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**WHY DO EMPLOYEES BEHAVE BADLY? AN EXAMINATION OF THE EFFECTS OF
MOOD, PERSONALITY, AND JOB DEMANDS ON COUNTERPRODUCTIVE WORK
BEHAVIOR**

by

MALISSA A. CLARK

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2010

MAJOR: PSYCHOLOGY
(Industrial/Organizational)

Approved by:

Advisor

Date

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DEDICATION

*To my husband, Ryan
and to my kids, Alexandra and Evan*

ACKNOWLEDGMENTS

First and foremost, I would like to thank my advisor and mentor, Dr. Boris Baltes. I truly appreciate your patience, advice, and guidance throughout graduate school, and especially during these last grueling months. Without your superhuman turnaround time with drafts of my dissertation, I know I wouldn't have graduated in time. I would also like to thank the other members of my dissertation committee, Professors Christopher Berry, Ty Partridge, and Loreleigh Keashly, for their valuable input, time, and interest in this project. Thanks also to the other I/O faculty at Wayne State for making the I/O program at WSU such a great place to spend the past six years of my life. A special thanks to Dr. James LeBreton, for being such a great mentor throughout graduate school, even after you were no longer my formal advisor. I can't thank you enough for your support, encouragement, and guidance.

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CHAPTER 1: INTRODUCTION

In recent years, there has been an increasing amount of research interest in workplace aggression and other acts of counterproductive work behavior (CWB), perhaps due in part to the visibility of and media attention to dramatic acts of workplace aggression. Luckily, extreme examples of workplace violence (e.g., workplace homicides) occur much less often than milder forms of counterproductive work behavior (Glomb, 2002; Neuman & Baron, 1998). Some examples of less dramatic forms of CWB include withholding information (Connelly, Zweig, & Webster, 2006), insensitive and rude behavior (Andersson & Pearson, 1999) and emotional abuse (Keashly, 1998). Indeed, R. A. Baron and Neuman (1996) found that most acts of workplace aggression are verbal, indirect, and passive rather than physical, direct, and active. However, this does not mean that verbal, indirect, and passive forms of CWB are not harmful to the organization or its employees, especially if these acts are continued over a period of time. For example, expressions of hostility (e.g., facial expressions, gestures) can take an emotional toll on employees over the long term (Kinney, 1993; Keashly & Harvey, 2005), or relatively minor forms of CWB may eventually trigger more severe acts of aggression (Glomb, 2002).

Because of the widespread occurrence of verbal, indirect, and passive forms of CWB, the potential for long-term negative consequences for both the individual and the organization, and also the possibility that these forms of CWB could subsequently lead to more severe acts of aggression, a considerable amount of attention has been focused on what factors drive individuals to engage in various forms of CWB. Broadly, the research has divided the antecedents of CWB into two broad factors: individual and

situational. In addition, with the recent explosion of research relating to affectivity in the workplace (Barsade, Brief, & Spataro, 2003), researchers have begun to investigate how individuals' emotions and mood influence acts of CWB (e.g., Spector & Fox, 2005).

The purpose of this dissertation is to examine how various individual factors (i.e., personality traits, moods and emotions throughout the work day), as well as situational factors (i.e., job demands, work events), influence employees' likelihood of engaging in acts of CWB. This study contributes to the extant literature in several ways. First, this is one of only a handful of studies that examines the relationship between momentary moods and counterproductive work behaviors. Second, this study includes two personality variables which are rarely examined in the organizational literatures: affect intensity and dispositional happiness. Third, this study adds to the current literature on affect and emotions in the workplace in that I examine both the hedonic tone and the intensity of mood states using the circumplex model of emotions (Russell, 1980) as a guiding framework. While cross-sectional studies may be sufficient to investigate how such factors such as personality traits influence the likelihood individuals will engage in acts of CWB, this type of study design is not appropriate when one seeks to understand dynamic phenomenon such as mood/emotions throughout the work day and daily job demands. Thus, this dissertation utilizes an experience sampling methodology to better model the dynamic relationships between individuals' personalities, moods, daily job demands, work events, and CWBs. In the next section, I will define and discuss various types of CWBs, followed by a discussion of the potential antecedents of CWBs.

Counterproductive Work Behaviors

Counterproductive work behavior can broadly be defined as “any intentional behavior on the part of an organization member viewed by the organization as contrary to its legitimate interests” (Sackett & DeVore, 2002, p. 145). Researchers often differentiate between intentional and accidental behaviors, with the former being considered acts of CWB and the latter not. However, in the real world the differentiation between intentional and accidental behaviors is often not clear, and one must carefully consider the intentions and behaviors preceding an incident before classifying it as an act of CWB or not. For instance, if an employee breaks a piece of company equipment, this would be considered an accident if the employee all of the necessary safety procedures when operating the equipment, but an act of CWB if the employee intentionally disregarded safety procedures (Sackett & DeVore, 2002). Thus, whether a particular incident should be considered an act of CWB or not depends on whether it was a result of intentional behaviors on the part of an employee (e.g., ignoring company policies).

In what has been described as a “semantic jungle” of sorts (Bandura, 1973, p. 2), researchers have used a variety of terms to describe types of counterproductive workplace behaviors, including deviance (Berry, Ones, & Sackett, 2007; Robinson & Bennett, 1995), retaliation (Skarlicki & Folger, 1997), bullying (Adams & Crawford, 1992), mobbing (Leymann, 1990), incivility (Andersson & Pearson, 1999), emotional abuse (Keashly, 1998), and aggression (Neuman & Baron, 2005). Unfortunately, this proliferation of terms has led to some confusion in the literature and has at times led to fragmented and disjointed streams of research. To be clear, the present paper uses the

term counterproductive work behavior to refer to a broad construct which encompasses more specific types of negative workplace behaviors (e.g., bullying, emotional abuse, sabotage). However, when discussing prior findings or theoretical perspectives in which the original study used a different term (e.g., aggression, deviance), I will use the terms used by the specific study authors.

It should be noted that of the many terms used to describe acts of counterproductive work behavior, two other terms have been proposed as “umbrella terms,” or broad constructs which subsume more specific acts of negative workplace behavior (e.g., bullying, verbal abuse), similar to the way I am using the term counterproductive workplace behavior. These terms are *aggression and workplace deviance* (e.g., Robinson & Bennett, 1995; Sackett & DeVore, 2002). In sum, researchers have used different terms to describe the same types of behaviors, but what these broader terms (CWB, aggression, deviance) have in common is that they generally deal with the same antecedents, mediating processes, and outcome variables and rely on the same underlying theories (e.g., organizational stress and frustration) to explain causal mechanisms (Neuman & Baron, 2005).

As stated earlier, there are many different types of counterproductive work behaviors, and researchers have categorized these behaviors in several different ways. Using multidimensional scaling techniques, Robinson and Bennett (1995) organized types of employee deviance based on towards whom the deviance was directed or targeted (either directed towards the organization versus those acts that are more interpersonal in nature) and also based on the severity of the act. Their typology consisted of four main categories of behavior, which vary based on the target

(organizational versus interpersonal) and the severity of the act (minor versus serious): production deviance, property deviance, political deviance, and personal aggression. Production deviance (minor organizational deviance) includes such behaviors as leaving work early and taking excessive breaks at work. Property deviance (serious organizational deviance) includes such behaviors as sabotaging company equipment and stealing from the company. Political deviance (minor interpersonal deviance) involves behaviors such as gossiping about co-workers and showing favoritism. Personal aggression (serious interpersonal deviance) involves behaviors such as verbal abuse and endangering co-workers.

Researchers have further delineated between different types of aggression. For example, Neuman and Baron (1998) proposed a three-factor model of workplace aggression consisting of 1) expressions of hostility (e.g., giving dirty looks, spreading rumors), 2) obstructionism (e.g., failure to return phone calls or respond to memos, refusal to provide needed resources or equipment), and 3) overt aggression (e.g., physical attack/assault). Further, Buss (1961) classified aggressive behavior into three bipolar dimensions: physical vs. verbal, direct vs. indirect, and active vs. passive. Physical aggression refers to assault against someone by means of body parts (e.g., teeth) or weapons (e.g., gun), while verbal aggression includes such things as threats, criticism, or verbal abuse. With direct aggression, there is direct damage or harm to the target of aggression (e.g., an individual shoots his/her boss after being fired). On the other hand, indirect aggression requires mediating responses between the aggressor and the target (e.g., an individual can harm a coworker indirectly by starting a vicious rumor that will cycle through a chain of people before it does its damage to the target),

or there is an attack on a substitute or symbol of the victim (e.g., setting fire to a coworker's house, which does not harm the coworker but it damages the valued possessions of that coworker). Buss' final dimension is active versus passive aggression. Most aggressive responses are active, in which there is an instrumental response that delivers an attack to the victim (e.g., verbal abuse). However, some aggressive responses are passive, where a person aggresses against another without actually engaging in any overt behaviors. For example, passive aggression can involve a person preventing a coworker from achieving a certain goal by withholding information crucial to that person's job. From this discussion, it can be seen that acts of counterproductive work behavior vary in their severity and who they target. Next, I turn to a discussion of the antecedents of CWBs.

Antecedents of Counterproductive Work Behaviors

In addition to focusing on the different types of CWBs, researchers have devoted a considerable amount of time to understanding the various factors that may increase or decrease an individual's propensity to act out in a counterproductive manner (Bruk-Lee & Spector, 2006; Neuman & Baron, 2005). While different researchers have offered various typologies of the antecedents of CWBs (e.g., Anderson, 1997; Neuman & Baron, 1998; O'Leary-Kelly, Griffin, & Glew, 1996; Sackett & DeVore, 2002), these antecedents can be broadly classified as either individual or situational.

Situational Antecedents. Situational antecedents of CWBs can be further subdivided into social factors, situational/environmental factors, and organizational factors. Neuman and Baron (1998) suggest a number of social determinants of workplace aggression, including unfair treatment, frustration-inducing events, increased

workforce diversity, and norm violations. For example, if individuals feel that they are being treated unfairly by another person, this may trigger a need to retaliate against that person. Individuals can also be driven to act out aggressively in reaction to frustrating events. Research has long demonstrated that interference with goal-directed behavior is an antecedent of aggression (Dollard, Doob, Miller, Mowrer & Sears, 1939). Increased workforce diversity has also been linked with increased workplace aggression (R. A. Baron & Neuman, 1996), presumably because people are naturally drawn to others they perceive as being similar to themselves (cf. Byrne, 1971), and increased diversity in the workforce leads to increased interaction with a broad range of people, which has the potential to lead to increased misunderstandings, mistrust, and subsequent interpersonal conflict. A violation of social norms may also trigger acts of CWBs, as people may perceive injustice and be inclined to retaliate. This may be exacerbated in multinational organizations, as different cultural groups may have different norms or interpretations of norms, and this has the potential to lead to disagreements or conflict between these groups of individuals (e.g., Holt & DeVore, 2005). Finally, social psychological research on modeling suggests that watching others act aggressively affects whether individuals will acquire such aggressive behaviors themselves and whether they will actually exhibit those behaviors (Bandura, 1973). O'Leary-Kelly and colleagues (1996) suggest that hostile environment sexual harassment, a form of CWB, may be explained by modeling influences.

Some potential situational and environmental triggers of CWBs are alcohol-triggered aggression, or aggression caused by environmental factors such as excessive heat. Alcohol is often thought of as a trigger for general acts of aggression outside of

work (e.g., bar fights), but it can also sometimes trigger acts of workplace violence. R. A. Baron (2004) notes that a surprising number of people may drink at work, whether it is at a “two-martini lunch” or more covertly in the office through a thermos or other container. In addition to alcohol, basic social psychological research has linked hot temperatures, high noise levels, poor lighting and air quality, and crowding to acts of aggression (e.g., Anderson, Bushman, & Groom, 1997; Geen & McCown, 1984).

Finally, CWBs can be triggered by organizational factors. There has been much research linking perceptions of unfair treatment/injustice to acts of CWBs (e.g., Aquino, Lewis, & Bradfield, 1999; Berry, Ones, & Sackett, 2007; Cohen-Charash & Mueller, 2007), using both organizational justice theory (Greenberg, 1990) and equity theory (Adams, 1965) to describe this phenomenon. The idea behind these theories is if individuals perceive that rewards/punishments are not allocated equitably, that company decisions are not made equitably, or differences exist in how individuals are treated within the organization, they may retaliate by engaging in acts of CWBs. In addition, Spector and colleagues (Spector, 1975, 1978; Storms & Spector, 1987) have developed the frustration-aggression model in which the relationship between organizational frustrated events (situational constraints) and CWBs is mediated by affective responses (e.g., frustration, job dissatisfaction). In addition, their model proposes that personality characteristics (e.g., trait anger) are likely to impact these relationships. I will discuss these individual level factors in a later section.

Another organizational factor that has been linked with acts of CWBs and job withdrawal is job insecurity. Especially in today’s uncertain economic times, many organizations are restructuring and downsizing. As a result, employees may feel less

secure with their ability to retain their job, or they may feel guilty that their jobs were spared at the expense of their coworkers (a phenomenon which has also been referred to as survivor's guilt), which can cause these employees much anxiety and stress (Brockner et al., 1994). Indeed, research has shown that organizational downsizing, layoffs, pay cuts/freezes, and organizational change are related to increased expressions of hostility and obstructionism (R. A. Baron & Neuman, 1998). Characteristics of one's job (e.g., skill variety, task identify, task significance) may also trigger acts of CWB such as withdrawal behavior (e.g., Rentsch & Steel, 1998). One organizational factor that has not been examined much until recently is job demands. For example, Tuckey, Dollard, Hosking, and Winefield (2009) found that incidents of workplace bullying increased as job demands increased and as support and control resources decreased.

Individual Antecedents. Generally, the individual antecedents to CWBs can be classified as either stable, dispositional (i.e., personality) factors, demographic factors (e.g., sex, age), and individual characteristics that fluctuate over time and across situations (e.g., mood, attitudes). Although Robinson and Greenberg (1998) claimed that there has been relatively little support that personality variables are associated with CWBs, recent studies (e.g., Douglas & Martinko, 2001) as well as meta-analytic evidence (Hershcovis et al., 2007; Hough, 1992; Salgado, 2002) have suggested otherwise.

Much research has investigated how the Big Five personality factors (extraversion, openness, conscientiousness, agreeableness, and emotional stability) relate to CWBs. Of the Big Five personality factors, conscientiousness appears to have

the most consistent relationship with CWBs. For example, Hough (1992) found that the dependability facet of conscientiousness correlated $-.24$ with irresponsible behavior (a broad construct which includes poor attendance, CWB, disciplinary actions, not following directions, unexcused absences, and the use of drugs on the job), while the achievement facet of conscientiousness, emotional stability, and openness correlated $-.15$ to $-.19$ with irresponsible behavior. Salgado (2002) also found that conscientiousness ($r_c = .26$) and agreeableness ($r_c = .20$) predicted (a lack of) deviant behaviors. Berry and colleagues' meta-analysis (2007) found that agreeableness, conscientiousness, and emotional stability were negatively related to employee deviance.

Trait anger, or the propensity to react to situations with hostility (Spielberger, 1991), has also been linked with acts of CWB. For example, Douglas and Martinko (2001) found that individuals high in trait anger were more likely to engage in workplace aggression than those low in trait anger. In addition, they found that the lower an individual's level of self-control, the stronger the relationship between trait anger and workplace aggression. Recent meta-analytic evidence also suggests that trait anger is related to both interpersonal aggression ($r = .37$) and organizational aggression ($r = .28$; Hershcovis et al., 2007).

Trait negative affectivity has shown relatively consistent relationships with CWB. In their meta-analysis, Hershcovis and colleagues (2007) found that trait negative affectivity was related to interpersonal aggression ($r = .22$) and organizational aggression ($r = .24$); however, when tested in a path model which included a range of individual (e.g., trait anger) and situational (e.g., distributive and procedural justice)

predictors, trait negative affectivity was no longer related to either form of aggression. Aquino and colleagues (1999) also found that trait negative affectivity was a significant predictor of both interpersonal and organizational deviance.

Demographic factors have been linked with CWBs. For example, several studies have suggested that males tend to be more aggressive than women (e.g., McFarlin, Fals-Stewart, Major, & Justice, 2001; Geen, 1990) as well as recent meta-analytic evidence (e.g., Berry et al., 2007; Hershcovis et al., 2007); however, there are some exceptions to these findings (e.g., Keashly & Jagatic, 2003; Namie & Namie, 2000). Age also has been found to negatively correlate with interpersonal and organizational deviance (Berry et al., 2007).

An individual's transient mood state or their felt emotions has also been linked to CWBs. For example, Fox and colleagues (Fox & Spector, 1999; Fox, Spector, & Miles, 2001) found that negative emotions mediate the relationship between an employee's experience of situational constraints and acts of CWB. Additionally, Judge, Scott, and Ilies (2006) found that within-individuals, state hostility was positively related to workplace deviance.

Therefore, researchers have linked a variety of different antecedents (both situational and individual) to CWBs. The present study examines several of these antecedents in relation to CWBs. However, before proceeding to a discussion of the broad conceptual model relating these antecedents to CWBs, it is important to first address another area that has led to confusion in the literature; the difference between affect, moods, and emotions. As the relationship between various momentary mood states and CWBs is a major focus of the present study, it is important to first distinguish

between these concepts in order to clarify the precise relationships of interest in the present study.

Affect, Mood, and Emotions

“In the past, the workplace was promoted naively as an emotion-free environment with decisions being made on an unemotional rational basis only. The denial of emotional factors in the workplace is not realistic” (Stanley & Burrows, 2001, p. 10).

There continues to be an increasing amount of attention focused on affectivity and emotions in the workplace (e.g., Ashkanasy, Härtel, & Zerbe, 2000; Barsade et al., 2003; Weiss & Cropanzano, 1996). Researchers have investigated trait, or dispositional, affect (e.g., Staw, Bell, & Clausen, 1986), state affect (e.g., Weiss & Cropanzano, 1996), mood (e.g., George & Brief, 1992), and discrete emotions such as anger or joy (e.g., Lee & Allen, 2002). The effects of mood and emotions in the workplace are widespread, as researchers have argued that many aspects of worker behavior are affected by employee emotions (Weiss & Cropanzano, 1996).

Although I am focusing on the effects of mood on CWBs in this paper, one cannot discuss how moods affect behaviors without a discussion of emotions, and vice versa. Thus, I will begin by distinguishing between several emotionally-laden constructs, followed by a discussion of various ways in which researchers have categorized or arranged these emotions into a comprehensive framework for thinking about moods and emotions and their effect on behavior. Key issues surrounding the conceptualization of positive and negative affect will be discussed, as well as relevant theories relating mood states and behavior.

Differentiating between Trait Affect, Moods and Emotions. General affectivity has been divided into both state and trait affect. Trait affect, or affective dispositions, are individual differences in affective experience, which are stable over time and across situations (Watson, 2000; Weiss & Cropanzano, 1996). Trait affect is similar in many ways to temperament, in that both provide a baseline for individuals, where people's mood generally varies around his/her baseline (Watson, 2000). State affect, on the other hand, relates to how a person feels at a particular point in time. Affective states can be further divided into moods and emotions.

While both are affective states, moods and emotions are often confused despite the fact that there are some important distinctions between these two concepts (Forgas, 1992; Watson, 2000; Weiss, 2002; Weiss & Cropanzano, 1996). The first distinction between moods and emotions is the duration of these states. Moods generally last for a longer duration than emotions and are less intense, whereas emotions are generally more intense and last for a short period of time. Second, emotions tend to be more intense than moods. The third distinction concerns their diffuseness. Emotions are activated by certain eliciting stimuli, thus they are related to a specific event, object, or target. Moods, on the other hand, lack such a defining event or object. Moods can be influenced by various internal processes (e.g., circadian rhythms), or they may be the after-effect of emotional reactions to some event. Finally, moods are broader and more inclusive than emotions, in that moods can include milder versions of emotions.

While these distinctions between emotions and moods are for the most part widely agreed upon, researchers do admit that in reality, the distinction between moods and emotions is often not as clear as it appears on paper. For instance, Cropanzano,

Weiss, Hale, and Reb (2003) point out that sometimes emotions can last quite a long time if people keep their emotional states active by rumination. Additionally, Weiss (2002) argues that some moods can be rather intense, and some discrete emotions can be rather mild. Because of these exceptions, Weiss, Cropanzano, and colleagues (Cropanzano et al., 2003; Weiss, 2002) argue that the duration and intensity distinctions are not particularly useful, and that the critical difference between moods and emotions is the diffuseness.

Why do we have Emotions? There are a variety of different approaches to the study of emotions. These approaches range from emphasizing the evolutionary explanations for why we experience various emotions, to focusing on how we cognitively process emotions, and even how we express emotions (e.g., through various distinct facial patterns). In this section, I outline several of the main approaches.

Taking a physiological approach to the study of emotions, Tomkins (1970) proposed that emotions are patterned responses to various stimuli and expressed through a wide variety of bodily reactions, but mostly through facial responses. He proposed that motives (e.g., hunger, sex) are amplified by emotions, which drives behavior intended to satisfy that need. For example, oxygen deprivation when one is suffocating creates a need for oxygen, but also a sense of panic is created by fear. He also stated that basic affect is actually part of a broader affect family. For example, the basic emotion of interest is part of the affect family that includes curiosity, enthusiasm, and attraction. Tomkins' work on the expressive patterns (particularly facial expressions) associated with various emotions influenced the work of Izard and Ekman,

who later examined the universality of the facial expressions of basic affects (e.g., Ekman, 1994; Izard, 1992).

Evolutionary theories of emotion emphasize that emotions are forms of communication signals that have adaptive or survival value. Thus, emotions have evolved because they help people to adapt to or cope with fundamental life tasks, such as losses, frustrations, or achievements (Ekman, 1994; Johnson-Laird & Oatley, 1992). According to Robert Plutchik's Psychoevolutionary Theory of Emotions (1980), one of the main purposes of emotions is to provide feedback to individuals in an attempt to restore homeostatic balance when certain significant life events create disequilibria (Plutchik, 2003). Most individuals try to maintain a certain level of affective equilibrium in everyday life, but when events disrupt this equilibrium, emotions provide us feedback about our own reactions to those events, which may in turn influence certain feeling states, thoughts, and impulses to action in an attempt to reestablish the preexisting state of equilibrium (Greenberg & Paivio, 1997; Karasu, 1992; Plutchik, 2003).

Other researchers have focused on the cognitive processes underlying emotions, with the focus being on how individuals interpret a stimulus. Specifically, whether a person experiences one emotion over another is a function of the way he/she interprets an emotion-triggering event (Weiss, 2002). Many researchers in this area have distinguished between primary and secondary appraisal (e.g., Smith & Lazarus, 1993). Primary appraisal involves a focus on whether the situation is relevant to personal well-being and whether it is good or bad, while secondary appraisal involves an interpretive "meaning analysis" in which various factors (e.g., coping potential, certainty of outcome) are evaluated and discrete emotional responses are elicited

(Smith & Pope, 1992; Weiss, 2002; Weiss & Cropanzano, 1996). In addition to studying these attributional processes and their effects on emotions, the cognitive tradition has also focused on the cognitive consequences of emotional experiences (e.g., judgment biases). Research in this area has highlighted the influence of affective states on 1) the content of thinking, memory, and judgments, 2) how people think about social information, 3) people's social motives and intentions, and 4) social behaviors (Forgas, 2001). Additionally, there has been some work on individual differences in affectivity and how this influences people's response to and interpretations of various situations (Ciarrochi & Forgas, 1999).

