagement: A growth modeling approach. *Journal of Vocational Behavior*, *82*(3), 238-247.

Liberman, B., Seidman, G., Mckenna, K. Y., & Buffardi, L. E. (2011). Employee job attitudes and organizational characteristics as predictors of cyberloafing. *Computers in Human behavior, 27*(6), 2192-2199.

Lim, V. (2002). The IT way of loafing on the job: Cyberloafing, neutralizing and organizational justice. *Journal of Organizational Behavior, 23*, 675-694.

Lim, V. & Chen, D. (2009). Cyberloafing at the workplace: Gain or drain? *Behaviour and Information Technology*, *90*, 1‑11.

Lim, V. K., & Chen, D. J. (2012). Cyberloafing at the workplace: gain or drain on work? *Behaviour & Information Technology*, *31*(4), 343-353.

Lim, V. K., & Teo, T. S. (2005). Prevalence, perceived seriousness, justification and regulation of cyberloafing in Singapore: An exploratory study. *Information & Management*, *42*(8), 1081-1093.

Littleton, H., Horsley, S., John, S., & Nelson, D. V. (2007). Trauma coping strategies and psychological distress: a meta-analysis. *Journal of traumatic stress*, *20*(6), 977-988.

Malarkey, W. B., Jarjoura, D., & Klatt, M. (2013). Workplace based mindfulness practice and inflammation: a randomized trial. *Brain, Behavior, and Immunity*, *27*, 145-154.

Malone, P. S., & Lubansky, J. B. (2012). Preparing Data for structural equation modeling: doing your homework. *Handbook of Structural Equation Modeling. The Guilford Press, New York*, 263-295.

Manocha, R., Black, D., Sarris, J., & Stough, C. (2011). A randomized, controlled trial of meditation for work stress, anxiety and depressed mood in full-time workers. *Evidence-Based Complementary and Alternative Medicine*, 1-8.

Marlatt, G. A., & Kristeller, J. L. (1999). Mindfulness and meditation. *Integrating Spirituality into Treatment: Resources for Practitioners*, 67-84.

Marzuq, N., & Drach-Zahavy, A. (2012). Recovery during a short period of respite: The interactive roles of mindfulness and respite experiences. *Work & Stress*, *26*(2), 175-194.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual review of psychology*, *52*, 397-422.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *The Maslach Burnout Inventory* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.

Matthews, R. A., Kath, L. M., & Barnes-Farrell, J. L. (2010). A short, valid, predictive measure of work–family conflict: Item selection and scale validation. *Journal of occupational health psychology*, *15*(1), 75.

Meier, L. L., & Spector, P. E. (2013). Reciprocal effects of work stressors and counterproductive work behavior: A five-wave longitudinal study. *Journal of Applied Psychology*, *98*, 529-539.

Miller, C. T., & Kaiser, C. R. (2001). A theoretical perspective on coping with stigma. *Journal of Social Issues, 57*(1), 73-92.

Mrazek, M. D., Franklin, M. S., Phillips, D. T., Baird, B., & Schooler, J. W. (2013). Mindfulness training improves working memory capacity and GRE performance while reducing mind wandering. *Psychological Science*, 776-781.

Mullen, B., & Suls, J. (1982). The effectiveness of attention and rejection as coping styles: A meta-analysis of temporal differences. *Journal of Psychosomatic Research*, *26*(1), 43-49.

Muraven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as a limited resource: Regulatory depletion patterns. *Journal of personality and social psychology*, *74*(3), 774-789.

Penney, L. M., & Spector, P. E. (2007). Emotions and counterproductive work behavior. In N. M. Ashkanasy & C. L. Cooper (Eds.), Research companion to emotion in organizations (pp. 183–196). Northampton, MA: Edward Elgar Publishing.

Podsakoff, N. P., LePine, J. A., & LePine, M. A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: a meta-analysis. *Journal of Applied Psychology*, *92*(2), 438-454.

Regehr, C., Glancy, D., Pitts, A., & LeBlanc, V. R. (2014). Interventions to reduce the consequences of stress in physicians: a review and meta-analysis. *The Journal of Nervous and Mental Disease*, *202*(5), 353-359.