The Structure of Moods and Emotions

There has been some disagreement among emotion scholars regarding whether or not there is a set of "basic" emotions. Some argue that there are only a core set of basic emotions, while others focus on understanding the basic underlying dimensions behind affective experiences (Larsen, Diener, & Lucas, 2002; Weiss, 2002). Those taking the basic approach to emotions argue that there are a core set of primary emotions and all other emotions are secondary mixtures or blends of those core emotions. Those taking the dimensional approach are more concerned with the underlying dimensions that capture the relationship between various affective states. As Weiss (2002) points out, many advocates of the basic emotions position come from an evolutionary psychology background, while critics generally come from a cognitive appraisal tradition. I will discuss each of these two camps in greater detail below.

Basic Emotions. As stated above, much research has been devoted to the search for basic emotions. There has been considerable debate amongst emotion

researchers regarding whether or not there are basic emotions, and if so, which emotions should be considered basic. One of the reasons behind the disagreement as to which emotions should be considered basic is that different researchers use different criteria to establish whether a particular emotion is basic. For example, Izard (1992) stated that in order for an emotion to be defined as basic, an emotion must have 1) a distinct, innate neural substrate, 2) a unique and universally recognizable facial expression, and 3) a specific subjective feeling state. On the other hand, Paul Ekman (1992) proposed nine characteristics that distinguish basic emotions from other affective phenomena: automatic appraisal, commonalities in antecedent events, presence in other primates, quick onset, brief duration, unbidden occurrence, coherence among emotional response distinctive universal signals, and distinctive physiology. These differences in what criteria are used to classify emotions as basic or not has subsequently led to differences in the number of emotions each of these researchers ultimately classifies as basic or not. For example, Izard and colleagues (Izard, 1977, 1984) have argued that there are ten basic innate emotions: Interest-excitement, enjoyment-joy, startle-surprise, distress-anguish, rage-anger, disgust-revulsion, contempt-scorn, fear-terror, shame-shyness-humiliation, and guilt-remorse. Ekman (1992, 1994), on the other hand, has proposed anywhere between nine (anger, fear, disgust, sadness, interest, contempt, surprise, guilt, and shame) and seventeen basic emotions. Despite these differences in the exact number of basic emotions, most basic emotion researchers do agree that there are at least five basic emotions: happiness, fear, sadness, anger, and disgust (Ekman, 1992; Johnson-Laird & Oatley, 1989). It should be noted, however, that other researchers have challenged the idea of

basic emotions altogether. For example, Ortony and Turner (1990) argue that there is a lack of evidence to establish even these five supposedly agreed-upon emotions as more fundamental than others. They additionally argue that some emotions previously classified as basic by some researchers should not really be considered emotions at all (e.g., surprise). Other critiques regarding the usefulness and validity of proposing basic emotions are presented by Averill (1994), Scherer (1994), and Shweder (1994). It should be evident from this discussion that there still is debate regarding the existence of basic emotions and the specific emotions that should be classified as such. A separate camp of researchers has focused on a very different, but just as heated, debate regarding emotions: what the dimensional structure of moods and emotions should be.

Dimensional Structures. Many researchers have attempted to identify the underlying dimensional structure that best summarizes the relationship between affective terms. This area of research arguably has led to one of the most contentious debates of all areas of emotion research (e.g., Russell & Carroll, 1999a; Russell & Carroll, 1999b; Watson & Tellegen, 1999). When analyzing the structure of self-reported mood data, many researchers have argued that the best model to represent various affect terms is the circumplex model of moods and emotions, advanced by Russell (1980). In this structure, as illustrated in Figure 1, affect terms that are similar in meaning to one another (e.g., happy, cheerful) are arranged close to one another along the circumference of a circle, while affect terms that are different in meaning (e.g., fearful, calm) are placed at a distance from one another. The location of the various affect terms can be arranged based on their level of pleasantness-unpleasantness (also

known as *hedonic tone*) and their level of activation (*also termed intensity or valence*). The two dimensions of hedonic tone and activation are both bipolar, with the hedonic tone dimension anchored by pleasant feelings (e.g., happy) on one end and unpleasant feelings (e.g., sad) on the other end, and activation anchored by activated feelings (e.g., active) and deactivated feelings (e.g., passive).

On the other side of the debate, other researchers have proposed that affect can be best modeled by two independent dimensions- positive affect and negative affect (Bradburn, 1969, Thayer, 1967; Watson & Tellegen, 1985). Although this group of researchers originally proposed a variant to Russell's (1980) circumplex model in which positive and negative affect serve as the two main factors, as opposed to hedonic tone and activation (Watson & Tellegen, 1985), more recently they have argued that the evidence indicates that in general, a circumplex model does not fit the data closely and needs to be refined. Instead, they propose that a hierarchical model best represents the structure of moods and emotions (Watson & Tellegen, 1999). Watson and Clark (1992) initially proposed a two-level hierarchical model in which mood is a higher order factor made up of lower level discrete emotions. In this conceptualization, an individual may be experiencing discrete emotions such as anger and hostility, which are also a part of a higher-order negative affectivity (mood) factor. In a later paper, Tellegen, Watson, and Clark (1999) expanded this to a three-level hierarchical model which included a general bipolar Happiness-Unhappiness dimension, relatively independent positive and negative affect dimensions at level two, and discrete emotions at level three. Despite some initial evidence in support of this model (Diener, Smith, & Fujita, 1995; Tellegen et

al., 1999), much more research is needed to fully determine the validity of this hierarchical model (Cropanzano et al., 2003).

Today, many researchers have agreed that the circumplex model represents the structure of mood very well, and indeed, the circumplex model of affect has been among the most widely studied conceptualization of affect. Despite the promise of the circumplex model, in the organizational literature there has been a dearth of research using this model to understand organizational behavior. Instead, most of the research in the organizational literature focuses on how positive and negative affect (as defined by Watson, Tellegen, Clark, and colleagues; see Watson & Tellegen, 1985) influence organizational behavior. While this research is an important first step in understanding how moods and emotions affect organizational behavior, researchers may be excluding potentially important variables from their investigations if they are structuring their hypotheses and research designs around a potentially limited viewpoint of the structure of affect (Cropanzano et al., 2003).

What ARE Positive and Negative Affect?

While there has indeed been an “affective revolution” in the organizational literatures (Barsade et al., 2003), most of the research examining the effects of mood on organizational behavior has used the framework of positive affect and negative affect defined by Watson, Clark, and Tellegen, (e.g., Watson & Tellegen, 1985). Because of this framework, by far the most commonly used measure of positive and negative affect is the Positive and Negative Affect Schedule, or PANAS, which was created by this same set of researchers. However, the dimensions of positive and negative affect, as defined by this group of researchers and as measured by the

PANAS, differ from what many other researchers have designated as positive and negative affect (Larsen & Diener, 1992). Russell and Carroll (1999a) point out that many other researchers have discussed positive and negative affect as a person's general level of pleasantness or unpleasantness, whereas Watson, Clark, and Tellegen discuss positive and negative affect in very specific terms. To illustrate this, I provide an example. General affective states of pleasantness/unpleasantness can be further broken down by their level of activation. For example, elated and satisfied are both aspects of a person's general level of pleasantness (or, positive affect), but they imply different levels of activation, as being elated is a more activated state than simply being satisfied. Watson, Clark, and Tellegen define positive and negative affect in a very specific way (e.g., Watson & Tellegen, 1985), where their definitions of positive and negative affect refer only to states that are *both* pleasant/unpleasant and activated (i.e., positive affect is defined as an activated pleasant state, negative affect is defined as an activated unpleasant state). This conceptual definition is reflected in their operational definition as evident by the items comprising their instrument- the PANAS (Watson, Clark, & Tellegen, 1988). The PANAS only includes terms which assess the *activated* pleasant (e.g., peppy, excited, enthusiastic) and *activated* negative (e.g., afraid, jittery, hostile) states (see Figure 2). Perhaps most surprising is that the terms happy, pleased, and satisfied are *not* basic to the dimension of positive affect as defined and measured by Watson, Clark, and Tellegen, despite the fact that many researchers (e.g., Ortony, Clore, & Collins, 1988) and subjects (Shaver, Schwartz, Kirson, & O'Connor, 1987) consider happiness to be a core component of positive affect (Larsen & Diener, 1992).

In an effort to clear up the semantic confusion surrounding positive and negative affect, researchers have proposed that the terms positive and negative affect should refer to the general pleasantness-unpleasantness dimension of affect, and that positive and negative affect as conceptualized and measured by Watson, Clark, and Tellegen should instead be referred to as *activated unpleasant affect* and *activated pleasant affect* (Larsen & Diener, 1992) or as *unpleasant activated affect* and *pleasant and activated affect* (Feldman Barrett & Russell, 1998). Although Watson and Tellegen initially defended their use of the terms positive and negative affect (e.g., Tellegen, 1985; Watson & Tellegen, 1985), they later decided to change their labels of positive and negative affect to *positive activation* and *negative activation* to better reflect their very specific definition of affect (Watson & Tellegen, 1999). (It should be noted, however, that this new terminology has not caught on, especially in the organizational literatures, which leads to continued confusion in the field of industrial/organizational psychology regarding the conceptualization and measurement of positive and negative affect). In the present paper, and in line with this new clarification in terminologies, when I refer to positive and negative affect (PA and NA) I am referring to pleasant and unpleasant affect as represented in Figure 1.

Although some organizational researchers (e.g., Weiss & Cropanzano, 1996) have suggested that the hedonic tone/activation structure has greater usefulness than the positive activation/negative activation structure when assessing mood as a state, this suggestion has rarely been implemented. In the organizational literatures, it is unclear whether all researchers who use the PANAS to measure state affect are fully aware of the very specific conceptual definitions of positive and negative affect that

underlie this measure. Like Feldman Barrett and Russell (1998) stated, I also would suspect that many researchers using the PANAS have mistakenly assumed that PANAS-PA is also equivalent to positive affect in general and that PANAS-NA is equivalent to NA in general. Therefore, while prior studies from the organizational literature have investigated the relationship between various factors and mood, rarely have these studies measured the hedonic tone of mood (the pleasantness/unpleasantness dimension) without also simultaneously also measuring the activation/intensity of mood.

It should also be pointed out that another way to examine mood using the circumplex model is to examine the mood types that represent varied levels of hedonic tone/pleasantness and activation/intensity. As shown in Figure 3, this essentially creates four mood “types”: 1) activated unpleasant moods (e.g., distress, anxious), 2) activated pleasant moods (e.g., excited, euphoric), 3) unactivated unpleasant moods (e.g., dull, bored), and 4) unactivated pleasant moods (e.g., calm, relaxed). Burke, Brief, George, Roberson, and Webster (1989) compared a traditional bipolar 2-factor model of mood (i.e., positive and negative affect) to this type of 4-factor model of mood. Results revealed that the 4-factor model of mood fit the data better than the 2-factor model across three samples. Note that two of these mood types (activated pleasant and activated unpleasant) map on to positive and negative affect (i.e., positive and negative activation) as defined by Watson, Tellegen, and colleagues (Tellegen et al., 1999; Watson & Tellegen, 1985). Although Burke and colleagues (1989) concluded that future research examining relationships with these four mood types would be “enlightening”, to date there has been virtually no research specifically examining how

the other two types of mood states (unactivated unpleasant moods and unactivated pleasant moods) may relate to cognitions and behavior- almost all of the research has focused solely on the two activated mood states as assessed by the PANAS (Watson et al., 1988). Consequently, in the present study in addition to separately investigating the relationship between various factors and 1) the hedonic tone of an individual's mood state, and 2) the activation/intensity level of an individual's mood state, I also investigate these relationships using several mood "types" representing varying levels of hedonic tone and activation/intensity.

Now that I have provided an overview of both CWBs and moods/emotions, I turn to the broad theories of affect and motivation which influenced my model of personality, moods, and job demands and their collective impact on CWBs. These two broad theories are Affective Infusion Model (AIM; Forgas, 1995) and Affective Events Theory (AET; Weiss & Cropanzano, 1996). Forgas' Affective Infusion Model is a general theory that illustrates how affect impacts behavior in general by influencing *what* and *how* people think, and Weiss and Cropanzano's Affective Events Theory outlines the structure, causes, and consequences of affective experiences in the workplace.

Relevant Theories of Affect

Affective Infusion Model (AIM). The Affective Infusion Model (AIM) asserts that affect impacts organizational behavior through influencing both what people think and how people think (Forgas & George, 2001). Affect influences behavior through its influence on people's thoughts and judgments in a situation. For instance, if a person is in a bad mood, that mood will prime certain negative affect-related thoughts. These thoughts will color an individual's judgment and affect the kind of information processing

strategies he/she engages in. Because people will choose different information processing strategies and have different judgments depending on their affect, people's behavior will be affected in systematically different ways depending on whether they have negative or positive affect-related thoughts at that particular time. This process is called affect infusion (Forgas & George, 2001). According to the AIM, affect infusion only occurs in tasks where elaborate processing takes place, such as in complex tasks. In tasks that can be solved relatively easily and require little processing, affect infusion is not likely to occur.

A unique contribution that AIM offers to the field of emotions research is the recognition that affect and cognition do not always operate in separate spheres. Rather, AIM points out that affect and cognition are often quite related to one another; essentially it is through cognition that affect influences judgments and behaviors (Forgas & George, 2001). As stated above, affect impacts behavior through influencing what people think (the content of thinking) and how people think (the process of thinking). Research has shown that mood can influence how people approach a certain task, with people in positive moods tending to use a top-down, generative processing style and those in negative moods tending to use a bottom-up, systematic processing style (Bless, 2000; Fiedler, 2000). Perhaps more central to this review is the fact that affect also influences the content of thinking; specifically, what kind of information people pay attention to and how they may interpret an ambiguous situation (Bower & Forgas, 2001; Forgas & George, 2001). An implication of this theory to the area of counterproductive work behaviors is that if a person in a negative mood perceives a

neutral but ambiguous event as hostile or intentionally spiteful, they are more likely to make judgments that they need to retaliate against this offense.

Affective Events Theory. Affective Events Theory (AET), developed by Weiss and Cropanzano (1996), is an overarching model of the structure, causes and consequences of affective experiences at work. Essentially, affective work events lead to affective reactions, which in turn drive a person's behaviors. If a person judges an event to be particularly important or significant, he/she will likely experience more severe emotions as a result. If an event is relatively minor or unimportant, then he/she will experience either mild pleasant or unpleasant moods as a result. Because individuals often experience daily hassles and stressors throughout their day, these stressors are likely relatively minor and will more often than not result in mildly pleasant or unpleasant moods, rather than extremely strong emotional reactions.

If an individual has an affective reaction to a work event, the consequences are both attitudinal and behavioral. An example of an attitudinal type of affective outcome is the degree of job satisfaction one reports. Behavioral outcomes can further be divided into judgment driven behaviors and affect driven behaviors. Judgment driven behaviors are premeditated, often determined by how satisfied one is with the job or the situation. Affect driven behaviors, on the other hand, are more impulsive or spontaneous, influenced by coping or mood or by the direct effects of affect on cognitive processing or judgment biases (Weiss & Cropanzano, 1996).

When an event occurs, a person first makes an appraisal of the event (e.g., is it positive or negative, how significant is the event?). Based on this appraisal, a person feels certain emotions (e.g., anger, happiness) or mood. In cases where events trigger

an emotional reaction, this tends to lead to affect driven behaviors (e.g., spontaneous aggression). Affect driven behaviors are contrasted with judgment driven behaviors, which involve attitudes, thoughts and conscious planning. Because the present study is investigating how moods affect behaviors throughout the work day, it is likely that any CWBs that are affected by these momentary fluctuations in mood would fall under the category of affect driven behaviors as opposed to judgment driven behaviors.

Another component of Weiss and Cropanzano's (1996) AET relevant to the present investigation is that affective or emotional reactions can also be influenced by a person's disposition. For example, the authors propose that trait positive affect (positive activation) and trait negative affectivity (negative activation) both may influence the likelihood that a person will experience an emotional reaction to an event, as well as how intense that reaction is. Trait PA and NA reflect a general emotional tendency; people high in trait PA tend to be in a positive mood, are more lively and more sociable. People high in trait NA tend to be in a negative mood, are more distressed and unhappy (Weiss & Cropanzano, 1996). In AET, trait PA and NA are thought to moderate the relationship between affective work events and affective reactions such that people high in these traits tend to react more strongly to events when they occur, leading to stronger emotional reactions (Weiss & Cropanzano, 1996).

In the next section, I outline a model of how job demands, mood state, work events, and personality impact CWBs, followed by a discussion of the specific methodology used to test these hypotheses.

CHAPTER 2: PROPOSED MODEL

Individuals are bound to experience many different job stressors in a typical work day. These stressors are likely to engender emotional reactions, which can trigger certain negative workplace behaviors depending on the valence and the intensity of emotions. In addition, personality traits can impact how individuals perceive various stimuli and also their reactions to them. In this next section, I draw from several prominent theories of affect and emotions to propose a conceptual model which links job demands, personality, mood, work events, and CWBs (see Figure 4). However, since some of the linkages between study variables differ for the hedonic tone versus activation components of mood, I discuss these relationships separately. In addition, separate models outlining the specific relationships proposed for hedonic tone and activation are provided in Figure 5.

Job Demands, Hedonic Tone, and Activation

As stated earlier, Affective Events Theory specifies that various work events can engender affective reactions, and these events can range from major events (e.g., a termination) to relatively minor events, such as daily hassles. In general, daily job demands, such as one's workload for that particular day, are considered relatively minor events for most individuals. These minor events should, according to AET, engender rather mild negative affective states, or what most refer to as a "bad mood." Indeed, Geurts, Kompier, Roxburgh, and Houtman (2003) found a positive relationship between overall workload and what they call "work-related negative affect." However, this research only tells half the story, as one's workload often fluctuates over the course of the typical workweek, with some days having a heavier workload than others. These

fluctuations are likely to cause variations in one's mood throughout the workweek; therefore, researchers have since begun to investigate how daily job stressors influence one's momentary mood state. For example, in a study of full-time university employees who completed three daily surveys for a period of two weeks, Ilies and colleagues (2007) found that employees' perceptions of their daily workload were associated with state negative activation at work and at home. Similarly, Zohar (1999) found that daily work hassles were positively related to negative activation at the end of the work day, and in a diary study that lasted over a period of 26 weeks, Totterdell et al. (2006) found that work demands were related to psychological strain.

In line with many organizational researchers, Ilies and colleagues' (2007) and Zohar's (1999) assessed state negative affect (i.e., negative activation) with the PANAS (Watson, Clark, & Tellegen, 1988), which as stated previously only assesses activated mood states. Using a different scale, Williams and Alliger (1994) found that momentary task demands were positively associated with distress (i.e., negative activation) and not significantly related to elation (i.e., positive activation). From these studies, it is unclear how job demands affect the separate components of hedonic tone and activation. Social psychological research, however, has specifically examined the relationship between general daily stressors and hedonic tone (Bolger et al., 1989; Marco & Suls, 1993). This research has found a negative relationship between the two, in that higher general daily stressors related to lower hedonic tone (i.e., more negative mood states). Since there is no reason to think individuals would react in substantively different ways to job stressors as opposed to general stressors, I hypothesize that daily job demands will also be negatively related to hedonic tone.

Hypothesis 1: Daily job demands will be negatively related to daily hedonic tone.

No studies could be located that specifically examined the relationship between daily job demands and the activation component of mood. However, prior studies using the PANAS have shown relationships between job stressors and relatively intense negative emotions (e.g., anxiety, anger). Similarly, job-related anxiety is a component of psychological strain as assessed by Totterdell et al (2006), who also found a positive relationship between job stressors and job-related anxiety. Therefore, it is likely that individuals will feel more intense emotions as a result of their daily demands. Therefore, I propose the following hypothesis:

Hypothesis 2: Daily job demands will be positively related to daily mood activation.

Mood, Negative Workplace Events, and Counterproductive Work Behaviors

Social psychological research has a long tradition of investigating the relationship between affect, mood, and helping behavior, and there has been much support for the relationship between positive mood and helping behavior (Isen & Baron, 1991). Specific to the workplace, Ilies, Scott, and Judge (2006) have found that daily positive affect (i.e., positive activation) was positively related to daily organizational citizenship behavior. Investigating the relationship between mood and subjective performance, Totterdell (1999, 2000), found that general positive mood (which was a combination of hedonic tone, energetic arousal, and reverse-scored tense arousal) was related to professional cricket players' perceptions of their performance, with those in a positive mood reporting better performance in their last match than those in worse moods.

The relationship between mood and negative behaviors such as aggression and counterproductive work behaviors has been studied much less often than the relationship between mood and organizational citizenship behaviors. The link between hedonic tone and CWBs may be explained by expressive motivation, which is “a need to vent, release, or express one’s feelings of outrage, anger, or frustration” (Robinson & Bennett, 1997, p. 18). Evidence for the link between negative affect and aggression has been found both in social psychological and organizational research. For example, in Berkowitz’s (1998) review, he concluded that negative affect brought about from stressful conditions (e.g., heat, pain, insults) led to subsequent acts of aggression. Outside of the laboratory, organizational researchers have also found similar links between affect and deviant behaviors. Using a sample of registered nurses, Lee and Allen (2002) found that the discrete negative emotions of fear, hostility, sadness, and guilt predicted deviant behaviors above and beyond trait negative affect. However, this study utilized a between-subjects design; thus, within-person changes in the relationship between mood and deviant behavior could not be assessed. A recent study by Judge, Scott, and Ilies (2006) provides one of the first studies to examine the within-individual relationship between affect and workplace deviance. Using an experience sampling methodology on a sample of university employees, Judge and colleagues found that state hostility was positively related to daily workplace deviance. Taken together, these studies all suggest that individuals with lower hedonic tone (i.e., more negative mood states) are more likely to engage in acts of CWB. Hence, I propose that there will be a direct negative relationship between hedonic tone and CWBs, such that the happier individuals are, the less likely they will engage in CWBs.

Hypothesis 3: Daily hedonic tone will be negatively related to daily CWBs.

Additionally, Teuchmann, Totterdell, and Parker (1999) found support that general negative affect (a combination of tense arousal, and reverse-scored energetic arousal and hedonic tone items) mediated the relationship between work demands and outcomes, using an experience sampling methodology. Specifically, time pressure and perceived control were associated with overall negative mood, which in turn was related to increased emotional exhaustion (a component of burnout). Similarly, I propose:

Hypothesis 4: Daily hedonic tone will mediate the relationship between daily job demands and CWBs.