Reid, D. (2011). Mindfulness and flow in occupational engagement: Presence in doing. *Canadian Journal of Occupational Therapy*, *78*, 50-56.

Reinecke, L. (2009). Games at work: The recreational use of computer games during working hours. *Cyber psychology & Behavior*, *12*(4), 461-465.

Restubog, S. L. D., Garcia, P. R. J. M., Toledano, L. S., Amarnani, R. K., Tolentino, L. R., & Tang, R. L. (2011). Yielding to (cyber)-temptation: Exploring the buffering role of self-control in the relationship between organizational justice and cyberloafing behavior in the workplace. *Journal of Research in Personality*, *45*(2), 247-251.

Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative science quarterly*, 150-163.

Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist*, *41*(7), 813-819.

Ryan, R. M., Bernstein, J. H., & Brown, K. W. (2010). Weekends, work, and well-being: Psychological need satisfactions and day of the week effects on mood, vitality, and physical symptoms. *Journal of Social and Clinical Psychology*, *29*(1), 95-122.

Schoeberlein,D.,& Koffler,T. (2005). *Garriston Institute report: Contemplation and education: A survey of programs using contemplative techniques in K–12 educational settings: A mapping report*. New York: Garrison Institute. Retrieved 22 November 2006 from http://www.garrisoninstitute.org/programs/Mapping_Report.pdf.

Schultz, P. P., Ryan, R. M., Niemiec, C. P., Legate, N., & Williams, G. C. (2014). Mindfulness, Work Climate, and Psychological Need Satisfaction in Employee Well-being. *Mindfulness*, 1-15.

Sedlmeier, P., Eberth, J., Schwarz, M., Zimmermann, D., Haarig, F., Jaeger, S., & Kunze, S. (2012). The psychological effects of meditation: a meta-analysis. *Psychological Bulletin*, *138*(6), 1139-1171.

Shin, H., Park, Y. M., Ying, J. Y., Kim, B., Noh, H., & Lee, S. M. (2014). Relationships between coping strategies and burnout symptoms: A meta-analytic approach. *Professional Psychology: Research and Practice*, *45*(1), 44-56.

Singh, N. N., Lancioni, G. E., Wahler, R. G., Winton, A. S., & Singh, J. (2008). Mindfulness approaches in cognitive behavior therapy. *Behavioural and Cognitive Psychotherapy*, *36*(06), 659-666.

Singh, P., Suar, D., & Leiter, M. P. (2012). Antecedents, work-related consequences, and buffers of job burnout among Indian software developers. *Journal of Leadership & Organizational Studies*, *19*(1), 83-104.

Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: a review and critique of category systems for classifying ways of coping. *Psychological bulletin*, *129*(2), 216-269.

Skinner, E. A., & Wellborn, J. G. (1994). Coping during childhood and adolescence: A motivational perspective. In D. Featherman, R. Lerner, & M. Perlmutter (Eds.), *Life-span development and behavior* (pp. 91-133). Hillsdale, NJ: Erlbaum.

Sonnentag, S. (2012). Psychological detachment from work during leisure time: The benefits of mentally disengaging from work. *Current Directions in Psychological Sciences, 21*, 114-118.

Sonnentag, S., & Bayer, U. V. (2005). Switching off mentally: predictors and consequences of psychological detachment from work during off-job time. *Journal of Occupational Health Psychology*, *10*(4), 393-414.

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *Journal of Applied Psychology, 88,* 518–528.

Sonnentag, S., Mojza, E. J., Binnewies, C., & Scholl, A. (2008). Being engaged at work and detached at home: A week-level study on work engagement, psychological detachment and affect. *Work & Stress, 22*, 257-276.

Sonnentag, S., Kuttler, I., & Fritz, C. (2010). Job stressors, emotional exhaustion, and need for recovery: A multi-source study on the benefits of psychological detachment. *Journal of Vocational Behavior*, *76*(3), 355-365.

Sonnentag, S., Unger, D., & Nägel, I. J. (2013). Workplace conflict and employee well-being: The moderating role of detachment from work during off-job time. *International Journal of Conflict Management*, *24*(2), 166-183.

Sonnentag, S., Mojza, E. J., Demerouti, E., & Bakker, A. B. (2012). Reciprocal relations between recovery and work engagement: the moderating role of job stressors. *Journal of Applied Psychology*, *97*(4), 842-853.

Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal?.*Journal of Vocational Behavior*, *68*(3), 446-460.

Strahan, R., & Gerbasi, K.C. (1972). Short homogeneous versions of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology, 28,* 191-193.

Suls, J., & Fletcher, B. (1985). The relative efficacy of avoidant and nonavoidant coping strategies: A meta-analysis. *Health Psychology, 4*, 249-288.

Ugrin, J. C., & Pearson, J. M. (2013). The effects of sanctions and stigmas on cyberloafing. *Computers in Human Behavior*, *29*(3), 812-820.

Van Gordon, W., Shonin, E., Zangeneh, M., & Griffiths, M. D. (2014). Work-related mental health and job performance: Can mindfulness help?. *International Journal of Mental Health and Addiction*, *12*(2), 129-137.

Vahle-Hinz, T., Bamberg, E., Dettmers, J., Friedrich, N., & Keller, M. (2014). Effects of work stress on work-related rumination, restful sleep, and nocturnal heart rate variability experienced on workdays and weekends. *Journal of Occupational Health Psychology*, *19*(2), 217-230.

Wagner, D. T., Barnes, C. M., Lim, V. K., & Ferris, D. L. (2012). Lost sleep and cyberloafing: Evidence from the laboratory and a daylight saving time quasi-experiment. *Journal of Applied Psychology*, *97*(5), 1068-1076.

Wallace, J. C., Edwards, B. D., Arnold, T., Frazier, M. L., & Finch, D. M. (2009). Work stressors, role-based performance, and the moderating influence of organizational support. *Journal of Applied Psychology*, *94*, 254-262.

Westman, M., & Eden, D. (1997). Effects of a respite from work on burnout: vacation relief and fade-out. *Journal of Applied Psychology*, *82*(4), 516-527.

Woods, W. Meditating at Work: A New Approach to Managing Overload. *Institute of Noetic Science, Feb. 2012. Web. 21 Feb. 2013.< http://noetic. org/noetic/issue-nineteen-february/meditating-at-work/>. 7 Ibid*

Zapf, D., Dormann, C., & Frese, M. (1996). Longitudinal studies in organizational stress research: a review of the literature with reference to methodological issues. *Journal of occupational health psychology*, *1*(2), 145-169.

Zhang, J., & Wu, C. (2014). The influence of dispositional mindfulness on safety behaviors: A dual process perspective. *Accident Analysis & Prevention*, *70*, 24-32.

Zoghbi-Manrique-de-Lara, P. (2012). Reconsidering the boundaries of the cyberloafing activity: the case of a university. *Behaviour & Information Technology*, *31*(5), 469-479.

ABSTRACT

THE IMPACT OF CYBERLOAFING AND MINDFULNESS ON EMPLOYEE BURNOUT AND ENGAGEMENT

by

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The current study examined two behaviors that are becoming increasing more popular: cyberloafing and mindfulness meditation through a coping lens. Cyberloafing, or personal internet usage, is a type of disengagement coping whereas mindfulness is proposed to be a type of engagement coping. Using a longitudinal data collection method, data were collected at three time points to investigate the mediational role of both cyberloafing and mindfulness on the role overload-work burnout relationship. A cross-lagged model and supplemental analyses were conducted to analyze the relationship between role overload, coping behaviors, and work burnout. The overall hypotheses were not supported by a cross-lagged model; however, supplemental analyses provided some support for the hypotheses. There was some evidence that mindfulness partially mediates the relationship between role overload and work burnout. Limitations, analysis decisions, and future directions are discussed.

Keywords: Coping, Cyberloafing, Mindfulness, Respite, Burnout

AUTOBIOGRAPHICAL STATEMENT

Sarah R. Stoddart received her Bachelor of Science in Psychology from Wayne State University in 2010. She is currently a doctoral student in Industrial/Organizational Psychology working with Dr. Alyssa McGonagle and received her Masters of Art in Psychology in 2014. Her major areas of interest are Work-Life/Health Conflict and Work/Life Balance and coping behaviors. Her research focuses mainly on workers with chronic illness and stress/coping. She currently works at Ford Motor Co. for Global Workforce Planning and Analytics focusing on the global survey strategy, special surveys, and analytics.