In addition to a direct relationship between hedonic tone and CWBs, I also propose that hedonic tone will influence CWBs indirectly by affecting how people perceive and react to workplace events. Specifically, being in a positive versus negative mood state may influence one's perceptions of events that occur during the work day, such that if an individual is already in a negative mood and a workplace event occurs, individuals in a negative mood may interpret an ambiguous event more negatively than someone who is not in a negative mood. For example, if a customer calls and expresses disappointment about a recent experience with the organization, individuals who are already in a negative mood prior to the phone call may be more likely to interpret the customer's disappointment as anger than someone who is in a positive mood prior to the call. Because this negative mood may color people's interpretation of the situation in a negative manner, they may be more inclined to make judgments about the customer that are more likely to result in retaliatory behavior or other acts of CWB (for example, they may hang up on the customer). Indeed, Miner et al. (2005) found

that prior mood affected how individuals reacted to work events, with those who arrived to work in more positive moods reacting less negatively to negative coworker events that day. Overall, based on the principles behind the AIM, and the prior research on affect and workplace deviance (e.g., Judge, Scott, & Ilies, 2006), I propose that hedonic tone is negatively related to perceptions of negative work events (i.e., individuals in less pleasant mood states will perceive more negative work events).

Hypothesis 5: Daily hedonic tone will be negatively related to the number of daily self-reported negative workplace events.

Finally, Affective Events Theory states that when events trigger emotional reactions, which in turn leads to affect driven behaviors (e.g., aggression). As indicated in Figure 4, I expect that the linking mechanism between negative workplace events and CWBs is the emotional reaction to those events. Fox and colleagues (Fox & Spector, 1999; Fox, Spector, & Miles, 2001) proposed and found that negative emotions mediate the relationship between an employee's experience of situational constraints and acts of CWB. Using a between-subjects design, they found that the relationship between situational constraints (e.g., stressors) and CWBs was mediated by individuals' frustration. Similarly, I hypothesize that negative work events will be positively related to acts of CWBs because the negative emotional reactions people experience as a result of work events will subsequently trigger negative affect-driven behaviors.¹

Hypothesis 6: Self-reported daily negative workplace events will relate positively to more daily CWBs.

To date, I am not aware of any research investigating the relationship between state intensity and daily CWBs. To guide theorizing regarding this relationship, I draw on Excitation Transfer Theory (Zillmann, 1979; Zillmann & Bryant, 1974). Zillmann developed this theory to explain the effects of arousal on interpersonal aggression, and it is based on the two-factor theory of emotion (Schachter, 1964; Schachter & Singer, 1962). The two-factor theory of emotion states that emotion has two components- physiological arousal and cognition, and that if an individual is aroused and there are not any strong cues to signal why that arousal is occurring, individuals will cognitively interpret their arousal and attribute that arousal to various emotional states based on the cognitions that are available to them at the time (Schachter & Singer, 1962). Zillmann extended this theory to include the effects of individual differences. His theory asserts that an excitatory response tends to decay slowly, often well after the trigger or cause of that stimulation has left, and that individuals for the most part do not distinguish between arousal that is caused by some present stimulation and arousal that was felt prior to that stimulation. With respect to aggression, what this means is individuals' feelings of anger towards someone may be intensified by excitation stemming from prior (unrelated) sources, which can lead to an aggressive response.

According to Zillmann's (1979) Excitation Transfer Theory, if an individual is already feeling aroused (even from an unrelated prior event), if provoked, that individual may interpret his/her emotional arousal to anger. For example, in a series of studies investigating aggressive behavior following exercise, Zillmann and colleagues first assigned participants to either an 1) exercise or 2) no exercise condition, then after a brief delay they were provoked by an opponent with the goal of inducing anger

(Zillmann & Bryant, 1974; Zillmann, Johnson, & Day, 1974; Zillmann, Katcher, & Milavsky, 1972). Those participants in the exercise condition exhibited more aggressiveness against their provoker than those in the control condition. Zillmann and colleagues explained these findings with the idea that those individuals who had exercised were experiencing residual excitation from the exercise at the time of the provocation, which intensified their feelings of anger towards the provoker and consequently their aggressive behavior. Applied to the workplace, if two individuals are in the same situation, individuals in an aroused mood would be more likely to attribute their emotional reactions to various events throughout the work day to negative feelings (e.g., anger). Since the intensity component of mood has no hedonic direction, there is no logical reason to assume that simply being aroused will have a direct relationship with negative workplace behavior. Rather, it is more likely that mood activation will have an indirect relationship with CWBs, through its influence on the interpretation of workplace events. Thus, being in an intense mood state may result in a greater likelihood of attributing negative emotional reactions to work events, and the relationship between activated mood states and CWBs will be mediated through the perceptions of negative work events.

Hypothesis 7: Daily mood activation will be positively related to the number of self-reported daily negative workplace events.

Hypothesis 8: Self-reported daily negative work events will mediate the relationship between daily mood activation and CWBs.

Now that I have discussed the within-person aspects of my model, I turn to a discussion of how between-subjects factors (i.e., personality traits) may impact how people react to work events and how they experience mood states at work.

Personality

Consistent with Affective Events Theory, I propose that personality both directly impacts some of the variables in my model as well as moderates the relationship between core study variables. As stated in AET, a person's disposition may influence the intensity of one's affective or emotional reactions to events, and even the likelihood that he/she will react to a certain event. The present paper will examine dispositional happiness and affect intensity. These specific personality traits were chosen not only because each has an affective component, but also because each is likely to influence the separate components of mood of interest in the present study. As will be discussed, affect intensity should be related to the intensity component of individuals' mood state, while dispositional happiness should be related to the hedonic component of individuals' mood state.

Affect Intensity. The dispositional variable of affect intensity refers to the typical strength with which individuals generally experience emotions throughout their everyday lives. Individuals high in affect intensity tend to experience emotions strongly and to be emotionally reactive and variable, while those low in affect intensity tend to experience emotions rather mildly and with only minor fluctuations (Larsen & Diener, 1987; Weiss et al., 1999). Affect intensity is not inherently related to the experience of positive or negative emotions; rather, affect intensity generalizes across hedonic tone. Therefore, individuals high in affect intensity not only tend to experience their positive emotions

more strongly, but they also tend to experience their negative emotions more strongly (Larsen & Diener, 1987). Affect intensity can also be distinguished from emotional variability in that affect intensity refers to the typical strength of affect, regardless of the frequency with which one experiences these states, while emotional variability refers to both the frequency and intensity of affect (Larsen, 1987). In a study examining the relationship between trait affective intensity and mood, Weiss and colleagues (1999) found that individual differences in affect intensity predicted the average levels of mood activation. Similarly, I propose the following:

Hypothesis 9: Individuals high in dispositional affect intensity will report higher daily mood activation than individuals low in dispositional affect intensity.

The research is mixed regarding whether dispositional affect intensity is positively or negatively related to hedonic tone. For example, Underwood and Froming (1980) found that individuals who were more reactive were also typically less happy. Similarly, Derryberry and Rothbart (1988) found that people high in reactivity tended to experience more negative emotions. On the other hand, Diener, Larsen, Levine, and Emmons (1985) found a positive relationship between intensity and the number of day's individuals experienced positive moods. Since it is unclear the exact relationship between affect intensity and hedonic tone, I will examine this relationship in an exploratory manner.

Research Question 1: How are dispositional affect intensity and daily hedonic tone related?

In addition to a direct relationship between affect intensity and mood, I propose that dispositional affect intensity will influence how individuals react to the daily

stressors experienced in their jobs. There is some evidence that individuals high in affect intensity tend to react with more intense emotions to everyday events. For example, Larsen, Diener, and Emmons (1986) had individuals record daily events that happened to them and rate their severity (how good or bad). When the severity of events was controlled, individuals high on trait affect intensity reacted with more intense emotions to these events, regardless of whether the evoked emotions were positive or negative. Although individuals high in affect intensity reacted more strongly to life events, Larsen and colleagues did not find that these individuals reported a greater number of life events occurring. These findings are consistent with the idea that individuals high in affect intensity do not intentionally seek out stimulating experiences; rather, they just tend to experience the events that do occur more intensely than individuals low in affect intensity (Morris, 1989). Therefore, I do not expect that individuals will differ in their reporting of job demands, but that they will differ in how they react to these demands. Specifically, I hypothesize the following:

Hypothesis 10: Dispositional affect intensity will moderate the relationship between daily job demands and daily mood activation such that there will be a stronger positive relationship between daily job demands and daily mood activation for those individuals high in affect intensity than for those individuals low in affect intensity.

In addition to affect intensity, another personality trait which is hypothesized to influence perceptions and behaviors at work is dispositional happiness.

Dispositional Happiness. The second variable included in the present study is dispositional happiness, or how often a person generally feels happy/pleasant or

unhappy/unpleasant. Prior research has found that dispositional happiness positively correlated with average levels of pleasant mood, but not with average levels of activation (Weiss et al., 1999). Thus, it is expected that dispositional happiness will be positively related to daily hedonic tone.

Hypothesis 11: Individuals high in dispositional happiness will report higher daily hedonic tone than individuals low in dispositional happiness.

Dispositional happiness has been found to influence people's level of job satisfaction (Judge & Watanabe, 1993). Subjective well-being (SWB), which has been thought of as a higher-order factor that includes a general happiness or pleasant affect component as well as emotional responses and life satisfaction, has also been linked with a person's perception, emotional interpretation, and cognitive processing of situations and events (Luthans, 2002). Seidlitz and Diener (1993) found that people who were happier initially encoded more of their life events in a positive way, which resulted in them recalling more positive events. SWB has also been consistently related to several effective coping strategies such as positive reappraisal, giving ordinary events a positive meaning, and drawing strength from adversity (Folkman, 1997; McCrae & Costa, 1986). Finally, In their review of three decades of research on subjective well-being, Diener, Suh, Lucas, and Smith (1999, p. 295) concluded that "the happy person is blessed with a positive temperament, tends to look on the bright side of things, and does not ruminate excessively about bad events." Taken together, these findings suggest that those higher in dispositional happiness will perceive fewer work stressors, and be less negatively affected by these stressors, than individuals lower in dispositional happiness.

Hypothesis 12: Individuals high in dispositional happiness will report fewer daily job demands than individuals low in dispositional happiness.

Hypothesis 13: Dispositional happiness will moderate the relationship between daily job demands and daily hedonic tone such that there will be a weaker negative relationship between daily job demands and daily hedonic tone for those individuals high in dispositional happiness than for those individuals low in dispositional happiness.

The present paper also seeks to examine the relationship between dispositional happiness and engagement in acts of CWBs. Although no studies directly examining the relationship between these two constructs could be located, intuitively it makes sense that individuals who have a positive temperament, tend to look on the bright side of things, and do not ruminate excessively about bad events would be less likely to engage in negative workplace behaviors. George and Brief (1992) suggested that individuals who tend to experience positive emotional states would be less likely to engage in behaviors that would upset coworkers, because this would in turn decrease those positive emotions. Furthermore, a study by Peterson, Park, Hall, and Seligman (2009) found that zest (a trait similar to dispositional happiness, defined as a positive trait reflecting a person's general approach to life with anticipation, energy, and excitement) was positively related to individuals' perceptions that their work was a "calling", as well as general life satisfaction and work satisfaction. Taken together, individuals high in dispositional happiness are hypothesized to engage in fewer CWBs for several possible reasons. First, these individuals are more likely to "see the bright side" of a negative situation at work, which may otherwise trigger acts of CWBs.

Second, they may be less likely to engage in CWBs because they do not want to negatively influence how others perceive them, as this would decrease their levels of happiness. Third, they may be less likely to engage in CWBs because they are more satisfied with their jobs and see their work as more meaningful (e.g., as a “calling”) than individuals lower in dispositional happiness, which in turn would lead to decreased negative acts against the organization and its employees. For these reasons, a negative relationship is hypothesized between dispositional happiness and CWBs.

Hypothesis 14: Individuals high in dispositional happiness will be less likely to engage in CWBs than individuals low in dispositional happiness.

Examination of Mood “Types”

As stated previously, this study is unique from most in the organizational literatures in that the two main dimensions of mood (hedonic tone and intensity) as outlined by the circumplex model (Russell, 1980) are examined in relation to organizational behavior. Another way to examine mood using the circumplex model is to examine the mood types that represent varied levels of hedonic tone/pleasantness and activation/intensity. In the present study, four mood “types” were examined: 1) activated unpleasant moods (e.g., distress, anxious), 2) activated pleasant moods (e.g., excited, euphoric), 3) unactivated unpleasant moods (e.g., bored, dull), and 4) unactivated pleasant moods (e.g., calm, relaxed). Because of the scarcity of theory and research to base formal hypotheses on, and because examining these mood types is not the central purpose of this study, I make no formal hypotheses regarding these relationships. Instead, I examine these relationships in an exploratory fashion.

Research Question 2: How do daily job demands impact various mood types?

Research Question 3: How do different mood types impact a) self-reports of daily work events, and b) daily CWBs?

Experience Sampling Methodology

Before proceeding to the specific tests of these hypotheses and research questions, it is important to explain the methodology used in the present study. Many of the core variables in this dissertation, particularly mood, vary considerably not only across individuals but also within a single individual over time (e.g., Judge, Scott, & Ilies, 2006). For these reasons, a traditional cross-sectional design, in which variation in measures is completely due to between-person differences, is not appropriate to test hypotheses relating to intra-individual changes and their effects on CWBs.

Experience sampling methodology (ESM) provides the opportunity to examine how within-person variability in mood and perceptions of job stressors affect one's subsequent behaviors in the workplace, as well as how these within-person variables may predict one's behaviors above and beyond dispositional factors. ESM involves the in-depth examination of everyday experiences and ongoing behavior in their natural context (Hormuth, 1986). Data are typically collected several times during the activity of interest to researchers (e.g., during a typical work day). Researchers may gather information related to psychological (e.g., thoughts, feelings) or physiological (e.g., heart rate, blood pressure) states.

With any study where the goal is to better understand the effects of mood and emotions, such a methodology is essential, as affect is a dynamic construct. For example, Weiss, Nicholas, and Daus (1999) measured employees' mood at four different times during the workday over a three week period, and found that people's

mood varied considerably throughout the work day. Mood state predicted job satisfaction above and beyond the contribution of dispositional happiness. In their study of 41 manufacturing employees who were surveyed several times throughout the day over a period of two to three weeks, Miner, Glomb, and Hulin (2005) found that 56% of the variance in the employees' mood was within- rather than between-persons. Finally, Judge, Scott, and Ilies (2006) found that over half of the total variance in workplace deviance was within-individual. The findings from these studies are illustrative of the types of dynamic relationships between study variables that can be examined with experience sampling methodology.

Experience sampling also has other important benefits. For example, much research has shown that when people are asked to recall past behaviors or states, these reports are likely to be biased (e.g., Alliger & Williams, 1993; Robinson & Clore, 2002). For example, when asked to recall the frequency of certain events, individuals' judgment of frequency may be influenced by other recent events or the salience of these events, or more general memory biases based on current mood states (e.g., mood congruence) can influence self-report data (Beal & Weiss, 2003). Because participants in ESM studies do not have to summarize or recall past psychological or behavioral states that may have occurred in the past or over a long period of time, ESM studies are not as prone to such biases in recall.

There are several different ways in which data can be collected with an ESM study (Beal & Weiss, 2003; Wheeler & Reis, 1991). Researchers may collect responses at various times throughout the day (time-based) or based on when certain events occur (event-contingent). Within the general category of time-based sampling, there is

also the question of whether responses will be recorded at prespecified time intervals (interval-contingent) or at randomly occurring time intervals, such as when a pager beeps (signal-contingent). On the other hand, event-contingent sampling is when participants are instructed to record responses when a certain prespecified event occurs (e.g., when they have a negative workplace encounter). Which type of sampling strategy one uses depends on the particular research questions of the investigator, as well as the particular constraints of the participants involved in the study (e.g., doctors would not be able to appropriately participate in an event-contingent ESM study if the event in question is when a trauma patient enters the emergency room).

As alluded to in the previous paragraph, ESM studies are not without their own set of problems. For example, researchers must be cognizant of how intrusive such a study is on the everyday lives of individuals who participate in such a study. Individuals who participate in such a study must commit to days, even weeks of data collection. Even if each individual response takes just a couple of minutes, these responses are typically collected several times during the day and can become tedious or annoying to participants. In addition, most ESM researchers also give a series of questionnaires at the beginning or the end (or both) of the ESM period (Beal & Weiss, 2003). Thus, sample sizes in ESM studies tend to be smaller than in traditional cross-sectional studies, although this does not necessarily result in a lack of power due to the large number of data points (see Larson & Almeida, 1999). Another potential problem with ESM studies is a potential lack of compliance, because it may be inconvenient for participants to respond to the survey at the exact time they are signaled or when an event occurs. Despite this, ESM studies generally report compliance rates of 70% or

greater (e.g., Harris, Daniels, & Briner, 2003; Wang et al., 2010), which still allows researchers to conduct the appropriate analyses (Beal & Weiss, 2003).

Despite these potential limitations, ESM offers researchers the unique opportunity to examine dynamic constructs such as mood. As stated earlier, when examining state variables that fluctuate over time, a between-subjects design is not adequate to test such models. Within-subjects designs, as used in the present study, provide a much more comprehensive and in-depth examination of the main study variables. Furthermore, as many employees have constant access to the internet, this increases the accessibility and feasibility of using an ESM to empirically test such models. Overall, an experience sampling methodology provides an excellent way of testing dynamic variables such as mood state.

CHAPTER 3: METHOD

Participants

Participants in the present study included current students, faculty, and staff from a large Midwestern university. In order to ensure adequate power to detect both within-subjects effects and between-subjects effects, the goal of the present study was to obtain a sample of around one-hundred and fifteen individuals. A sample size of this magnitude is equivalent to (or greater than) the sample sizes of studies of a similar nature and time frame (e.g., N of 106 in Ilies et al., 2007; N of 75 in Judge, Ilies, & Scott, 2006; N of 64 in Judge, Scott, & Ilies, 2006; N of 41 in Miner et al., 2005). Thus, a sample size of 115 would be more than enough to detect within-subjects effects. Whether this is an adequate sample size to detect between-subjects effects is of greater concern. According to Kreft and De Leeuw (1998), simulation studies have shown that the more groups there are, the fewer observations are needed to obtain adequate power. For example, the simulation by Bassiri (1988) showed that 25 observations per individual were needed if there were 60 individuals, and only five observations per individual were needed if there were 150 individuals to obtain a power of at least .81 to detect cross-level relationships. The latter example (150 individuals providing 5 observations each) provides the most useful estimate of power for the present study. Namely, since the present study lasted over a period of ten days, if individuals provided estimates each day of the study this would result in 115 individuals providing 10 observations each.² Using the information presented in Bassiri (1988), the present study would have a power of at least .80 to determine cross-level effects even if just 105 of the targeted 115 individuals provided just 5 observations (out of a possible

10) each. Furthermore, Bassiri found that the most favorable situation for detecting cross-level interactions was achieved by maximizing the number of higher-level groups (in this case, maximizing the number of participants), rather than by maximizing the number of lower-level assessments (in this case, this refers to the number of observations provided by each person). This essentially means that the ability to detect cross-level interactions will be more impacted by the number of individuals in the study than by the number of observations each person contributes. Together, these data suggest that if the present study can meet the goal of recruiting 115 participants, even allowing for significant missing data points as well as participant mortality, there should be adequate power to detect cross-level interactions.

Current students, faculty, and staff were recruited through an advertisement posted on the main website for a large Midwestern university. Because this study involved monetary compensation, careful precautions were taken to ensure that individuals would not misrepresent the number of hours they worked per week in order to be eligible for the study. Thus, the advertisement was purposefully limited in the amount of information provided to interested parties (see Appendix A). The advertisement specified that individuals who were currently working and have access to the internet, and were willing to complete both an initial online survey as well as three online surveys at work each work day (morning, afternoon, and end of work day) for ten consecutive work days should complete a screening questionnaire and they would be contacted if they qualified for the study. The advertisement also specified that if they completed both the initial survey as well as 85% of the daily surveys (i.e., at least 25 of

the 30 possible surveys) they would be compensated twenty-five dollars and entered into a drawing to win one of three two-hundred dollar prizes.

There were a total of four rounds of data collection in the present study. Data collection started mid January, 2010, and was completed by the third week of March, 2010. Overall, a total of 403 individuals completed the initial screening questionnaire, of which 188 were invited to participate in the study and were sent a link to the initial survey (reasons for non-eligibility include: not currently employed, not working at least 30 hours per week, work hours/days fluctuated too much and/or did not work during “normal” business hours [e.g., third shift], did not have access to the internet at work, was taking a vacation during the experience sampling portion of the study). Of the 188 individuals invited to participate, 133 completed the initial survey, but eight dropped out the study prior to the experience sampling portion. In addition, eleven participants were dropped from the current study and analyses for various reasons. Specifically, eight individuals completed five or fewer daily surveys of the 30 possible, which means they had responded to 16% or fewer of the surveys. In addition, three individuals showed virtually no variance in their responses (i.e., in most instances, these individuals responded with the same non-neutral number (all 1’s) across all items in an entire survey (e.g., answered 1’s for all items in the afternoon survey, which assessed job demands, various positive and negative mood states, and events). This resulted in a final sample of 114 individuals, which was only one individual shy of the target sample size of 115.

A complete summary of the sample demographics can be found in Table 1. As can be seen in this table, the majority of the sample was female (84.2%), worked full-

time (84.2%), and approximately half of the participants went to school in addition to working (53.3% were graduate and 46.7% were undergraduate students). The average age was 35, and participants worked an average of 41 hours per week (hours ranged from 30-80 hours per week). Participants were from a variety of different racial/ethnic backgrounds, although approximately half of the sample (52.6%) identified themselves as Caucasian/White. The majority of the sample was single and had no children. Participants worked in a variety of different jobs, ranging from assistant professor to administrative assistant. Because of the wide range of jobs held by participants, a classification scheme based on the Occupational Classification System Manual (OCSM; U.S. Bureau of Labor Statistics, 2002) was used to categorize jobs into several broad occupational classifications. The actual job title, as well as the self-description of major job duties, was used to classify jobs into various occupational categories. These categories (including actual examples of participants' jobs that fell in each of these respective categories) are as follows: 1) Professional, technical, and related occupations (e.g., assistant professor, research engineer); 2) Executive, administrative, and managerial occupations (e.g., human resource manager, associate dean); 3) Sales occupations (e.g., sales support/customer service); 4) Administrative support occupations, including clerical (e.g., administrative assistant); 5) Precision production, craft, and repair occupations (only one participant's job fell into this category- to ensure anonymity this specific job title is not listed); 6) Machine operators, assemblers, and inspectors (no jobs fell into this category); 7) Transportation and material moving occupations (no jobs fell into this category); 8) Handlers, equipment cleaners, helpers, and laborers (e.g., radiology assistant); 9) Service occupations, except private

household (e.g., compliance officer). As shown in Table 1, participants worked in a range of different occupations, although the majority of participants worked in either administrative support (59.6%) or professional/technical (24.6%) occupations. See Table 1 for a complete summary of the demographic characteristics of the sample.

Procedure

Based on the information gathered in the initial screening questionnaire (see Appendix B), eligible participants were contacted via email and were sent a link to the initial survey. This initial survey assessed basic demographics along with the personality variables (see Appendix C). On the Monday following completion of the initial survey, participants began the experience sampling portion of the study, which lasted for two weeks (ten consecutive working days; Monday-Friday). Thus, the total amount of time commitment was three weeks (during the first week participants took the initial survey, and during weeks two and three participants completed the experience sampling phase of the study).

During the experience sampling phase of the study, participants were surveyed three times each workday. During this phase of the study, participants received reminder emails three times each day, which included a link to a separate webpage where they entered their responses. Prior to the start of the experience sampling phase of the study, participants were also sent a separate email which provided participants with links to the morning, afternoon, and end of day surveys which they were instructed to use in the event they do not properly receive my email reminder (e.g., due to email problems). Participants were instructed to complete the morning survey immediately upon arrival to work, the afternoon survey between 11:00am and 1:00pm, and the end

of day survey prior to leaving work for that day. Participants received an email reminder for the morning survey the prior evening, an email reminder for the afternoon survey at 11:00am, and an email reminder for the end of day survey at 3:00pm. All reminder emails included a link to the corresponding survey. The morning questionnaire assessed the participants' current mood state. The afternoon questionnaire assessed the participants' current mood state, daily job demands, and work events that have happened since the last momentary survey. The end of day survey assessed the participants' current mood state, daily counterproductive work behaviors, and work events that have happened since the last momentary survey. To maintain confidentiality and anonymity, participants were asked to enter a four-digit code of their choice each time they completed a daily survey (Judge, Scott, & Ilies, 2006).

Personality Measures

Affect Intensity. Affect Intensity was measured using the 40-item Affect Intensity Measure (AIM; Larsen, 1985), which assessed the intensity with which individuals generally experience both positive and negative emotional reactions. Participants indicated how they react to a variety of typical life events on a scale of 1 (never) to 6 (always). An example item is "When I solve a small personal problem, I feel euphoric." In a series of initial validation studies, Larsen and colleagues (Larsen, 1985; Larsen & Diener, 1987) reported alphas ranging from .90-.94 across four separate samples, as well as test-retest reliabilities of .80, .81, and .75 across one month, three months, and two years, respectively. Coefficient alpha for the AIM in the present study was .90.

Dispositional Happiness. Dispositional happiness was measured using a two part measure of general well-being based on Wessman and Ricks (1966) and later

expanded and refined by Fordyce (1972). The Happiness Measure (HM) has been called the “grand-daddy” of all happiness measures, and is reportedly the most researched and validated index of happiness (Fordyce, 1988). The first part of the HM is an 11-point happiness/unhappiness scale, where individuals reported in general, how happy or unhappy they usually feel (higher scores indicate greater happiness), and the second part is of a set of questions that individuals estimated the percentage of time they feel “happy,” “unhappy,” and “neutral” moods. The two parts of the HM (part 1 = *scale score* and part 2 = *percentage estimates*) were combined to form a *combination score* using the following formula:

$$\text{Combination score} = (\text{scale score} \times 10 + \text{happy \%}) / 2$$

Scores on the dispositional happiness measure range from 0 (unhappy) to 100 (happy). Fordyce (1988) reports test-retest reliabilities of .98 across two days ($n = 105$), .86 and .88 across two weeks ($n = 105$ & $n = 58$), .81 for one month ($n = 57$), and .62 and .67 across four months ($n = 71$ & $n = 27$). In a more recent study by Weiss et al. (1999), the authors reported a coefficient alpha of .89 for the HM. The HM was chosen in this study because it is conceptually consistent with the hedonic tone dimension of the circumplex model of moods and emotions, whereas alternative measures (e.g., extraversion, neuroticism) are more consistent with activated pleasant and activated unpleasant affect. Coefficient alpha for the HM in the present study was .81.³

Momentary Measures

Appendix D contains all momentary surveys. The momentary surveys also included variables collected for purposes other than this study, but since they are not of interest to the present study they are not listed here. It is important to point out,

however, that several items referred to positive work behaviors. This was beneficial in two ways. First, it helped to disguise the true purpose of this study from the participants, and second, it reduced the possibility that participants would be primed to only focus on negative behaviors they have engaged in over the course of the study, which may have occurred if all work behavior items focused on negative tasks/behaviors.

Daily Job Demands. Daily job demands were assessed with a 9-item scale used by Ilies et al (2007). Eight of these items were originally developed by Van Veldhoven and Meijman (1994), and one item was added by Ilies and colleagues (i.e., “The workload is high for this day”). Van Veldhoven and Meijman’s original scale was modified slightly by Ilies and colleagues to reflect daily, rather than global, evaluations of job demands. An example item is “Today I have too much work to do for my job.” Participants indicated the extent to which they agreed with each statement on a scale of 1 (strongly disagree) to 5 (strongly agree). Ilies and colleagues found a mean (across days) internal consistency reliability of .93 for this modified version of the scale. For all momentary variables, coefficient alpha was calculated by first calculating alpha for each individual assessment of a given variable, and then weighting each obtained alpha by the number of participants who provided data on each assessment. Therefore, for daily job demands, coefficient alpha was calculated for each of the ten days, and then these values were weighted by the number of respondents for each day. In the present study, the mean (across days) internal consistency reliability for the job demands scale was .92.

Daily Counterproductive Work Behaviors. Daily CWBs was measured using a shortened version of Bennett and Robinson’s (2000) 19-item workplace deviance scale

that was adapted for use in an experience sampling study (Judge, Scott, & Ilies, 2006). Judge and colleagues modified this scale by eliminating items that were unlikely to vary on a daily basis or to occur during a short time period. This resulted in an 11-item scale. Participants indicated how often they engaged in each behavior today, on a scale of 1 (never) to 5 (often). An example item is “Worked on a personal matter instead of work for your employer.” Judge and colleagues found a mean (across days) internal consistency reliability of .73 across the 15 days of their study. It should be noted that although Bennett and Robinson (2000) differentiate between interpersonal and organizational deviance, two recent meta-analyses have found that these two dimensions are very highly correlated (e.g., $\rho = .62$ in Berry et al., 2007; $\rho = .70$ in Dalal, 2005). Thus, consistent with other researchers (e.g., Judge, Scott, & Ilies, 2006; Lee & Allen, 2002), I did not distinguish between the two dimensions. In the present study, the mean (across days) internal consistency reliability for the counterproductive work behaviors scale was .80.

Mood. Mood was assessed with the 24-item Current Mood Report (CMR) adjective checklist originally used by Larsen and Kasimatis (1990). Participants indicated whether they felt each state at that time on a scale of 1 (not at all) to 5 (very much). This scale was chosen because it appropriately assesses moods at each location around the affect circumplex model previously described and shown in Figure 1. Because mood states were sampled three times daily, it was not possible to have a scale that assessed all of the possible mood states shown in Figure 1, because this would likely be too cumbersome for participants. Thus, the CMR was ideal for the present study because it sampled three adjectives from each of the eight octants of the

circumplex.

This scale was used in two different ways in the present study. First, adjectives directly on the activation and hedonic tone axes were used to form these two scales. Thus, the activation scale consisted of the following adjectives: *passive*, *stimulated*, *active*, *aroused*, *tranquil*, and *inactive*. The hedonic tone scale consisted of the following adjectives: *unhappy*, *sad*, *cheerful*, *glad*, *happy*, and *gloomy*. Consistent with prior studies using this scale (e.g., Larsen, 1987; Larsen & Kasimatis, 1990), a mood score for activation was computed by taking the average rating of the unactivated adjectives (*passive*, *tranquil*, *inactive*) and subtracting this from the average rating of the activated adjectives (*stimulated*, *active*, *aroused*). Thus, a positive score for activation scale indicates individuals were activated/aroused at that particular time, whereas a negative score indicates individuals were unaroused at that particular time. Similarly, a mood score for hedonic tone was computed by taking the average rating of the unpleasant adjectives (*unhappy*, *sad*, *gloomy*) and subtracting this from the average rating of the pleasant adjectives (*cheerful*, *glad*, *happy*). Therefore, a positive score on the hedonic tone scale indicates individuals were feeling in a pleasant mood at that particular time, and a negative score indicates individuals were feeling in an unpleasant mood at that particular time.

For all mood variables, coefficient alpha was calculated for each of the 30 assessments, and then these values were weighted by the number of participants who provided data on each assessment. Because the unactivated/unpleasant adjectives were on opposite ends of the activation and hedonic tone axes than the activated/pleasant adjectives, it was necessary to first reverse-score the unactivated

and unpleasant items in order to calculate coefficient alpha for the activation and hedonic tone scales. Initial reliability calculations revealed that the activation scale had low mean (across assessments) internal consistency reliability ($\alpha=.56$). One item in particular, tranquil, had negative and/or near-zero inter-item correlations with the other scale items; therefore, this item was dropped from the scale. With this item dropped, the new mean (across assessments) internal consistency reliability for the activation scale was .66. The mean (across assessments) internal consistency reliability for the hedonic tone scale was .87.

The CMR was also used to create the four mood states examined in the exploratory analyses. The four dimensions and the adjectives that were used to represent them are as follows: activated unpleasant (*distressed, annoyed, anxious*), activated pleasant (*elated, enthusiastic, excited*), unactivated pleasant (*content, calm, relaxed*), and unactivated unpleasant (*sluggish, bored, tired*). Scores on the three adjectives representing each dimension were averaged, so higher scores indicate greater amounts of each mood state. The mean (across assessments) internal consistency reliability for these mood states was: .71 for activated unpleasant, .69 for unactivated unpleasant, .89 for activated pleasant, and .86 for unactivated pleasant. For the analyses, daily averages for all mood states were created (i.e., the morning, afternoon, and end of day scores each day for each mood variable were averaged).

Work Events. Work events were measured with three items, which assessed whether an event occurred since the last momentary survey. Each of the items referred to a specific type of work event: work, co-worker, and supervisor. For each category (work, co-worker, and supervisor), participants identified a) whether a positive event

occurred, b) whether a negative event occurred, c) that both a positive and negative event occurred, or d) that no event occurred. Participants received instructions on how to recognize and classify work events both during the initial survey and prior to each assessment of work events. These items as well as the instructions were used by Miner and colleagues (2005).

During both the afternoon and end of day surveys, participants had the opportunity to report whether a work event had occurred since the last momentary survey. Although only negative workplace events were of interest for the main study hypotheses, participants were also asked to report whether a positive event had occurred for the purposes of examining portions of Research Question 3 (i.e., how do different mood types impact self-reports of work events). In order to summarize the responses to the workplace event items, indicators were created and dummy coded for each of the categories (i.e., coworker, supervisor, work) separately and summed to create an index of the total number of self-reported workplace events. In addition to the raw scores, another index representing the frequency of self-reported workplace events was created, because some participants may have only completed one of these surveys in a given day, and therefore they would have fewer opportunities to report the occurrence of work events than individuals who completed both surveys that day. Thus, in order to more accurately compare the self-reported number of negative work events for those individuals who only completed one survey to those who completed both surveys, the proportion of negative work events was calculated (i.e., the number of self-reported negative work events was divided by the total number of possible times such an event could be reported on a given day). Since participants had the opportunity to

report up to three negative workplace events (coworker, supervisor, work) at the afternoon and the end of day assessments, this yielded a total of six possible negative (positive) workplace events that could be reported each day if both surveys were completed. Therefore, if an individual completed both the afternoon and end of day surveys and reported one negative coworker event in the afternoon and one negative supervisor event in the end of day, they would receive a frequency score of $2/6=.33$. Similarly, if an individual completed only one of these surveys and reported one negative coworker event and one negative supervisor event in the afternoon, they would receive a frequency score of $2/3=.67$.

Preparation of the Data

Extensive data screening was conducted in order to ensure that participants completed the surveys at the specified time. Each survey was date and time stamped, and these data were examined in order to ensure that participants' surveys were completed at the appropriate time. Because participants worked in a variety of different jobs, they did not all start and end their day at the same exact times; therefore, setting specific cutoff times for the morning and end of day surveys did not seem appropriate. Instead, the time stamps for each individual survey were examined on a case-by-case basis. For the most part, two main decision rules were used. First, I examined surveys to ensure they were completed at the correct times. Morning surveys were excluded if they were completed after 11:00am, afternoon surveys were excluded if they were completed outside of the 11:00am-1:00pm window, and end of day surveys were excluded if they were completed before 3:00pm. The second decision rule was that surveys needed to be spaced out at least 30 minutes apart from the adjacent survey in

order to be included (a cutoff that has been used in previous experience sampling studies, see Alliger & Williams, 1993; Miner et al., 2005). For example, if a participant completed a morning survey at 11:00am and an afternoon survey at 1:00pm, both surveys were included because they were taken at least 30 minutes apart from each other (and they were completed at the appropriate times). On the other hand, if a participant completed a morning survey at 11:00am and an afternoon survey at 11:05am (thus, there was only a 5 minute gap between surveys), the morning survey was excluded because while the morning survey only assessed mood state, the afternoon survey assessed mood state, job demands, and work events (thus, the afternoon survey assesses more information than the morning survey) and there is not likely to be any variability in mood in a five-minute time span. It is important to note that the majority of instances when surveys were completed back-to-back involved one survey being completed at the incorrect time, and thus this survey was excluded based on the time-stamp rule (e.g., when a participant completed the morning survey at 12:00pm and the afternoon survey at 12:05pm, their morning survey was excluded). It should be noted that there were some exceptions to these decision rules, mainly because participants' schedules did not strictly follow a 9-5 schedule. For example, a few participants' work hours ranged from 7:00am-3:00pm. It was unrealistic to expect, for example, that the end of day surveys for these individuals would be completed after 3:00pm. In these instances, surveys were still included even though they fell outside of the specified time periods if they were adequately spaced apart and were completed at reasonable times in line with that particular participant's work schedule. A final exception to the decision rules specified above was that surveys were also included

even if they were completed outside of the allotted times if the adjacent survey to that time period was missing, as long as the completed survey was submitted reasonably close to the appropriate time period (e.g., morning surveys completed at 11:45am would still be included, but morning surveys completed at 11:45pm would not be included). For example, if a participant completed a morning survey at 11:45am and missed the afternoon survey, the morning survey was retained even though it was completed at the incorrect time in order to maximize the amount of useable surveys.

After screening out unusable surveys, this resulted in a total of 2,873 completed surveys (out of a possible 3,420), an 85% completion rate, which is right in line with (or better than) the typical compliance rates for daily diary studies, which tend to range between 70-85% (e.g., Harris et al., 2003; Ilies & Judge, 2004; Wang et al., 2010). Broken down by time of day, there were 978 completed morning surveys, 975 completed afternoon surveys, and 920 completed end of day surveys. The average number of surveys completed per person was 25, with a range of 10-30.

Data Analysis

The purpose of this section is to provide a brief overview of the analyses used in the present paper. A much more detailed discussion of the specific HLM equations used to model each of the different analyses and to calculate appropriate statistics takes place in the results section.

Because this study involves multi-level data (within-person and between-person variables), hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002) was used to test all hypotheses. Level 1 consisted of all within-individual assessments (i.e., all variables that are answered as part of the daily surveys), and Level 2 consisted of

scores on the between-subjects variables (i.e., affect intensity and dispositional happiness). Consistent with other studies of this nature (e.g., Judge, Ilies, & Scott, 2006; Sonnentag, Binnewies, & Mojza, 2008), and as suggested by Hofmann, Griffin, and Gavin (2000), I centered the Level 1 predictor variables (i.e., mood, daily job demands, work events) at each individual's mean. This essentially removes any between-individual variance in estimates of the relationships among the variables. Level 2 predictor variables (i.e., affect intensity, dispositional happiness) were centered at the grand mean. All control variables (discussed in greater detail below) were grand mean centered (Raudenbush & Bryk, 2002).

Before performing any specific tests of hypotheses, I first determined whether there is sufficient within-person variability in the criterion variables (i.e., CWBs, mood, work events). This involves essentially running a null model in HLM for each criterion variable that includes no predictor variables (similar to an ANOVA). This analysis allows investigation of the amount of within- and between-persons variance in each criterion variable.

Depending on the specific hypothesis, several different types of analyses were performed. The first type of analysis is a within-person analysis. I used a within-person analysis to test relationships between all momentary variables in my model (Hypotheses 1 through 8, Research Question 2, and Research Question 3). For example, a within-person analysis permits the examination of the relationship between daily job demands and mood. In addition to the within-person analyses, two different types of between-person analyses were conducted in the present study. The first type of between-person analysis is a direct cross-level analyses, which was used to test

Hypotheses 9, 11, 12, and Research Question 1. The second type of between-person analysis was a cross-level moderation analysis, which was used to test Hypotheses 10 and 13. In order to test the cross-level moderation hypotheses, I regressed the individuals' (Level 1) slopes and intercepts for predicting mood with job demands over time on their scores on the two personality traits. The mediation hypotheses (Hypotheses 4 and 8) were tested using the Sobel (1982) test. All of these analyses are discussed in greater detail in the Results section.

Common Issues When Analyzing Time-Series Data

Although missing data arise in almost any empirical research, this is a particularly salient issue in experience sampling studies. Because of the time-intensive and longitudinal nature of the study, it is the exception, rather than the rule, to have complete data from participants. Missing data can be problematic because it can overestimate or underestimate effect sizes, create bias in parameter estimates, and inflate Type I and Type II errors (Collins, Schafer, & Kam, 2001). Little and Rubin (1987) differentiated between several types missing-data patterns: missing completely at random (MCAR), missing at random (MAR), and not missing at random (NMAR). Data are MCAR if the probability that any given datum is not recorded is unrelated to all variables, observed and unobserved. Data are MAR if the probability that any given datum is not recorded is related to the observed variables only, and data are MNAR if the probability that any given datum is not recorded is related to the unobserved/missing variables (Little & Rubin, 1987, Newman, 2010; Schafer & Graham, 2002). Practically speaking, in the real world MCAR almost never happens (Newman, 2010). More likely, the data are MAR. Paradoxically, there is no way to test

whether MAR holds in a data set, because this involves comparing observed values of Y against *unobserved* values of Y (Newman, 2003; Schafer & Graham, 2002). Since unobserved values of Y are unknown, this test is impossible (unless, of course, one can obtain follow-up data from nonrespondents). Newman (2010) stated that most missing data fall somewhere on a continuum between MAR and NMAR, but even though the MAR assumption may not be strictly met in practice, missing data techniques based on this assumption (i.e., maximum likelihood and multiple imputation) still provide less-biased, more powerful estimates than other techniques that are based on the MCAR assumption (such as listwise deletion). Below, I will discuss several techniques used to handle missing data.

One of the more common techniques for handling missing data is listwise deletion. However, this approach can drastically reduce the sample size, which in turn increases standard errors and reduces power. In the present study, listwise deletion was not an option, since this would result in the removal of 99 participants (or 87% of the sample). Another option for dealing with missing data is to use pairwise deletion, which uses all available cases, but because data from different cases are used to calculate correlations between variables, this mixes populations, gives biased estimates, and it is difficult to determine the appropriate N which will not over- nor under-estimate the standard errors (Newman, 2010). A third option to deal with missing data is ad hoc single imputation, which includes mean imputation (replacing missing data points with the group mean for that variable), hot deck imputation (replacing each missing data point with a value from a “donor” who has similar scores on other variables), and regression imputation (replacing each missing data point with a

predicted value based on a multiple regression equation derived from observed cases). Although many of the above-mentioned techniques for handling missing data are still commonly used in published research, each has consistently been shown to be far inferior to more modern techniques to handling missing data such as multiple imputation and maximum likelihood (Collins et al., 2001; Little & Rubin, 1987; Newman, 2003; Schafer & Graham, 2002). The first of these modern techniques is multiple imputation (MI), which involves imputing (filling in) missing values multiple times, which creates multiple, partly imputed datasets, running the analyses on each of these partly-imputed datasets, and combines these multiple results to get appropriate parameter estimates and standard errors. This approach leads to more accurate standard errors, and reduced chances of Type I and Type II errors. A final option is maximum likelihood, which directly estimates parameters and standard errors using an incomplete data matrix by choosing estimates that maximize the probability of the observed data (Newman, 2010). Maximum likelihood estimators tend to be unbiased under MAR and have the smallest standard errors of any other unbiased estimator (Newman, 2010). In sum, researchers have strongly advocated for using either MI or maximum likelihood to deal with missing data, particularly if the amount of missing data are large (Newman, 2003). Both techniques yield very similar results (and, at larger sample sizes maximum likelihood and MI mathematically converge), are unbiased under MAR and MCAR, and have accurate standard errors (Newman, 2010). In the present paper, maximum likelihood estimation was used.

The HLM program provides two options for maximum likelihood estimation- full maximum likelihood (ML or MLF) and restricted maximum likelihood (REML). These

estimators are designed to find hypothesized population parameters that make the observed sample data most likely by finding parameter values that do the best job of making this case (Bickel, 2007). ML provides estimates that are consistent and efficient, and when ML is used the deviance statistic provided by HLM can be used to compare two models which differ in their predictors (although some do not recommend using deviance statistics provided by ML because they are too liberal; see Bliese & Ployhart, 2002). However, other researchers (e.g., Raudenbush & Bryk, 2002) advocate for the use of REML (and consequently, this is the default in HLM), which is based on the variance components for a given model. This approach has been said to provide less biased estimates of the random components of random regression coefficients, particularly in smaller samples (Bickel, 2007; Raudenbush & Bryk, 2002). Kreft and De Leeuw (1998) concluded that neither is uniformly better, but REML is more popular in practice. Per the recommendation of Raudenbush and Bryk (amongst others), and common practice in top I/O journals (e.g., Beal, Trougakos, Weiss, & Green, 2006), REML estimation was used in the present paper.

Another common issue with experience sampling data is that (as with any statistical analysis) hierarchical linear modeling makes certain statistical assumptions about the nature of the data. Of particular importance to this study, HLM assumes that the residuals at level-1 are independent of one another (Raudenbush & Bryk, 2002). As individuals are being asked to report the same variable (e.g., mood) over many consecutive time points with a relatively small gap between assessments, it is highly likely that the residual error terms for the momentary data in the present study are correlated. Researchers have suggested that this serial dependency be detected and

corrected prior to the final analysis of the data (West & Hepworth, 1991). Furthermore, prior research has shown that momentary variables such as mood can also show cyclical trends. For example, mood may fluctuate in a consistent manner throughout the week (Rossi & Rossi, 1977). Even non-mood variables, such as job demands, may fluctuate throughout the week (e.g., people may report fewer job demands on Fridays compared to Mondays, for example). Consequently, prior to the main analyses the data were also examined for cyclic patterns. Finally, since the data were collected over a two-week period, it is possible that the data reflect distinct growth patterns over time. For example, mood may show a linear trend (either increasing or decreasing) over the course of the two weeks, or there may be more complex changes over time (e.g., quadratic or cubic trends). Therefore, prior to the main analyses these time-related trends were examined.

CHAPTER 4: RESULTS

Descriptive Statistics and Correlations

Table 2 contains the descriptive statistics for both personality variables, and Table 3 contains the descriptive statistics for all momentary variables. Table 4 contains a correlation matrix for all study variables at the between-person level. Interestingly, the two personality variables, affect intensity and dispositional happiness, were not correlated with one another ($r = .01$). This supports the idea that dispositional happiness and affect intensity are two distinct personality traits. At the between-person level (with all experience sampling variables aggregated to the person level), affect intensity was positively related to activated unpleasant and activated pleasant moods ($r = .30$ and $r = .23$, respectively). Surprisingly, affect intensity was also positively related to unactivated unpleasant mood ($r = .21$). Dispositional happiness was negatively related to CWBs ($r = -.22$), activated unpleasant mood ($r = -.30$), and unactivated mood ($r = -.30$), and positively related to activation ($r = .31$), hedonic tone ($r = .52$), activated pleasant ($r = .39$), and unactivated pleasant mood ($r = .43$). These bivariate correlations show preliminary support for the idea that these two personality traits differentially relate to different components of mood.

In addition, Table 5 summarizes the percentages reporting positive and negative workplace events, separated by type of event (i.e., coworker, supervisor, work), and Table 6 summarizes the daily totals and frequencies for the number of positive and negative workplace events. From these tables, it can be seen that participants were much more likely to report that a positive event occurred than a negative event, which is similar to what other studies have found (e.g., Miner et al., 2005). Occasionally,

participants reported that both a positive and negative event had occurred since the prior survey. As for the breakdown by type of event, participants reported work task events occurring most often, followed by coworker events and then supervisor events. Interestingly, this trend was found across both the afternoon and evening surveys, and across both positive and negative events. As shown in Table 6, participants reported an average of 2.10 positive events per day, and an average of .70 negative events per day (frequencies of .38 and .13, respectively). Taken together, these results suggest that for the most part, individuals experience more positive than negative events during their work day.

Variance Decomposition

Because several of the study variables are assessed multiple times from the same person over the course of the study, the data contain observations nested within persons. This provides a unique opportunity to examine both the between-person and within-person variance through essentially a multilevel one-way analysis of variance (ANOVA). This analysis was conducted and reported separately for each momentary variable (i.e., all mood scales, daily job demands, daily CWBs). To do this, the following equations can be estimated (for illustrative purposes, the equation for hedonic tone is listed, but similar equations are used to estimate the variance components for the other momentary variables):

$$\text{Signal level: } Hedonic\ Tone_{ti} = \beta_{0i} + r_{ti}$$

$$\text{Person level: } \beta_{0i} = \gamma_{00} + U_{0i}$$

where,

$Hedonic\ Tone_{ti}$ = Hedonic tone score at observation t for person i

β_{0i} = Signal level intercept = Mean hedonic tone score for person i

r_{ti} = Signal level residual = Residual signal level hedonic tone not explained by person i 's mean hedonic tone score

γ_{00} = Grand mean for hedonic tone = mean hedonic tone score across all observations and all persons

U_{0i} = Departure of person i 's intercept from sample mean intercept = Portion of person i 's mean hedonic tone score not explained by the grand mean for hedonic tone across all persons and observations

Using these equations, the amount of between-person variance and within-person variance in hedonic tone can be estimated as follows:

Variance (r_{ti}) = σ^2 = within-person variance in hedonic tone

Variance (U_{0i}) = τ_{00} = between-person variance in hedonic tone

Although HLM does not provide a significance test for the within-person variance component, it does provide a test for between-person variance. In addition, since the total variance is the sum of the between-person and within-person variance, an intraclass correlation coefficient (ICC) can be calculated, which is the ratio of the between-person variance to the total variance in hedonic tone (Raudenbush & Bryk, 2002). The formula for ICC is as follows:

$$\text{ICC} = \frac{\tau_{00}}{\tau_{00} + \sigma^2}$$

From this, the proportion of hedonic tone attributable to within-person effects can be calculated from subtracting the ICC value from 1. Based on the above equations, it was found that the between-person variance in hedonic tone was .64, and the within-

person variance in hedonic tone was .36. The between-person variance in hedonic tone was significantly different from zero ($\chi^2_{113} = 1983.98, p < .01$), indicating that the intercept term for hedonic tone significantly varies across persons.

This same process was repeated for all momentary variables. For activation, it was found that the between-person variance was .60, and the within-person variance was .40. The between-person variance in activation was significantly different from zero ($\chi^2_{113} = 1657.01, p < .01$). For activated unpleasant mood, the between-person variance was .61 and the within-person variance was .39. The between-person variance in activated unpleasant mood was significantly different from zero ($\chi^2_{113} = 1720.20, p < .01$). For activated pleasant mood, the between-person variance was .71 and the within-person variance was .29. The between-person variance in activated pleasant mood was significantly different from zero ($\chi^2_{113} = 2667.29, p < .01$). For unactivated pleasant mood, the between-person variance was .65 and the within-person variance was .35. The between-person variance in unactivated pleasant mood was significantly different from zero ($\chi^2_{113} = 2095.25, p < .01$). For unactivated unpleasant mood, the between-person variance was .61 and the within-person variance was .39. The between-person variance in unactivated unpleasant mood was significantly different from zero ($\chi^2_{113} = 1732.27, p < .01$). For job demands, the between-person variance was .55 and the within-person variance was .45. The between-person variance in job demands was significantly different from zero ($\chi^2_{113} = 1297.81, p < .01$). For CWBs, the between-person variance was .70 and the within-person variance was .30. The between-person variance in CWBs was significantly different from zero ($\chi^2_{113} = 1981.72, p < .01$). For positive events, the between-person variance was .45 and the within-person variance was .55. The

between-person variance in positive events was significantly different from zero ($\chi^2_{113} = 957.20, p < .01$). For negative events, the between-person variance was .37 and the within-person variance was .63. The between-person variance in negative events was significantly different from zero ($\chi^2_{113} = 726.24, p < .01$).

In sum, the variance decomposition analyses suggest that there is sufficient between- and within-person variance in all of the momentary variables to justify the need to use both a within- and between-person design to examine predictors of momentary variables. If only a traditional between-person analyses would have been used to examine predictors of mood state, for example, this would ignore anywhere between 29% - 40% of the total variance in mood at work. Similarly, using only a between-persons design to account for variance in CWBs would have discarded 30% of the total variance in this variable, and using only a between-persons design to account for variance in positive and negative work events would have discarded 55% and 63%, respectively, of the total variance in these variables. On the other hand, since all of the momentary variables had statistically significant amounts of between-person variance (as indicated by the significant chi-square values), this justifies the search for between-persons predictors of these variables as well.

Modeling Time, Serial Dependencies, and Cycles

As discussed above, because the data were collected over a two-week period, it is possible (and indeed likely) that the data may exhibit various time-related trends and cycles, and that variables assessed at one time point would be related to these same variables at another time. Therefore, several analyses were conducted in order to determine the effects of time on the dependent variables. Bliese and Ployhart (2002)

point out that steps to determine the important (i.e., significant) controls that should be included into a model can be rearranged, in that one may first test for effects of linear, quadratic, or cubic trends and then for effects of serial dependency (i.e., autocorrelations), or vice versa. In the present paper, I first checked for linear, quadratic, and cubic time trends, then for cyclic trends, and lastly, for autocorrelations.

Modeling Time. Data were first examined to determine if there were linear, quadratic, or cubic trends over the course of the study. Following the recommendations of Bliese and Ployhart (2002), time variables were added to the model sequentially. Specifically, I first examined a basic growth model (i.e., examining linear trends), and then progressed to more complex models by adding quadratic effects, and if significant, moving on to cubic effects. Thus, more complex trends (e.g., quadratic) were examined above and beyond the effects of simpler time trends (e.g., linear). For hedonic tone, there was a significant linear trend ($\gamma_{10} = .04$), $t(113) = 3.06$, $p < .01$, but no quadratic trend ($\gamma_{20} = .00$), $t(113) = -0.32$, $p = .75$. For activation, there was a significant linear trend ($\gamma_{10} = .02$), $t(113) = 2.10$, $p < .05$, but no quadratic trend ($\gamma_{20} = .00$), $t(113) = -0.31$, $p = .75$. For activated unpleasant mood, there was a significant linear trend ($\gamma_{10} = -.02$), $t(113) = -2.10$, $p < .05$ and a significant quadratic trend ($\gamma_{20} = .00$), $t(113) = 2.15$, $p < .05$, but no cubic trend ($\gamma_{30} = .00$), $t(113) = -0.56$, $p = .58$. For activated pleasant mood, the linear trend was not significant ($\gamma_{10} = .01$), $t(113) = 1.81$, $p = .07$; nor were the quadratic ($\gamma_{20} = .00$), $t(113) = 0.75$, $p = .45$, or cubic trends ($\gamma_{30} = .00$), $t(113) = 0.91$, $p = .37$. For unactivated pleasant mood, the linear trend was not significant ($\gamma_{10} = .00$), $t(113) = -1.14$, $p = .26$; nor were the quadratic ($\gamma_{20} = .00$), $t(113) = 0.59$, $p = .55$, or cubic trends ($\gamma_{30} = .00$), $t(113) = -0.43$, $p = .67$. For unactivated unpleasant mood, there was

a significant linear trend ($\gamma_{10} = -.03$), $t(113) = -4.49$, $p < .01$, a significant quadratic trend ($\gamma_{20} = .01$), $t(113) = 4.14$, $p < .01$, and a significant cubic trend ($\gamma_{30} = .00$), $t(113) = -2.81$, $p < .01$.

Regarding the non-mood variables, job demands did not show a significant linear trend ($\gamma_{10} = -.01$), $t(113) = -1.15$, $p = .25$, quadratic trend ($\gamma_{20} = .00$), $t(113) = 0.86$, $p = .39$, or cubic trend ($\gamma_{30} = .00$), $t(113) = -1.92$, $p = .06$. Counterproductive work behaviors did, however, show a significant linear trend ($\gamma_{10} = -.01$), $t(113) = -2.47$, $p < .05$, and a significant quadratic trend ($\gamma_{20} = .00$), $t(113) = 4.12$, $p < .01$, but the cubic trend was not significant ($\gamma_{30} = .00$), $t(113) = -0.692$, $p = .49$. For the frequency of positive events, there were no significant linear ($\gamma_{10} = .00$), $t(113) = 1.62$, $p = .11$, quadratic ($\gamma_{20} = .00$), $t(113) = -1.34$, $p = .18$, or cubic trends ($\gamma_{30} = .00$), $t(113) = 1.40$, $p = .17$. Similarly, for the frequency of negative events, there were no significant linear ($\gamma_{10} = .00$), $t(113) = -1.79$, $p = .08$, quadratic ($\gamma_{20} = .00$), $t(113) = .84$, $p = .40$, or cubic trends ($\gamma_{30} = .00$), $t(113) = -1.69$, $p = .09$.

These results suggest that the various momentary measures show different trends over time. For example, scores for both hedonic tone and activation appeared to increase in a linear fashion over the course of the study, while other variables (e.g., counterproductive work behaviors) had more complex trends over time. Still other variables (e.g., frequency of positive/negative events) did not show significant trends of any kind over the course of the study. Because the time trends were so varied across the different variables, it was unclear at this point whether it would be more appropriate to model different time trends in each model, or whether a simple linear trend (or something else) should be used for consistency across the different analyses.

Therefore, before making any decisions regarding how time trends should be modeled for each of the different variables, the data were further examined to determine other effects that time had on the variables.

Modeling Cyclic Patterns in the Data. Because day of the week may also influence levels of the dependent variables, the data were next examined to determine if there were cyclic patterns over the course of a week. Specifically, an ANCOVA was conducted in SPSS with each of the momentary variables as the dependent variable, day of the week as the independent variable, and a code for person as a covariate. Day of the week had a significant effect on activation ($F [4,2865] = 3.17, p < .05$), hedonic tone ($F [4,2864] = 3.16, p < .05$), activated pleasant ($F [4,2865] = 5.619, p < .01$), and unactivated unpleasant ($F [4,2865] = 5.27, p < .01$) moods. These significant trends are graphically depicted in Figure 6. As can be seen from these figures, Individuals' level of activation, hedonic tone, activated pleasant mood states, and the frequency of reporting positive work events all increased as the week progressed while unactivated unpleasant mood states decreased as the week progressed. Therefore, several of the study variables showed cyclic patterns over the course of a week.

Because this study surveyed individuals for two consecutive weeks (Monday-Friday, Monday-Friday), it is possible to control for day of the week cycles in variables. West and Hepworth (1991) suggest that one way to control for such effects is to include dummy-coded variables for each day of the week into the regression equation. The number of dummy-coded variables needed is equivalent to the number of days assessed minus one (since the final day is defined by a value of 0 on each of the other dummy variables). Thus, in the present study, to control for day of the week cycles, four

dummy-coded variables were included (coded as 0 if the survey was not completed on a given day; and 1 if it was completed on a given day).

Modeling Serial Dependency/Autocorrelations. The final time effect that was examined was the nature with which the assessments were related to one another (i.e., their serial dependency). As discussed by West and Hepworth (1991), the most appropriate method for detecting serial dependency is to examine the correlations between observations at each possible lag. In the present paper, autocorrelations were examined for all of the momentary variables. There are many different types of AR models which can account for serial dependency (West & Hepworth, 1991). Of these, the most commonly used is first-order autoregression, or AR(1), in which the error terms at a given time point are directly influenced by the immediately preceding error term as well as synchronous random shocks (e.g., major life event). Other possible structures are: AR(2), or Lag 2, in which error terms at a given time point are directly affected by the two immediately preceding error term as well as the synchronous random shocks; moving average, or MA(1), in which error terms are affected by the synchronous and the preceding random shocks; and mixed autoregressive moving average (ARMA) structures, in which error terms are affected by both the immediately preceding error term as well as the immediately preceding and the synchronous random shocks. Researchers have suggested that AR(1) is usually sufficient to account for non-independence of residuals (Alliger & Williams, 1993). After modeling the autocorrelations for all momentary variables in the present study (for illustrative purposes, autocorrelations for Hedonic Tone are presented in Table 7), it was determined that the AR(1) model was sufficient to account for serial dependency of the

data.⁴ In order to control for serial dependency in the current paper, the prior value of the criterion variable was included in the predictor equation (West & Hepworth, 1991).

As pointed out earlier, the decision to first examine time trends, followed by cyclic trends, and then autocorrelations was albeit arbitrary, and these steps could have just as easily been rearranged. Bliese and Ployhart (2002) pointed out that regardless of the order with which the various effects of time are modeled, after error structures (relating to autocorrelations) have been determined and accounted for one should go back and recheck the estimates for growth parameters. If there are substantial differences (for example, if certain time trends are no longer significant), this suggests that the growth model (i.e., time trends) should be reassessed using the newly determined error structure. Following these recommendations, the time trends and cyclic trends were reexamined after the prior value for each criterion variable (to account for autocorrelations) was included into the model. For all dependent variables, after accounting for prior values of that variable in the model, the effects for time were no longer significant. Specifically, none of the linear, quadratic, or cubic trends were significant after serial dependency was accounted for. Therefore, the variables for time trends were removed from all models. The dummy-codes for day of the week remained significant in some, but not all, of the models after accounting for autocorrelation. To lend consistency to the set of analyses and allow for better comparison, the dummy-codes for day of the week were retained in all models.

In sum, there were several control variables that were added to the models in order to account for serial dependency and cycles/trends in the data. To account for day of the week trends, dummy codes for day of the week were added to the model. To

account for autocorrelation, the previous value for the criterion was added to the model. Importantly, with these control variables added to each regression model, the Level-1 results can be interpreted as the average within-person relation between a particular predictor and criterion over and above the various effects time may have on the criterion. For the sake of parsimony and ease of explanation, the results pertaining to the control variables are not presented.

Within-Person Models

Several of the study hypotheses and research questions addressed whether a given level-1 predictor would relate to another level-1 outcome variable. These would all fall in the general category of within-person hypotheses. To conserve space only the equation for Hypothesis 1 is presented below, which predicts that daily job demands will be negatively related to daily hedonic tone. For all of the within-person models, the intercept, independent variable, and prior mood state were modeled as random effects, which allow person slopes and intercepts to depart from the grand mean. To maximize degrees of freedom and allow for better model convergence, the control variables for day of the week were modeled as fixed effects, which sets all person slopes as equivalent to the grand mean.

These regression equations in HLM are known as random coefficients models (Raudenbush & Bryk, 2002). These models, since there are no Level-2 predictors, are similar to OLS regression, except for the fact that these models essentially run separate regression equations for the relationship between job demands and hedonic tone (and for the relationship between prior mood state and the predicted mood state) for each individual person, and then calculates the average slope across all individuals. The

parameters of primary interest are in bold.

Signal level:

$$\begin{aligned} Hedonic\ Tone_{ti} = & \beta_{0i} + \beta_{1i}(JobDemands_{ti}) + \beta_{2i}(Hedonic\ Tone_{[t-1]i}) + \\ & \beta_{3i}(DumMon) + \beta_{4i}(DumTues) + \beta_{5i}(DumWed) + \beta_{6i}(DumThurs) + r_{ti} \end{aligned}$$

Person level:

$$\beta_{0i} = \gamma_{00} + U_{0i}$$

$$\beta_{1i} = \gamma_{10} + U_{1i}$$

$$\beta_{2i} = \gamma_{20} + U_{2i}$$

$$\beta_{3i} = \gamma_{30}$$

$$\beta_{4i} = \gamma_{40}$$

$$\beta_{5i} = \gamma_{50}$$

$$\beta_{6i} = \gamma_{60}$$

where,

$Hedonic\ Tone_{ti}$ = Hedonic tone score at observation t for person i

β_{0i} = Signal level intercept = Mean hedonic tone score for person i

β_{1i} = Person i 's slope for job demands

β_{2i} = Person i 's slope for prior hedonic tone

$\beta_{3i} - \beta_{6i}$ = Person i 's slope for dummy-coded day of the week variables

r_{ti} = Signal level residual = Portion of person i 's hedonic tone score at observation t not explained by person i 's mean hedonic tone score,

γ_{00} = Grand mean for hedonic tone = mean hedonic tone score across all observations and all persons

γ_{10} = Mean of the slopes for job demands across all persons

γ_{20} = Mean of the slopes for prior hedonic tone across all persons

$\gamma_{30} - \gamma_{60}$ = Mean of the slopes for dummy-coded day of the week variables

U_{0i} = Departure of person i 's intercept from sample mean intercept=Portion of person i 's mean hedonic tone score not explained by the grand mean for hedonic tone across all persons and observations

U_{1i} = Departure of person i 's job demands slope from the sample mean job demands slope=Portion of person i 's job demands slope not explained by the mean job demands slope across all persons and observations

U_{2i} = Departure of person i 's prior hedonic tone slope from the sample mean prior hedonic tone slope=Portion of person i 's prior hedonic tone slope not explained by the mean prior hedonic tone slope across all persons and observations

Variance (r_{ti}) = σ^2 = within-person variance in hedonic tone

Variance (U_{0i}) = τ_{00} = between-person variance in hedonic tone

Variance (U_{1i}) = τ_{10} = between-person variance in slopes for job demands

Variance (U_{2i}) = τ_{20} = between-person variance in slopes for prior hedonic tone

It is also possible to calculate the percentage of variance explained in a given model above and beyond the baseline ANOVA model with no predictors (similar to what was described above in the variance decomposition section, but for Hypothesis 1 this baseline model would only have end of day hedonic tone as the dependent variable). This value (R^2) is reported in the tables, although it should be noted that some have pointed out that the concept of R^2 has rather limited use in multilevel modeling (Kreft & De Leeuw, 1998); therefore, all of these R^2 should be interpreted with caution.

To calculate R^2 , two models need to be identified: the *baseline* model and the

focal model, which is the full model with all of the independent variables and/or controls predicting the dependent variable. For the Level-1 models, the R^2 is calculated by plugging in the within-person residual variance from both the baseline and the focal models into the following equation (difference variance coefficients were used to calculate R^2 for the Level-2 models, as will be discussed below). The equation to calculate R^2 is as follows:

$$\frac{\text{Var}(r_{ti})_{\text{Baseline}} - \text{Var}(r_{ti})_{\text{Focal}}}{\text{Var}(r_{ti})_{\text{Baseline}}}$$

All within-person results are presented first, followed by the between-person (i.e., hypotheses relating to the personality variables). In addition, the results are presented in logical order, following the model presented in Figure 4. For example, when discussing the effects of job demands on mood, Hypotheses 1, 2, and Research Question 2 were addressed in the same section.

The Within-Person Relationships between Job Demands and Mood States. To examine the relationship between job demands and mood states, the average mood states for each day were used (i.e., the morning, afternoon, and end of day mood assessments were averaged for each day). Mood state from the prior day was included to control for prior mood state.⁵ Recall that all models include dummy-coded variables to account for daily trends for momentary variables across the week.

Hypothesis 1 predicted that daily job demands would be negatively related to daily hedonic tone (i.e., higher job demands would relate to more negative mood states that day). Job demands were significantly negatively related to average daily hedonic tone ($\gamma_{10} = -.17$), $t(113) = -2.54$, $p < .05$ (see Table 8). Thus, on average, individuals

with higher daily job demands had lower daily hedonic tone (i.e., they were in a more negative mood state), which supports Hypothesis 1.

Hypothesis 2 predicted that daily job demands would be positively related to daily activation (i.e., higher job demands would relate to more intense/activated mood states). Results revealed that job demands were significantly positively related to average daily activation ($\gamma_{10} = .28$), $t(113) = 4.84$, $p < .01$, which supports Hypothesis 2.

Beyond simply examining how job demands relates to the two axes of hedonic tone and intensity, I also examined the relationship between job demands and the four mood “types” as discussed earlier (i.e., activated unpleasant, activated pleasant, unactivated pleasant, and unactivated unpleasant). These analyses addressed Research Question 2.

With daily activated unpleasant moods as the dependent variable, job demands were significantly positively related to average daily activated unpleasant moods ($\gamma_{10} = .22$), $t(113) = 7.11$, $p < .01$. Thus, these results suggest that on days when individuals have higher job demands, they have higher activated unpleasant moods (i.e., they are more distressed on days when job demands are high). Job demands were not related to average daily activated pleasant moods ($\gamma_{10} = -.03$), $t(113) = -0.85$, $p = .40$. Job demands were negatively related to average daily unactivated pleasant moods ($\gamma_{10} = -.18$), $t(113) = -5.65$, $p < .01$. These findings suggest that on days when individuals have higher job demands, they have lower unactivated pleasant moods (i.e., they are less calm on days when job demands are high). Job demands were not related to average daily unactivated unpleasant moods ($\gamma_{10} = -.02$), $t(113) = -0.59$, $p = .56$.

The Within-Person Relationships between Mood States, Work Events, and

CWBs. In this section, the within-person relationships between mood states and self-reports of work events (Hypotheses 5, 7, and Research Question 3a), and the within-person relationships between mood states and daily CWBs (Hypothesis 3, Research Question 3b) were examined. Because the mood variables were all highly correlated with one another, separate models were conducted for each independent variable separately to avoid problems associated with multicollinearity.

First, the relationships between mood and self-reports of positive and negative work events were examined (shown in Table 9). The first model tested the relationship between daily hedonic tone and negative work events (Hypothesis 5). Results revealed that daily hedonic tone was negatively related to the frequency of negative work events ($\gamma_{10} = -.03$), $t(113) = -4.57$, $p < .01$. This means that on days in which individuals were in better moods, they reported fewer negative work events. Daily hedonic tone was positively related to the frequency of positive work events ($\gamma_{10} = .06$), $t(113) = 5.51$, $p < .01$, indicating that on days when individuals were in better moods they reported higher frequencies of positive work events.

Hypothesis 7 predicted a positive relationship between daily activation and negative workplace events (i.e., those in more activated mood states will be more likely to report negative work events). Results revealed that daily activation was not related to the frequency of negative work events ($\gamma_{10} = .00$), $t(113) = 0.33$, $p = .74$; therefore, Hypothesis 7 was not supported. There was, however, a positive relationship between daily activation and the frequency of *positive* work events ($\gamma_{10} = .06$), $t(113) = 6.36$, $p < .01$, suggesting that on days when individuals were more activated, they also reported a higher frequency of positive work events.

Daily activated unpleasant mood was positively related to the frequency of negative work events ($\gamma_{10} = .09$), $t(113) = 6.08$, $p < .01$. Daily activated unpleasant mood was negatively related to the frequency of positive work events ($\gamma_{10} = -.05$), $t(113) = -2.41$, $p < .05$. These results indicate that on days in which individuals had higher levels of activated unpleasant (i.e., distressed) mood states, they were more likely to report negative work events and less likely to report positive work events.

Activated pleasant mood was negatively related to the frequency of negative work events ($\gamma_{10} = -.04$), $t(113) = -2.92$, $p < .01$. Daily activated pleasant mood was positively related to the frequency of positive work events ($\gamma_{10} = .07$), $t(113) = 3.54$, $p < .01$. These results indicate that on days in which individuals had higher levels of activated pleasant (i.e., excited) mood states, they were less likely to report negative work events and more likely to report positive work events.

Daily unactivated pleasant mood was negatively related to the frequency of negative work events ($\gamma_{10} = -.07$), $t(113) = -5.20$, $p < .01$. Average daily unactivated pleasant mood was positively related to the frequency of positive work events ($\gamma_{10} = .06$), $t(113) = 3.03$, $p < .01$. These results indicate that on days in which individuals had higher levels of unactivated pleasant (i.e., calm) mood states, they were less likely to report negative work events and more likely to report positive work events.

Daily unactivated unpleasant mood was not significantly related to the frequency of negative work events ($\gamma_{10} = .00$), $t(113) = 0.43$, $p = .67$. Daily unactivated unpleasant mood was, however, negatively related to the frequency of positive work events ($\gamma_{10} = -.06$), $t(113) = -3.33$, $p < .01$. These results indicate that while being in an unactivated unpleasant (i.e., bored) mood state did not affect perceptions of negative work events, it

was negatively related to the frequency of self-reported positive work events. Stated alternatively, on days in which individuals had higher levels of unactivated unpleasant (i.e., bored) mood states, they were less likely to report positive work events.

Next, the within-person relationship between mood states and CWBs was examined (see Table 10). Hypothesis 3 predicted that daily hedonic tone would be negatively related to daily CWBs (therefore, individuals in a good mood would be less likely to engage in CWBs). In support of Hypothesis 3, daily hedonic tone was negatively related to CWBs ($\gamma_{10} = -.04$), $t(113) = -2.76$, $p < .01$. The remainder of the relationships between various mood states and CWBs was explored as a part of Research Question 3b. Interestingly, daily activation was negatively related to engaging in CWBs ($\gamma_{10} = -.05$), $t(113) = -3.52$, $p < .01$, indicating that individuals in more activated states were less likely to engage in CWBs. There was a significant, positive relationship between activated unpleasant mood and CWBs ($\gamma_{10} = .07$), $t(113) = 2.86$, $p < .01$, and between unactivated unpleasant mood and CWBs ($\gamma_{10} = .07$), $t(113) = 3.20$, $p < .01$. The relationships between activated pleasant and unactivated pleasant mood states and CWBs were not significant, although the path coefficients were positive, as would be expected.

Hypothesis 6 examined the relationship between work events and CWBs, and it was predicted that the frequency of self-reported negative workplace events would be positively related to engagement in CWBs. However, this relationship was not significant ($\gamma_{10} = .13$), $t(113) = 1.73$, $p = .09$ (see Table 11). Although not a part of the formal hypotheses or research questions, the relationship between positive workplace events and CWBs was also assessed. This relationship also was not significant ($\gamma_{10} =$

-.08), $t(113) = -1.55$, $p = .12$).

Test of Mediation. Hypothesis 4 predicted that within-person, daily hedonic tone would mediate the relationship between daily job demands and daily CWBs, and Hypothesis 8 predicted that within-person, self-reported daily negative work events would mediate the relationship between daily activation and CWBs. Such tests of mediation are often guided by the step-by-step procedures outlined by R. M. Baron and Kenny (1986). Specifically, they state that mediation may be occurring if the following conditions are met: 1) The independent variable is significantly related to the mediator, 2) the independent variable is significantly related to the dependent variable in the absence of the mediator, 3) the mediator has a significant unique effect on the dependent variable, and 4) the effect of the independent variable on the dependent variable shrinks upon the addition of the mediator to the model. However, recently, researchers have suggested modifications to this approach, and that it was no longer essential in establishing mediation to show that the initial variable was related to the outcome (Kenny, Kashy, & Bolger, 1999; MacKinnon, Krull, & Lockwood, 2000).⁶ Therefore, researchers today commonly calculate the indirect effect ab , which is the product of the coefficients relating the independent variable to the mediator (a), and the mediator to the dependent variable (b), and conduct formal significance tests of this indirect effect using the Sobel (1982) test. This was the approach taken in the current paper.

Before proceeding to this test of mediation, the models were first examined to determine if the coefficients for the relationships between the independent variable and the mediator, and between the mediator and the dependent variable, were random or

fixed. When these relationships vary randomly across persons, the formula for the indirect effect and its standard error must be modified to include the covariance between the random effects (Bauer, Preacher, & Gil, 2006; Kenny, Korchmaros, & Bolger, 2003). To examine whether both of the effects in the indirect path (*a* and *b*) are random, the step by step procedures outlined by Korchmaros and Kenny (2003) were used.

For Hypothesis 4, results showed that while the between-person variance in the effect of job demands on hedonic tone was random ($U_{1i} = .21, p < .01$), the between-person variance in the effect of hedonic tone on CWBs was not ($U_{2i} = .01, p = .11$). Therefore, since the second (i.e., *b* pathway) was non-random, then ordinary mediational analysis procedures could be used to estimate the indirect effects (Korchmaros & Kenny, 2003).

To test for mediation, first the relationship between the independent variable (job demands) and the mediator (hedonic tone) was examined. As discussed earlier, this relationship was significant ($\gamma_{10} = -.17, t(113) = -2.54, p < .05$). Next, CWBs were regressed on both job demands and hedonic tone, and the pathway corresponding to the hedonic tone — CWBs relationship was examined. This relationship was also significant ($\gamma_{10} = -.04, t(113) = -2.63, p < .05$). These two coefficients, along with their respective standard errors, were entered into the program developed by Preacher and Leonardelli (2003) to conduct a Sobel test. Results from this test indicated that the mediation was not significant ($z = 1.80, p = .07$). Therefore, Hypothesis 4 was not supported.

The second test for mediation was relating to Hypothesis 8, which predicted that

self-reported daily negative work events would mediate the relationship between daily activation and CWBs. First, the pathways were examined to determine whether they were fixed or random effects. Results showed that while the between-person variance in the effect of job demands on hedonic tone was random ($U_{1i} = .00, p < .01$), the between-person variance in the effect of negative events on CWBs was not ($U_{2i} = .01, p = .50$). Therefore, since the second (i.e., b pathway) was non-random, then ordinary mediational analysis procedures could be used to estimate the indirect effects (Korchmaros & Kenny, 2003).

In the first step to test for a significant indirect effect, the relationship between the independent variable and the mediator was not significant ($\gamma_{10} = .00$), $t(113) = 0.33, p = .74$, so it was not necessary to proceed through the additional steps to test for mediation. This analysis shows that Hypothesis 8 was not supported.

Between-Person Models

As stated earlier, there are two types of between-person analyses that were conducted. The first involves cross-level direct relationships (to test the relationship between personality variables and job demands, mood states, and CWBs), and the second involves cross-level moderation (to test the moderating relationship of personality on the job demands — mood relationship). The model testing cross-level direct relationships is presented first.

Cross-Level Direct Hypotheses. Cross-level direct hypotheses were tested with the equation presented below. Hedonic tone is used as the dependent variable in this equation for illustrative purposes; each other model for the other mood variables is similar to the one depicted below with that particular mood state substituted for hedonic

tone in the equation. It should be noted that the two personality variables were included into the model simultaneously because they were not found to correlate with one another ($r = .01$; see Table 4), and therefore multicollinearity was not a concern. The model for testing cross-level direct relationships is as follows (again, the parameters of primary interest are in bold).

Signal level:

$$\text{Hedonic Tone}_{ti} = \beta_{0i} + \beta_{1i} (\text{Hedonic Tone}_{[t-1]i}) + \beta_{2i} (\text{DumMon}) + \beta_{3i} (\text{DumTues}) + \beta_{4i} (\text{DumWed}) + \beta_{5i} (\text{DumThurs}) + r_{ti}$$

Person level:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}(\text{Dispositional Happiness}) + \gamma_{02}(\text{Affect Intensity}) + U_{0i}$$

$$\beta_{1i} = \gamma_{10} + U_{1i}$$

$$\beta_{2i} = \gamma_{20}$$

$$\beta_{3i} = \gamma_{30}$$

$$\beta_{4i} = \gamma_{40}$$

$$\beta_{5i} = \gamma_{50}$$

where,

Hedonic Tone_{ti} = Hedonic tone score at observation t for person i

β_{0i} = Signal level intercept = Mean hedonic tone score for person i

β_{1i} = Person i 's slope for prior hedonic tone

$\beta_{2i} - \beta_{5i}$ = Person i 's slope for dummy-coded day of the week variables

r_{ti} = Signal level residual = Residual signal level hedonic tone not explained by person i 's mean hedonic tone score, person i 's dispositional happiness score, and person i 's affect intensity score

γ_{00} = Grand mean for hedonic tone = mean hedonic tone score across all observations and all persons at average dispositional happiness and affect intensity

γ_{10} = Mean of the slopes for prior hedonic tone across all persons

$\gamma_{20} - \gamma_{50}$ = Mean of the slopes for dummy-coded day of the week variables

γ_{01} = Extent to which person i 's dispositional happiness influences his/her mean hedonic tone score

γ_{02} = Extent to which person i 's affect intensity influences his/her mean hedonic tone score

U_{0i} = Departure of person i 's intercept from sample mean intercept after accounting for personality variables

U_{1i} = Departure of person i 's prior hedonic tone slope from the sample mean prior hedonic tone slope = Portion of person i 's prior hedonic tone slope not explained by the mean prior hedonic tone slope across all persons and observations

Variance (r_{ti}) = σ^2 = within-person variance in hedonic tone

Variance (U_{0i}) = τ_{00} = between-person variance in hedonic tone

It should be noted that the R^2 is calculated slightly differently with the cross-level models, in that the Level-2 residuals are used instead of the Level-1 residuals. To calculate R^2 , the between-person residual variance in the intercept term (for cross-level direct hypotheses), or the between-person residual variance in the slope term (for the cross-level moderation hypotheses) from both the baseline and the focal models are entered into the equation listed below. Therefore, these R^2 values are computed relative to the between-group variance in the intercepts (or slopes), they are not computed relative to the total variance in the outcome variable (Snijders & Bosker,

1994). Also, following the guidelines put forth by Hoffman et al. (2000), the baseline model when testing cross-level direct relationships was the random regression model (i.e., the baseline ANOVA plus Level-1 controls), and the baseline model for the cross-level moderating relationships was the intercept-as-outcome model (i.e., the cross-level direct model). Thus, these latter two calculations essentially show the R^2 change from the prior model.

$$\frac{\text{Var}(U_{0i} \text{ or } U_{1i})_{\text{Baseline}} - \text{Var}(U_{0i} \text{ or } U_{1i})_{\text{Focal}}}{\text{Var}(U_{0i} \text{ or } U_{1i})_{\text{Baseline}}}$$

Hypothesis 9 predicted that individuals high in dispositional affect intensity would report higher daily activation than individuals low in dispositional affect intensity. This relationship was not supported ($\gamma_{02} = -.02$), $t(113) = -0.13$, $p = .91$. Research Question 1 examined the relationship between dispositional affect intensity and daily hedonic tone, but results showed no relationship between these two variables ($\gamma_{02} = -.11$), $t(113) = -0.77$, $p = .44$.

Hypothesis 11 predicted that individuals high in dispositional happiness would report higher daily hedonic tone than individuals low in dispositional happiness. Results showed that indeed, dispositional happiness was positively related to daily hedonic tone ($\gamma_{01} = .03$), $t(113) = 5.22$, $p < .01$. Although not hypothesized, results revealed that dispositional happiness was positively related to daily activation ($\gamma_{02} = .02$), $t(113) = 3.30$, $p < .01$, indicating that individuals who have higher dispositional happiness tended to be in more activated mood states. Next, Hypothesis 12 predicted that individuals high in dispositional happiness would report fewer daily job demands than individuals low in dispositional happiness. As shown in Table 12, this relationship was not supported (γ_{01}

= .00), $t(113) = -0.48$, $p = .64$. Lastly, Hypothesis 14 predicted that individuals high in dispositional happiness would engage in fewer daily CWBs. Indeed, there was a significant negative relationship between these two variables ($\gamma_{02} = .00$), $t(113) = -2.54$, $p < .05$.

Cross-Level Moderating Hypotheses. The cross-level moderating hypotheses were tested using a similar equation as the cross-level direct model, with a couple modifications. The parameters of primary interest are in bold.

Signal level:

$$\begin{aligned} \text{Hedonic Tone}_{ti} = & \beta_{0i} + \beta_{1i}(\text{Job Demands}) + \beta_{2i}(\text{Hedonic Tone}_{[t-1]i}) + \beta_{3i}(\text{DumMon}) \\ & + \beta_{4i}(\text{DumTues}) + \beta_{5i}(\text{DumWed}) + \beta_{6i}(\text{DumThurs}) + r_{ti} \end{aligned}$$

Person level:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}(\text{Dispositional Happiness}) + \gamma_{02}(\text{Affect Intensity}) + U_{0i}$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11}(\text{Dispositional Happiness}) + \gamma_{12}(\text{Affect Intensity}) + U_{1i}$$

$$\beta_{2i} = \gamma_{20} + U_{2i}$$

$$\beta_{3i} = \gamma_{30}$$

$$\beta_{4i} = \gamma_{40}$$

$$\beta_{5i} = \gamma_{50}$$

$$\beta_{6i} = \gamma_{60}$$

where,

Hedonic Tone_{ti} = Hedonic tone score at observation t for person i

β_{0i} = Signal level intercept = Mean hedonic tone score for person i

β_{1i} = Person i 's slope for job demands

β_{2i} = Person i 's slope for prior hedonic tone

$\beta_{2i} - \beta_{5i}$ = Person i 's slope for dummy-coded day of the week variables

r_{ti} = Signal level residual = Residual signal level hedonic tone not explained by person i 's mean hedonic tone score, person i 's dispositional happiness score, and person i 's affect intensity score

γ_{00} = Grand mean for hedonic tone = mean hedonic tone score across all observations and all persons at average dispositional happiness and affect intensity

γ_{10} = Mean of the slopes for job demands across all persons

γ_{20} = Mean of the slopes for prior hedonic tone across all persons

$\gamma_{30} - \gamma_{60}$ = Mean of the slopes for dummy-coded day of the week variables

γ_{01} = Extent to which person i 's dispositional happiness influences his/her mean hedonic tone score

γ_{02} = Extent to which person i 's affect intensity influences his/her mean hedonic tone score

γ_{11} = Extent to which person i 's dispositional happiness influences (moderates) the relationship between his/her job demands and hedonic tone

γ_{12} = Extent to which person i 's affect intensity influences (moderates) the relationship between his/her job demands and hedonic tone

U_{0i} = Departure of person i 's intercept from sample mean intercept after accounting for personality variables

U_{1i} = Departure of person i 's job demands slope from the sample mean job demands slope = Portion of person i 's job demands slope not explained by the mean job demands slope across all persons and observations

U_{2i} = Departure of person i 's prior hedonic tone slope from the sample mean prior

hedonic tone slope = Portion of person i 's prior hedonic tone slope not explained by the mean prior hedonic tone slope across all persons and observations

Variance (r_{ii}) = σ^2 = within-person variance in hedonic tone

Variance (U_{0i}) = τ_{00} = between-person variance in hedonic tone

Two cross-level moderating relationships were of interest in the present study, and both central around the role of personality in the job demands — mood relationship. Hypothesis 10 focused on whether dispositional affect intensity moderated the relationship between job demands and daily activation, and Hypothesis 13 focused on whether dispositional happiness moderated the relationship between job demands and daily hedonic tone. As shown in Table 13, neither of these hypotheses was supported. Specifically, the slope coefficient for the moderating relationship of dispositional affect intensity on the job demands — daily activation relationship was not significant ($\gamma_{12} = .13$), $t(113) = 1.49$, $p = .14$; nor was the slope coefficient for the moderating relationship of dispositional happiness on the job demands — daily hedonic tone relationship ($\gamma_{11} = .00$), $t(113) = 0.51$, $p = .61$.

CHAPTER 5: DISCUSSION

Overall, this study adds to the extant literature on the antecedents of CWBs in several ways. First, much of what is known about the antecedents of CWBs is at the between-person level, which cannot adequately assess how within-individual factors affect workplace perceptions and behaviors. Thus, the present study addresses this weakness of the current literature by providing a dynamic test of the influence of job demands, personality, mood states, and work events on CWBs. Second, this study serves as the first to separately test how the hedonic tone and the activation/intensity dimensions of mood (as well as several mood “types”) relate to workplace attitudes and behaviors. Recall that the most commonly used measure of affect in the organizational literatures is the PANAS, which only assesses *activated* unpleasant and pleasant moods; thus, little is known about how other mood states (e.g., unactivated unpleasant) influence reactions to workplace events and the likelihood of engaging in CWBs. Finally, this study examined two personality variables rarely studied in relation to workplace outcomes—*affect intensity* and *dispositional happiness*. Below, the substantive within-person and between-person findings are discussed.

Within-Person Findings

This study found that daily job demands were significantly and negatively related to hedonic tone (i.e., higher job demands were associated with less happy mood states). Individuals in with higher daily hedonic tone also reported a lower frequency of negative workplace events and a higher frequency of positive work events, and they engaged in fewer CWBs. Surprisingly, hedonic tone was not found to mediate the relationship between job demands and CWBs; however, this may be because there

was no real relationship that was to be mediated, as indicated by the nonsignificant direct effect of job demands on CWBs.

Individuals who had higher daily job demands also had higher daily activation. It was hypothesized that these activated states would result in increased self-reports of negative workplace events, based on Zillmann's (1979) Excitation Transfer Theory, and this would in turn increase their engagement in CWBs. However, the relationship between daily activation and negative events was not supported. Instead, results suggest that being in an activated state is actually beneficial for individuals. Those individuals in an activated mood state reported a higher frequency of self-reported *positive* workplace events, and engaged in fewer acts of CWB. These findings suggest that both hedonic tone and activation have positive effects on individuals in terms of their effects on perceptions of events and on workplace behaviors.

One of the supplementary goals of the present paper was to examine the relationships various mood types would have with job demands, perceptions of work events, and CWBs. Specifically, four mood types (as depicted in Figure 3) were examined: activated unpleasant (conceptually similar to the PANAS negative affect scale), activated pleasant (conceptually similar to the PANAS positive affect scale), unactivated pleasant, and unactivated unpleasant. The latter two mood types have rarely been examined in the literature, particularly in the field of industrial/organizational psychology.

Results pertaining to the four mood types revealed several interesting patterns. Activated pleasant moods and activated unpleasant moods were related to the main study variables in a relatively straightforward and expected pattern. Namely, job

demands were positively related to activated unpleasant mood (i.e., job demands related to higher levels of activated unpleasant mood states (though they were unrelated to activated pleasant moods). Activated unpleasant moods were positively related to perceptions of negative workplace events, and negatively related to perceptions of positive work events. Activated pleasant moods were negatively related to perceptions of negative work events, and positively related to perceptions of positive work events. Activated unpleasant moods were positively related to engagement in CWBs, but there was no significant relationship between activated pleasant moods and CWBs. Taken together, all of these results suggest that the activated pleasant and activated unpleasant subscales used in the present study behave quite similarly to the PANAS subscales frequently used in organizational research. Second, and in line with theoretical models (e.g., Spector & Fox, 2002), negative work behaviors appear to be largely driven by increased negative moods, rather than decreased levels of positive moods.

The results pertaining to the other two mood types (unactivated pleasant and unactivated unpleasant) are perhaps more interesting simply due to the fact that they have been examined so infrequently. For unactivated pleasant moods, it was found that job demands were negatively related to unactivated pleasant moods (i.e., individuals with higher job demands tended to be less calm and relaxed). There was no significant effect of job demands on unactivated unpleasant moods (i.e., job demands did not have a noticeable effect on bored/tired mood states). Unactivated pleasant moods were negatively related to perceptions of negative work events, and positively related to perceptions of positive work events, but they were unrelated to CWBs. Unactivated

unpleasant moods, on the other hand, were negatively related to perceptions of positive work events (i.e., individuals who were feeling bored/tired reported a decreased number of positive work events). In addition, individuals in this mood state were more likely to engage in CWBs. Therefore, in addition to the plethora of research that has shown that *activated* unpleasant mood states relate to increased CWBs, this study has shown that *unactivated* unpleasant mood states are also related to increased CWBs. Using cross-sectional data, researchers have found evidence for a positive relationship between boredom and CWBs (e.g., Spector, Fox, Penny, Bruursema, Goh, & Kessler, 2006). Therefore, these results support the idea that not all counterproductive work behavior is necessarily triggered by the more aggressive and anxious mood states (e.g., anger, anxiety); rather, it can also be triggered by unactivated unpleasant mood states.

Perceptions of work events (positive or negative) did not seem to have much effect on CWBs in the present study, as neither of these relationships was significant. Thus, although mood (in many cases) was significantly related to CWBs, these relationships did not appear to be driven by increased perceptions of negative work events. It is entirely possible that the effects of mood on CWBs is primarily mediated through other variables not examined in the present study, such as reduced job satisfaction, work engagement, or organizational commitment, or increased burnout. Future studies should examine other explanatory mechanisms for why mood influences engagement in CWBs using a within-person framework.

Between-Person Findings

The present study examined how two personality traits, dispositional happiness and affect intensity, were related to daily job demands, mood, and CWBs, and how they

may moderate the job demands — mood relationship. As stated earlier, much of the extant literature has focused exclusively on the Big Five personality factors, or traits such as trait anger, trait hostility, or trait negative activation (e.g., Hershcovis et al., 2007; Hough, 1992). Little is known about other potentially relevant personality traits, such as affect intensity and dispositional happiness. Results of the present study serve as the first known test of how trait affect intensity is related to daily job demands, various mood states, and engagement in CWBs, as well as how the relationship between job demands and activation is moderated by trait affect intensity. Similarly, the present study serves as the first empirical test of how dispositional happiness is related to reactions to daily job demands as well as the likelihood of experiencing positive or negative mood states or engaging in CWBs, as well as how the relationship between job demands and mood may be moderated by dispositional happiness.

As predicted, dispositional happiness was positively related to daily hedonic tone, and unexpectedly, it was also positively related to daily activation. Trait dispositional happiness also was negatively related to CWBs, as predicted. Trait affect intensity, on the other hand, was not as related to the momentary variables as was expected. Namely, the present study did not find support for the positive relationship between affect intensity and daily job demands, and between affect intensity and daily activation. Neither of the hypothesized moderating relationships were supported; dispositional happiness did not moderate the relationship between job demands and hedonic tone, and affect intensity did not moderate the relationship between job demands and activation. Future research should examine the relationships that other personality variables (such as dispositional aggression) may have on these

relationships, as these individuals may have stronger negative reactions to job demands due to their aggressive nature.

Additional Analyses

Recall that Hypotheses 5 and 7 predicted that mood states (specifically, daily hedonic tone and activation) would be related to perceptions of negative work events. These hypotheses were based on the idea that momentary moods can color one's judgment of events, and that if individuals are in more negative (or more activated) states, they may misinterpret what some may label as benign events as more negative, and therefore they would report a greater frequency of negative events than someone in a positive (or less activated) mood state. However, an alternative explanation is that perhaps it is the events themselves which in turn affect subsequent mood states. Following the logic of Affective Events Theory (Weiss & Cropanzano, 1996), perhaps it is the negative work events that are causing various affective reactions, which in turn drive a person's behavior. Given the nature of the data collection, it was possible to conduct additional analyses for the mood — events relationships in order to determine the causal pattern between these two variables. Specifically, mood and self-reports of negative (and positive) work events were assessed in the afternoon and at the end of the day. Thus, several sets of additional analyses were conducted; first, with afternoon mood states (i.e., afternoon hedonic tone, afternoon activation) predicting end of day self-reported work events (both positive and negative). Second, analyses were conducted with afternoon self-reported work events (both positive and negative) predicting end of day mood states (i.e., end of day hedonic tone, end of day activation). Results from these additional analyses are summarized below.

For hedonic tone, it was found that afternoon hedonic tone did not significantly predict end of day reports of either positive or negative work events. However, afternoon self-reported negative work events *did* significantly predict end of day hedonic tone, in that the more negative events that were reported in the afternoon, the lower one's hedonic tone at the end of the day. Afternoon self-reported positive work events was significantly related to end of day hedonic tone, in that the more positive events that were reported in the afternoon, the higher one's hedonic tone was at the end of the day. Together, these results suggest that for hedonic tone, it appears that contrary to the predictions of the present study, it was the events that were triggering subsequent hedonic tone, rather than hedonic tone influencing perceptions of future events.

For activation, there were no significant relationships between afternoon mood and end of day self-reported (positive or negative) work events, nor were there any significant relationships between self-reported afternoon events (positive or negative) and end of the day activation.

There was a significant relationship between afternoon activated unpleasant mood and end of day self-reported negative events, such that higher activated unpleasant mood in the afternoon was related to increased perceptions of negative work events at the end of the day. Additionally, afternoon (positive and negative) self-reported work events were significantly related to end of the day activated unpleasant mood. The more negative events that were reported in the afternoon, the higher one's activated unpleasant mood was at the end of the day; the more positive events that were reported in the afternoon, the lower one's activated unpleasant mood was at the end of the day. Thus, for activated unpleasant moods, it appears that there is some

evidence that work events engender subsequent affective reactions, *and* (at least for negative work events) mood influences subsequent perceptions of workplace events.

For unactivated pleasant moods, very similar causal relationships were found. Specifically, there was a significant relationship between afternoon unactivated pleasant mood and end of day self-reported negative events, such that higher unactivated pleasant mood in the afternoon was related to decreased perceptions of negative work events at the end of the day. Additionally, afternoon (positive and negative) self-reported work events were significantly related to end of the day unactivated pleasant mood. The more negative events that were reported in the afternoon, the lower one's unactivated pleasant mood was at the end of the day; the more positive events that were reported in the afternoon, the higher one's unactivated pleasant mood was at the end of the day. Thus, for unactivated pleasant moods, it appears that there is some evidence that work events engender subsequent affective reactions, *and* (at least for negative work events), mood influences subsequent perceptions of workplace events.

For the remaining mood types, activated pleasant and unactivated unpleasant, there were no significant relationships found for the causal relationships between afternoon mood and end of day work events, nor for the causal relationship between afternoon work events and end of day mood.

Taken together, it appears that in some cases, mood does influence subsequent perceptions relating to workplace events. However, it was more often the case that workplace events engendered various affective reactions. Specifically, the additional analyses revealed eight significant relationships; six found that events influenced subsequent mood, and two found that mood influenced subsequent events. To further

examine the idea that events engender subsequent mood states, which can turn influence a person's work behaviors, additional tests for mediation were conducted to see if mood mediated the relationship between workplace events and CWBs (recall, that Hypothesis 8 tested, and found no support, for the idea that workplace events would mediate the relationship between mood and CWBs). The additional mediation analyses revealed that daily activation significantly mediated the relationship between self-reported *positive* workplace events and CWBs (Sobel test: $z = -2.65$, $p < .01$). Specifically, the data suggest that positive work events indirectly decreased CWBs by increasing activated mood states. In sum, while in some cases individuals' mood states affected their perceptions of work events, more often it was the case that work events influenced subsequent mood at work. This suggests that the conceptual model shown in Figure 4 should be modified to include a bidirectional relationship between mood and work events.

Although the two personality variables, affect intensity and dispositional happiness, did not play as much of a role in explaining within-individual changes as expected, it would still be useful for organizational researchers to examine the relationships these variables may have on other affectively-laden variables (e.g., job satisfaction). One unexpected result relating to personality was the significant positive relationship between dispositional happiness and daily activation, meaning that individuals higher in dispositional happiness tended to have higher daily activated moods. However, given that daily activation was related to positive outcomes (e.g., increased perceptions of positive events, decreased engagement in CWBs), this significant positive relationship between dispositional happiness and daily activation

further supports the idea that simply being in an activated mood state is beneficial.

Limitations

The present study is not without its limitations. First, as all of the study variables were assessed with self-reports from individuals, they could suffer from common method bias. This bias could have caused these variables to be spuriously correlated due to consistencies in response styles or by socially desirable responding. Efforts were made to reduce these potential biases by 1) assessing study variables across multiple days, and 2) the inclusion of positive as well as negative work behaviors (the positive behaviors, as discussed earlier, were not of importance to the present study). However, despite these attempts to minimize common method bias, this could still have played a role in the study results. Future studies should seek to include other reports of negative work behaviors and workplace events (e.g., supervisor or peer reports), to more fully understand the relationship between job demands, mood, work events, and CWBs.

Another limitation of the present study was in the repeated measurements of the same variables over a two week period. It is possible that participants may have become bored or frustrated with process of responding to so many surveys, or sensitized to the survey items. Every effort was made to choose shorter versions of scales, but even surveys that take a couple of minutes of an individual's time may have become burdensome in the aggregate. However, studies have shown that the effects of sensitization and boredom are not significant (Eckenrode & Bolger, 1995), and repeated assessments of study variables was only way within-person changes could have been examined, which was one of the main advantages of the present study.

Another limitation was that even though mood was assessed three times each

day, all of the analyses between study variables (with the exception of the supplementary analyses for mood and events) were assessed at the daily level. However, because the study hypotheses focused on the relationship between study variables at the daily level, this aggregation was deemed appropriate. Furthermore, because other study variables (such as job demands and engagement in CWBs) were not likely to fluctuate much within a single day, it would likely not be useful (and it would be overly burdensome to participants) to assess these other variables multiple times each day.

The specific sample in the present study was ironically both a limitation and an advantage. Because study participants worked in varied occupations, this increases the generalizability of the findings because these results are not limited to effects within a single organization, for example. However, because the occupations of participants were so varied, this may have introduced additional unexplained variance into the models, which could have affected some of the study findings. For example, it is possible that individuals in certain industries, or certain levels within the organization (e.g., management versus entry-level workers) would have different reactions to job demands, and may engage in CWBs at different rates. It would be useful for future studies to examine whether these factors influence the relationships between job demands, mood, and CWBs.

Theoretical Implications, Future Research Directions, and Conclusion

The present study provides further evidence that job demands, mood, perceptions of events, and engagement in CWBs vary across time within-individuals. Therefore, when modeling relationships with these variables, it is useful to examine

both between-person and within-person antecedents. A key finding of the present study was that even though job demands increased individuals' levels of activation, this was not a negative phenomenon, as was originally hypothesized. Quite the opposite; being in an activated mood state was related to decreased engagement in CWBs. Recall that prior studies had found that when individuals were in excited mood states (as induced by exercise) they were more inclined to act aggressively towards a provoker (e.g., Zillmann & Bryant, 1974). Because the present study found that activated mood states actually led to *reduced* counterproductive work behaviors, this suggests the possible presence of moderators. For example, perhaps other dispositional factors (e.g., aggressive personality) would moderate the relationship between activated mood states and CWBs. In addition, Zillmann and colleagues' studies examined aggressive behavior against individuals in a very specific situation, whereas the present study investigated negative behaviors in a broader sense, which include acts against individuals as well as acts against their organization. Additionally, whereas participants in the Zillmann and colleagues' studies were directly provoked by a confederate, in the present study participants may have not perceive the work events as "provocative" enough to engage in CWBs. Future research should examine whether activated mood states may lead to increased CWBs in some situations and decreased CWBs in others, or whether it depends on the specific type of CWB examined (e.g., individual versus organizational). For example, an employee in an activated mood state may misinterpret a comment made by his/her boss, and as a result he/she then spreads a nasty rumor about that boss (therefore, activation and CWBs would be positively related). Conversely, an employee in an activated mood state may be more inclined to stay on task and

accomplish one's work quickly, and less likely to engage in acts of CWB such as surfing the web on company time (therefore, activation and CWBs would be negatively related). Regardless, the activation component of mood should be included in theoretical models of the relationship between mood and CWBs (in addition to other aspects of organizational behavior).

In line with prior theory and research (e.g., Geurts et al., 2003; Spector & Fox, 2002), the present study conceived of job demands as a type of job stressor which induced negative emotional reactions; however, results suggest that this conceptualization may have been too simplistic. When considering hedonic tone, it appears appropriate to conceive of job demands as engendering negative emotional reactions. Namely, higher job demands led to decreased hedonic tone, which in turn was associated with increased CWBs. However, when considering mood activation, these findings are less clear cut. Specifically, higher job demands were related to increased daily mood activation, which in turn was related to *positive* outcomes (e.g., reduced CWBs). Considering these two sets of findings together, it appears that job demands have both positive and negative impacts on individuals, depending on the mood type of interest (i.e., hedonic tone or activation). For example, the findings relating to mood activation suggest that increased job demands may invigorate individuals, and that energy can have positive implications for individuals and organizations. Future research should further examine the effects of job demands on different aspects of a person's mood, to determine whether job demands are best conceptualized as stressors or motivating factors, and if this depends on certain individual and/or situational characteristics.

Another interesting result of the present study was the finding that within individuals, unactivated unpleasant mood states were positively related to CWBs. Although researchers have found that boredom is positively related to several forms of CWBs, including horseplay type of behaviors and withdrawal (Spector et al., 2006), this is the first known study to demonstrate the relationship between such unactivated unpleasant mood states and counterproductive work behaviors using an experience sampling methodology. Penney, Spector, Goh, Hunter, and Turnstall (2007), using critical incidents from employees, developed a CWB motives scale, of which one of the motive categories was avoiding boredom (e.g., because I need a break from my work). It is logical to assume that individuals may engage in different types of CWBs depending on whether they are in activated or unactivated unpleasant mood states. Future research should examine how both of these mood states relate to various types of CWBs, and if these relationships are driven by different motives.

This study sought to understand what factors influence proclivity to engage in counterproductive work behaviors. Many factors were examined, including situational factors (i.e., job demands, work events), and individual factors (i.e., personality, mood). At least in the present study, individual factors were more likely to influence CWBs than situational factors. Of the individual factors, mood was a more consistent predictor of CWBs than was personality. The only relationship that was found between situational factors and CWBs was in the indirect effect of positive work events on CWBs through increased activated moods.

In the broad sense, participants were more likely to engage in CWBs when they were in negative moods than when they were in positive moods. Breaking the results

down by specific mood type, individuals were less likely to engage in CWBs when they had higher levels of hedonic tone (happy), activated pleasant (excited), unactivated pleasant (calm), and activated (intense) mood states, and they were more likely to engage in CWBs when they had higher levels of activated unpleasant (distressed) and unactivated unpleasant (bored) mood states. In addition to these momentary moods predicting CWBs, the personality trait of dispositional happiness was negatively related to CWBs. These results support the consistent finding in the literature that when employees are in bad moods and/or have a less positive disposition they may be more likely to engage in CWBs (e.g., Fox & Spector, 1999; Judge, Scott, & Ilies, 2006; Lee & Allen, 2002).

As discussed earlier, these results also suggest that companies should strive to ensure their employees are not bored at work, as this study shows that bored employees are also more likely to engage in CWBs. It is reassuring to know that employees in good moods (whether it is happy, calm, excited, or simply activated) are less likely to engage in CWBs. Very little research has focused on the relationship between positive dispositions/moods on CWBs. Rather, positive affect is generally theorized as an antecedent of OCBs and negative affect is generally theorized as an antecedent of CWBs (e.g., Spector & Fox, 2002). However, these findings suggest that there is reason to examine not only how negative moods increase CWBs, but also the various ways in which positive moods can reduce CWBs. For example, the present study provides evidence for the idea that positive workplace events decrease CWBs through increasing employees' activated mood states. Therefore, by examining not only

negative, but also positive (and activated) moods, in relation to CWBs, one can gain a more complete picture of why employees may behave badly at work.

In sum, the present study provides a dynamic test of the influence of job demands, personality, mood states, and work events on counterproductive work behaviors. The inclusion of several variables rarely examined in relation to workplace outcomes was a major contribution to the literature, and results suggest that it is beneficial to move beyond simply examining how activated unpleasant moods (i.e., negative affect as assessed by the PANAS, or discrete emotions such as anger or hostility) influence CWBS.

FOOTNOTES

¹ The linking mechanism between negative work events and CWBs (i.e., emotions) is not directly investigated in the present study for several reasons. First, research has shown that full-blown manifestations of emotions, particularly negative ones, are relatively infrequent in daily life (Watson, 2000). Therefore, the base rate for investigating such triggers of CWBs is likely to be rather low. Second, mood is more encompassing than emotions and includes all subjective feeling states, rather than one pure emotion. These pure emotions rarely are encountered in daily life (Izard, 1972, 1977; Plutchik, 1980; Watson, 2000). What is experienced is actually some mixed state, which can be better assessed by a more general mood scale that assesses hedonic tone, for example.

² Even though mood was assessed three times each day (i.e., participants provided up to 30 observations on the mood variables), since these mood estimates were averaged across each day it was deemed more appropriate to discuss power estimates based on a maximum of ten observations for each participant over the course of the study as opposed to thirty observations for each participant over the course of the study.

³ Reliability was calculated using two items: Part I of the HM (“In general, how happy or unhappy do you usually feel?”) and the first item from Part II of the HM (“On the average, the percent of time I feel happy _____ %”). Since these scales use different metrics, scores on each item were first standardized, and Cronbach’s alpha is based on the standardized items.

⁴ It should be noted that AR models assume equally spaced assessments, which was not entirely met by the parameters of the current study due to the fact that the gap between end of day mood and morning mood is longer than the gap between other mood assessments in the same day. However, it was determined that this approach was a better alternative than not addressing the serial dependency issue at all. Autocorrelations were calculated for the daily mood scores, and although daily scores were less related than the individual assessments were over time, there was still evidence for serial dependence in the daily mood scores.

⁵ It should be noted that there is some disagreement in the literature regarding the extent to which mood from the prior day carries over to the next day. Some research has found that mood from the prior day does not tend to carry over to the next day (Ilies et al., 2006; Judge & Ilies, 2004). However, other researchers have found that mood states (in particular negative affect) tend to carry over and affect relationships the following day (e.g., Williams, Suls, Alliger, Learner, & Wan, 1991).

⁶ This was, indeed, the case in the present study, as job demands did not have a significant direct effect on CWBs ($\gamma_{01} = -.03$), $t(113) = -1.39$, $p = .17$.

Table 1

Demographic Characteristics of Sample

Sample Characteristic	% of Sample
Gender	
Female	84.2
Male	15.8
Age (range = 20-62; <i>M</i> = 35)	
20's	45.6
30's	19.3
40's	25.4
50's	7.9
60's	1.8
Ethnicity	
Caucasian/White (Non-Hispanic)	52.6
African-American/Black	29.8
Asian American	4.4
Hispanic	1.8
Arabic	1.8
Other	8.8
Missing/unknown	0.9
Marital Status	
Single	64.0
Married	36.0
Parental Status	
Non Parent	62.3
Parent	36.8
Missing/unknown	0.9
Number of Children	
1	37.2
2	32.6
3+	30.3
Number of Children Living at Home	
0	28.9
1	33.3
2	22.2
3+	15.5

Table 1 cont.

Sample Characteristic	% of Sample
Age of Youngest Child (range = 1-35; <i>M</i> = 15)	
Under 10	31.0
10-19	33.3
20+	35.7
Work Status (<i>M</i> = 41 hrs/wk, range = 30-80)	
Full-Time	84.2
Part-Time	8.8
Missing/unknown	7.0
Student Status	
Student (<i>M</i> = 7 credits)	51.8
Graduate	53.3
Undergraduate	46.7
Non-Student	48.2
Supervisory Role	
Non Supervisor	74.6
Supervisor	25.4
Broad Occupational Classification	
Administrative Support Occupations, Including Clerical	59.6
Professional, Technical, and Related Occupations	24.6
Executive, Administrative, and Managerial Occupations	8.8
Service Occupations, Except Private Household	2.6
Sales Occupations	1.8
Handlers, Equipment Cleaners, Helpers, and Laborers	1.8
Precision Production, Craft, and Repair Occupations	0.9

Note. Percentages may not add up to 100% due to rounding. Percentages for number of children, number of children living at home, and age of youngest child are of those who have children. Percentages for graduate and undergraduate student status are of those who reported they were students.

Table 2

Descriptive Statistics for Personality Variables

Variable	Minimum	Maximum	Mean	SD
Affect Intensity	2.00	4.72	3.59	0.53
Dispositional Happiness	10.00	95.00	61.42	17.42

Note. N=114.

Table 3

Descriptive Statistics for Momentary Variables

Variable	N	Minimum	Maximum	Mean	SD
Daily Job Demands	2925	1	5	2.63	0.99
Daily CWBs	2730	1	4.44	1.45	1.45
Mood Variables					
Hedonic Tone					
Morning	976	-4	4	1.44	1.63
Afternoon	975	-4	4	1.40	1.67
End of Day	919	-4	4	1.45	1.66
Overall	2870	-4	4	1.43	1.65
Activation					
Morning	977	-4	4	0.52	1.47
Afternoon	975	-4	4	0.68	1.39
End of Day	919	-4	4	0.49	1.36
Overall	2871	-4	4	0.57	1.41
Activated Pleasant					
Morning	977	1	5	2.44	1.04
Afternoon	975	1	5	2.47	1.02
End of Day	919	1	5	2.45	1.07
Overall	2871	1	5	2.45	1.05
Activated Unpleasant					
Morning	978	1	5	1.90	0.89
Afternoon	977	1	5	2.08	0.98
End of Day	976	1	5	2.00	0.92
Overall	2872	1	5	1.99	0.93
Unactivated Pleasant					
Morning	976	1	5	3.21	0.91
Afternoon	975	1	5	3.15	0.95
End of Day	919	1	5	3.17	0.95
Overall	2870	1	5	3.18	0.94
Unactivated Unpleasant					
Morning	977	1	5	2.13	0.95
Afternoon	975	1	5	2.11	0.94
End of Day	919	1	5	2.31	0.97
Overall	2871	1	5	2.18	0.96

Note. Daily Job Demands, Daily Counterproductive Work Behaviors (CWBs), and morning, afternoon, and end of day mood assessments are averaged across all participants and across the ten days. Overall scores for mood variables are the average mood scores across all individuals and assessments.

Table 4

Correlation Matrix for All Study Variables

Variable	1	2	3	4	5	6
1. Affect Intensity	—					
2. Dispositional Happiness	.01	—				
3. Job Demands	.10	-.16	—			
4. CWBs	.18 [†]	-.22*	-.12	—		
5. Activation	-.02	.31**	.13	-.30**	—	
6. Hedonic Tone	-.11	.52**	-.34**	-.32**	.53**	—
7. Activated Unpleasant	.30**	-.30**	.49**	.35**	-.19*	-.57**
8. Activated Pleasant	.23*	.39**	-.13	-.06	.60**	.62**
9. Unactivated Pleasant	-.13	.43**	-.36**	-.23*	.34**	.76**
10. Unactivated Unpleasant	.21*	-.30**	.08	.47**	-.58**	-.47**
11. Freq. Positive Events	.05	.08	.09	-.12	.21*	.20*
12. Freq. Negative Events	.02	-.10	.42**	.14	-.02	-.31**

Note. $N = 114$. Variables 3-12 are averaged across momentary assessments.

CWBs=Counterproductive work behaviors. Activation is coded such that higher scores indicate greater activation. Hedonic tone is coded such that higher scores indicate better mood.

[†] $p < .10$, * $p < .05$, ** $p < .01$.

Table 4 continued

Variable	7	8	9	10	11	12
1. Affect Intensity						
2. Dispositional Happiness						
3. Job Demands						
4. CWBs						
5. Activation						
6. Hedonic Tone						
7. Activated Unpleasant	—					
8. Activated Pleasant	.06	—				
9. Unactivated Pleasant	-.40**	.58**	—			
10. Unactivated Unpleasant	.53**	-.13	-.25**	—		
11. Freq. Positive Events	-.06	.24**	.16	-.12	—	
12. Freq. Negative Events	.37**	-.08	-.27**	.08	.20*	—

Note. $N = 114$. Variables 3-12 are averaged momentary assessments.

CWBs=Counterproductive work behaviors. Activation is coded such that higher scores indicate greater activation. Hedonic tone is coded such that higher scores indicate better mood.

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

Table 5

Summary of Responses to Afternoon and End of Day Workplace Event Items

Type of Event	Percent Responses
Afternoon Survey	
Coworkers	
Yes, a positive event occurred.	34.4
Yes, a negative event occurred.	8.6
Yes, both a positive and negative event occurred.	4.7
No event occurred.	52.3
Supervisor(s)	
Yes, a positive event occurred.	25.5
Yes, a negative event occurred.	8.1
Yes, both a positive and negative event occurred.	2.2
No event occurred.	64.2
Work Task(s)	
Yes, a positive event occurred.	35.8
Yes, a negative event occurred.	12.2
Yes, both a positive and negative event occurred.	5.8
No event occurred.	46.2
End of Day Survey	
Coworkers	
Yes, a positive event occurred.	39.0
Yes, a negative event occurred.	6.1
Yes, both a positive and negative event occurred.	5.6
No event occurred.	49.3
Supervisor(s)	
Yes, a positive event occurred.	28.4
Yes, a negative event occurred.	4.7
Yes, both a positive and negative event occurred.	3.6
No event occurred.	63.3
Work Task(s)	
Yes, a positive event occurred.	39.1
Yes, a negative event occurred.	8.6
Yes, both a positive and negative event occurred.	6.3
No event occurred.	45.9

Note. N's range from 913-973.

Table 6

Daily Totals and Frequencies for the Number of Self-Reported Workplace Events

Variable	Minimum	Maximum	Mean	SD
Positive Events				
Sum	0	6	2.10	1.85
Frequency	0	1	0.38	0.33
Negative Events				
Sum	0	6	0.70	1.2
Frequency	0	1	0.13	0.22

Note. $N=1030$. Sum= Daily sum of self-reported events (range of 0-6);
 Frequency= Frequency of self-reported events, calculated as the number of
 events reported/number of possible events that could be reported on a given
 day.

Table 7

Autocorrelations across all 30 lags for Hedonic Tone

Lag	Autocorrelation	Std. Error
1	.608	.018
2	.520	.018
3	.484	.018
4	.422	.018
5	.394	.018
6	.397	.018
7	.360	.018
8	.324	.018
9	.328	.018
10	.288	.018
11	.252	.018
12	.246	.018
13	.190	.018
14	.175	.018
15	.171	.018
16	.137	.018
17	.119	.018
18	.104	.018
19	.098	.018
20	.074	.018
21	.095	.018
22	.060	.018
23	.038	.018
24	.019	.018
25	.007	.018
26	-.012	.018
27	-.038	.018
28	-.029	.018
29	-.033	.018
30	-.041	.018

Note. Number of computable first lags=2633.

Table 8

Prediction of Various Mood States by Daily Job Demands

DV	Parameter	Label	Estimate	SE	t	R ²
Average Daily Hedonic Tone	γ_{00}	Intercept	1.42	0.08	18.65**	.28
	γ_{10}	Job Demands	-0.17	0.07	-2.54*	
Average Daily Activation	γ_{00}	Intercept	0.57	0.08	7.10**	.25
	γ_{10}	Job Demands	0.28	0.06	4.84**	
Average Daily AU Mood	γ_{00}	Intercept	1.96	0.04	45.48**	.22
	γ_{10}	Job Demands	0.22	0.03	7.11**	
Average Daily AP Mood	γ_{00}	Intercept	2.42	0.05	45.78**	.13
	γ_{10}	Job Demands	-0.03	0.04	-0.85	
Average Daily UP Mood	γ_{00}	Intercept	3.16	0.04	70.83**	.15
	γ_{10}	Job Demands	-0.18	0.03	-5.65**	
Average Daily UU Mood	γ_{00}	Intercept	2.21	0.04	51.26**	.16
	γ_{10}	Job Demands	-0.02	0.04	-0.59	

Note. AU=Activated Unpleasant Mood, AP=Activated Pleasant Mood, UP=Unactivated Pleasant Mood, UU=Unactivated Unpleasant Mood. R² = percentage of the Level-1 variance in the dependent variable accounted for by the predictor plus controls.

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

Table 9

Prediction of Negative and Positive Work Events by Various Mood States

DV	IV	Parameter	Label	Estimate	SE	t	R ²
Negative Work Events	Average Daily Hedonic Tone	γ_{00}	Intercept	0.12	0.01	9.75**	.10
		γ_{10}	Hedonic Tone	-0.03	0.01	-4.57**	
	Average Daily Activation	γ_{00}	Intercept	0.11	0.01	9.49**	.01
		γ_{10}	Activation	0.00	0.01	0.33	
	Average Daily AU Mood	γ_{00}	Intercept	0.12	0.01	9.74**	.20
		γ_{10}	AU Mood	0.09	0.01	6.08**	
	Average Daily AP Mood	γ_{00}	Intercept	0.11	0.01	9.41**	.05
		γ_{10}	AP Mood	-0.04	0.01	-2.92**	
	Average Daily UP Mood	γ_{00}	Intercept	0.11	0.01	9.49**	.09
		γ_{10}	UP Mood	-0.07	0.01	-5.20**	
	Average Daily UU Mood	γ_{00}	Intercept	0.11	0.01	9.49**	.01
		γ_{10}	UU Mood	0.00	0.01	0.43	
Positive Work Events	Average Daily Hedonic Tone	γ_{00}	Intercept	0.38	0.02	18.47**	.07
		γ_{10}	Hedonic Tone	0.06	0.01	5.51**	
	Average Daily Activation	γ_{00}	Intercept	0.39	0.02	19.17**	.05
		γ_{10}	Activation	0.06	0.01	6.36**	
	Average Daily AU Mood	γ_{00}	Intercept	0.40	0.02	19.33**	.07
		γ_{10}	AU Mood	-0.05	0.02	-2.41*	
	Average Daily AP Mood	γ_{00}	Intercept	0.39	0.02	19.47**	.05
		γ_{10}	AP Mood	0.07	0.02	3.54**	
	Average Daily UP Mood	γ_{00}	Intercept	0.39	0.02	19.20**	.05
		γ_{10}	UP Mood	0.06	0.02	3.03**	
	Average Daily UU Mood	γ_{00}	Intercept	0.39	0.02	19.24**	.04
		γ_{10}	UU Mood	-0.06	0.02	-3.33**	

Note. AU=Activated Unpleasant Mood, AP=Activated Pleasant Mood, UP=Unactivated Pleasant Mood, UU=Unactivated Unpleasant Mood. R² = percentage of the Level-1 variance in the dependent variable accounted for by the predictor plus controls.

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

Table 10

Prediction of Counterproductive Work Behaviors by Various Mood States

DV	IV	Parameter	Label	Estimate	SE	t	R ²
CWBs	Average Daily Hedonic Tone	γ_{00}	Intercept	1.43	0.02	62.71**	.09
		γ_{10}	Hedonic Tone	-0.04	0.01	-2.76**	
	Average Daily Activation	γ_{00}	Intercept	1.43	0.02	66.31**	
		γ_{10}	Activation	-0.05	0.01	-3.52**	
	Average Daily AU Mood	γ_{00}	Intercept	1.44	0.02	62.93**	
		γ_{10}	AU Mood	0.07	0.03	2.86**	
	Average Daily AP Mood	γ_{00}	Intercept	1.43	0.02	62.03**	
		γ_{10}	AP Mood	-0.04	0.02	-1.87	
	Average Daily UP Mood	γ_{00}	Intercept	1.43	0.02	65.06**	
		γ_{10}	UP Mood	-0.04	0.03	-1.55	
	Average Daily UU Mood	γ_{00}	Intercept	1.43	0.02	63.54**	
		γ_{10}	UU Mood	0.07	0.02	3.20**	

Note. CWBs=counterproductive work behaviors, AU=Activated Unpleasant Mood, AP=Activated Pleasant Mood, UP=Unactivated Pleasant Mood, UU=Unactivated Unpleasant Mood. R² = percentage of the Level-1 variance in the dependent variable accounted for by the predictor plus controls.

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

Table 11

Prediction of Counterproductive Work Behaviors by Workplace Events

DV	IV	Parameter	Label	Estimate	SE	t	R ²
CWBs	Negative Work Events	γ_{00}	Intercept	1.43	0.02	67.38**	.00
		γ_{10}	Negative Work Events	0.13	0.08	1.73	
	Positive Work Events	γ_{00}	Intercept	1.43	0.02	66.01**	.03
		γ_{10}	Positive Work Events	-0.08	0.05	-1.55	

Note. CWBs=counterproductive work behaviors, R^2 = percentage of the Level-1 variance in the dependent variable accounted for by the predictor plus controls.

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

Table 12

Cross-Level Direct Relationship between Personality Variables, Daily Job Demands, Daily Hedonic Tone, Daily Activation, and CWBs

DV	Parameter	Label	Estimate	SE	t	R ²
Daily Job Demands	γ_{00}	Intercept	2.57	0.05	51.98**	
	γ_{01}	Dispositional Happiness	0.00	0.00	-0.48	
	γ_{02}	Affect Intensity	0.04	0.10	0.42	.00
Daily Hedonic Tone	γ_{00}	Intercept	1.43	0.07	19.52**	
	γ_{01}	Dispositional Happiness	0.03	0.01	5.22**	
	γ_{02}	Affect Intensity	-0.11	0.15	-0.77	.20
Daily Activation	γ_{00}	Intercept	0.59	0.07	7.94**	
	γ_{01}	Dispositional Happiness	0.02	0.00	3.30**	
	γ_{02}	Affect Intensity	-0.02	0.13	-0.13	.10
CWBs	γ_{00}	Intercept	1.43	0.02	66.73**	
	γ_{01}	Dispositional Happiness	0.00	0.00	-2.54*	
	γ_{02}	Affect Intensity	0.06	0.04	1.49	.00

Note. CWBs= counterproductive work behaviors. R²= percentage of the Level-2 variance in the dependent variable accounted for by personality.

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

Table 13

Moderating Relationships of Personality on the Job Demands to Mood Relationships

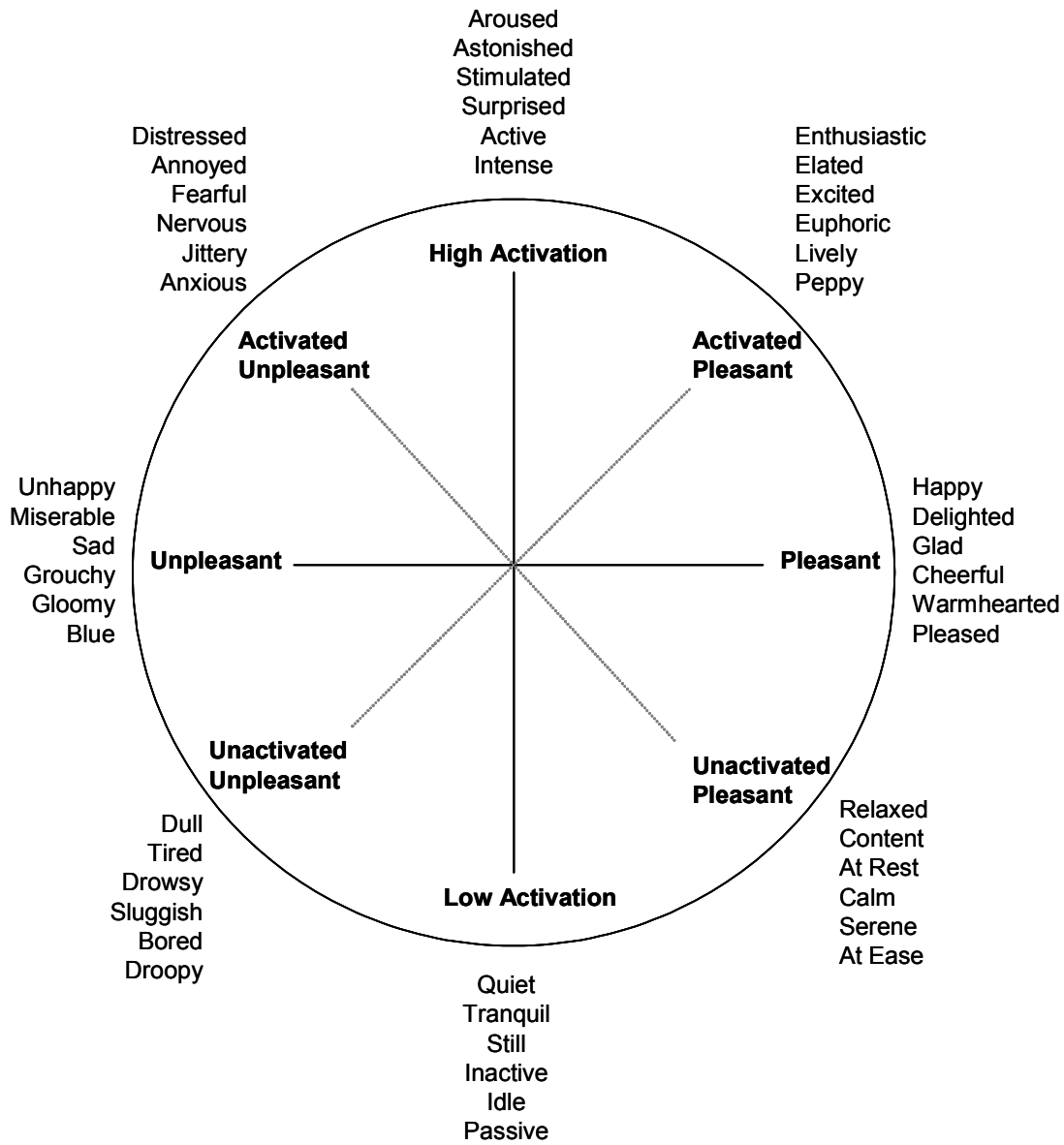
DV	Parameter	Label	Estimate	SE	t	R ²
Daily Activation	γ_{00}	Intercept	0.57	0.08	7.44**	
	γ_{10}	Job Demands	0.28	0.06	4.92**	
	γ_{11}	Dispositional Happiness	0.00	0.00	-0.31	
	γ_{12}	Affect Intensity	0.13	0.09	1.49	.00
Daily Hedonic Tone	γ_{00}	Intercept	1.43	0.07	20.41**	
	γ_{10}	Job Demands	-0.17	0.07	-2.53*	
	γ_{11}	Dispositional Happiness	0.00	0.00	0.51	
	γ_{12}	Affect Intensity	-0.10	0.11	-0.92	.04

*R*²= percentage of the Level-2 variance in the relationship between job demands and mood accounted for by personality.

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

Figure 1

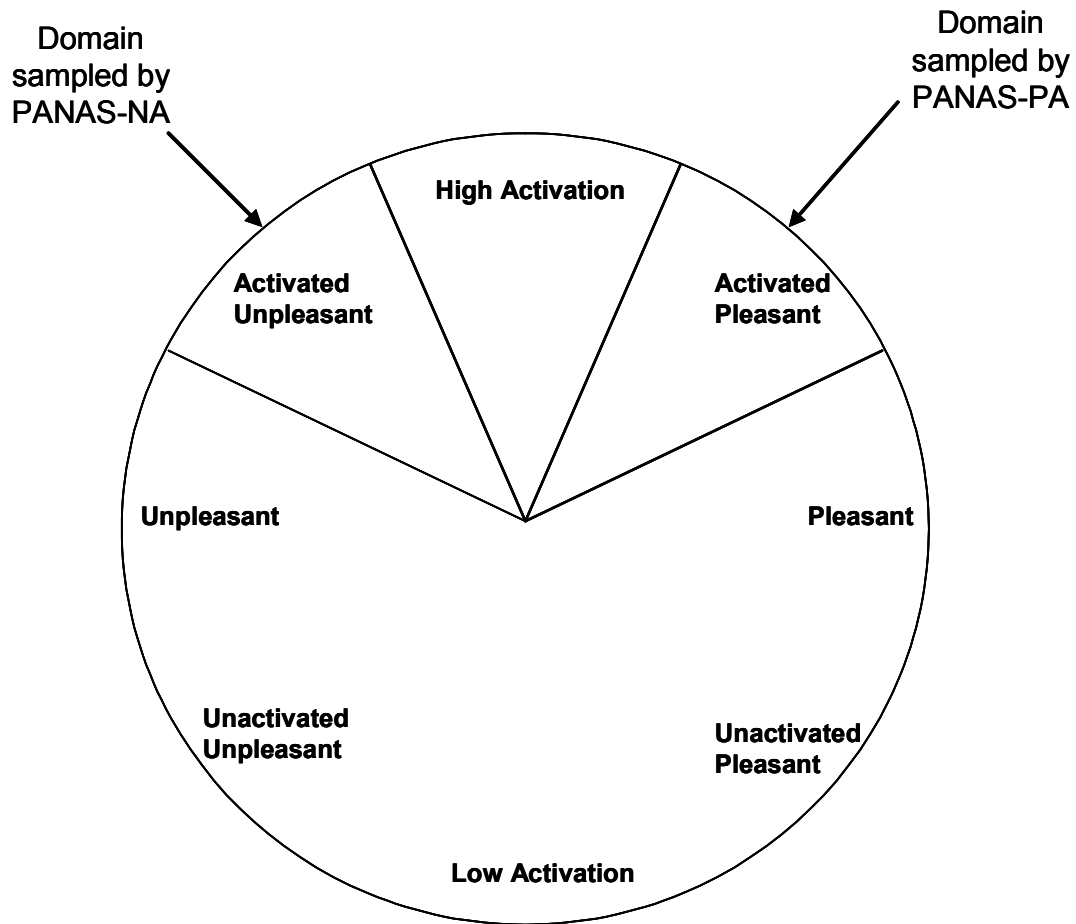
The Self-Report Affect Circumplex



Note: This model is taken from Larsen & Diener (1992)

Figure 2

An Illustration of the Domains Sampled by the PANAS



Note: Model is adapted from Cropanzano et al. (2003)

Figure 3

Categorization of Mood Types

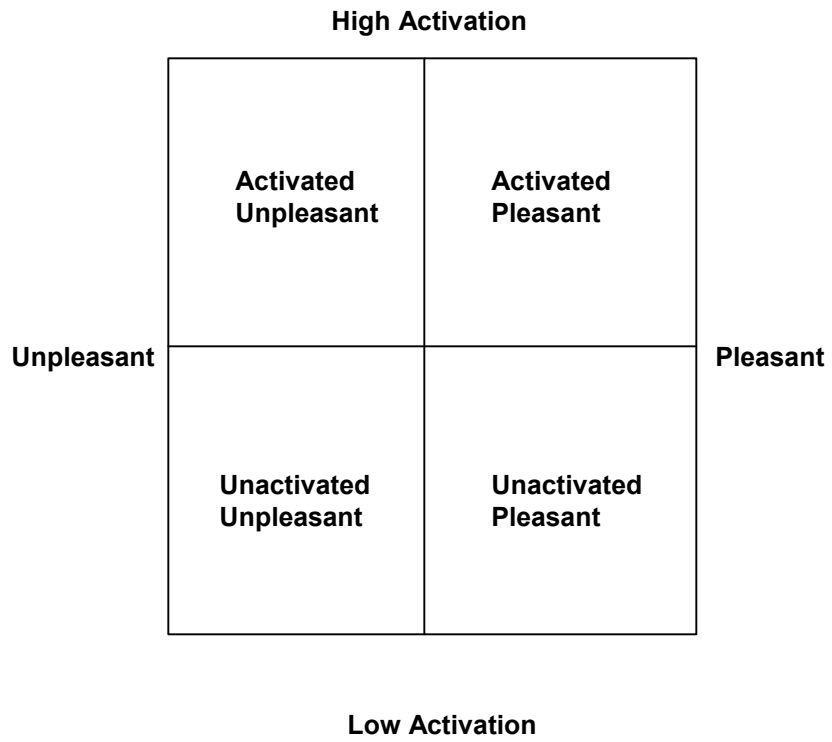


Figure 4

Proposed Conceptual Model

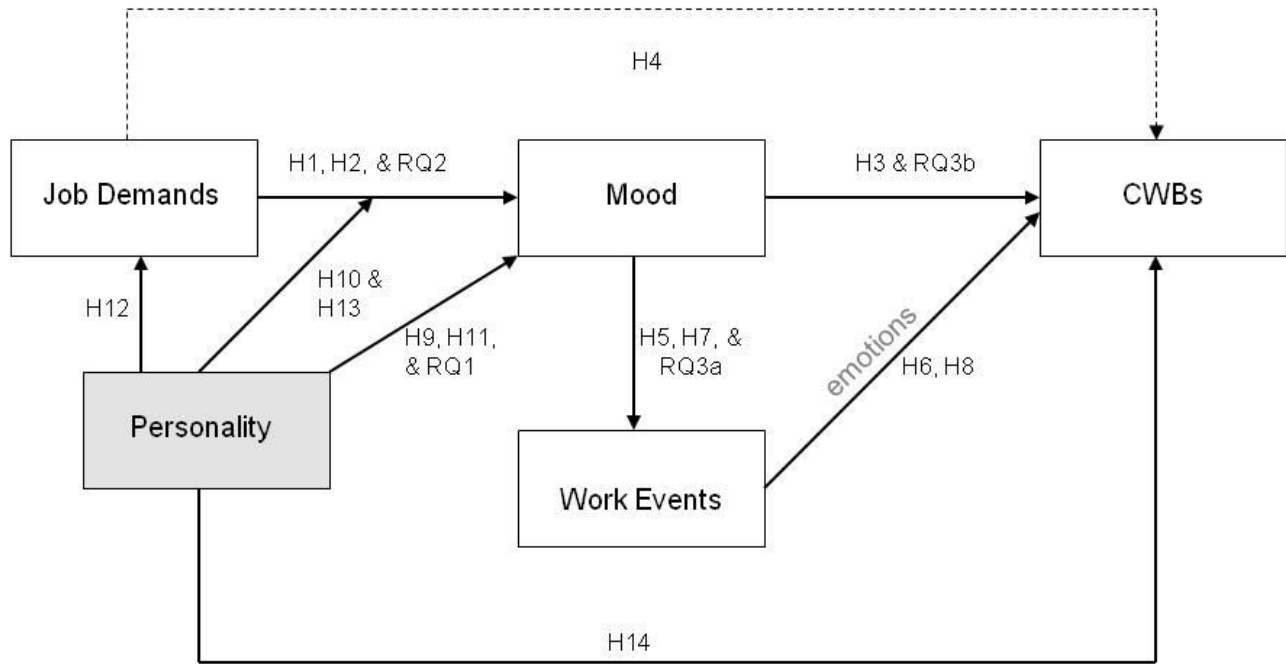


Figure 5

Specific Models for Hedonic Tone and Activation

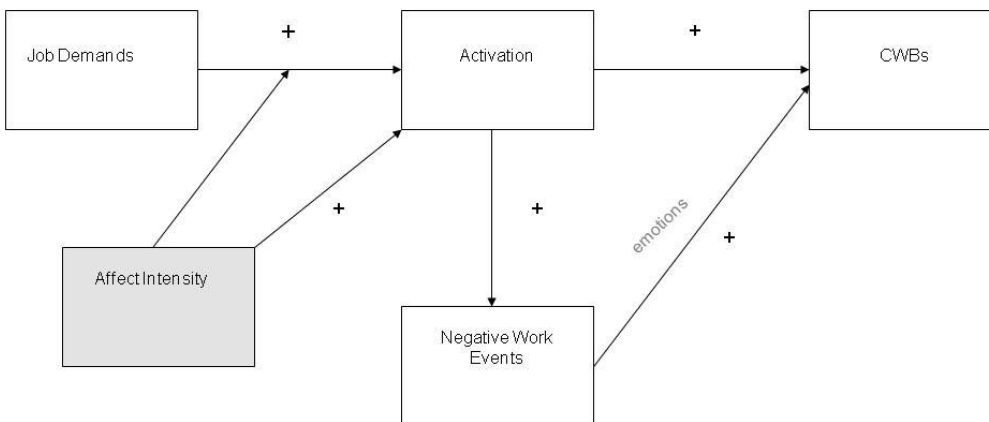
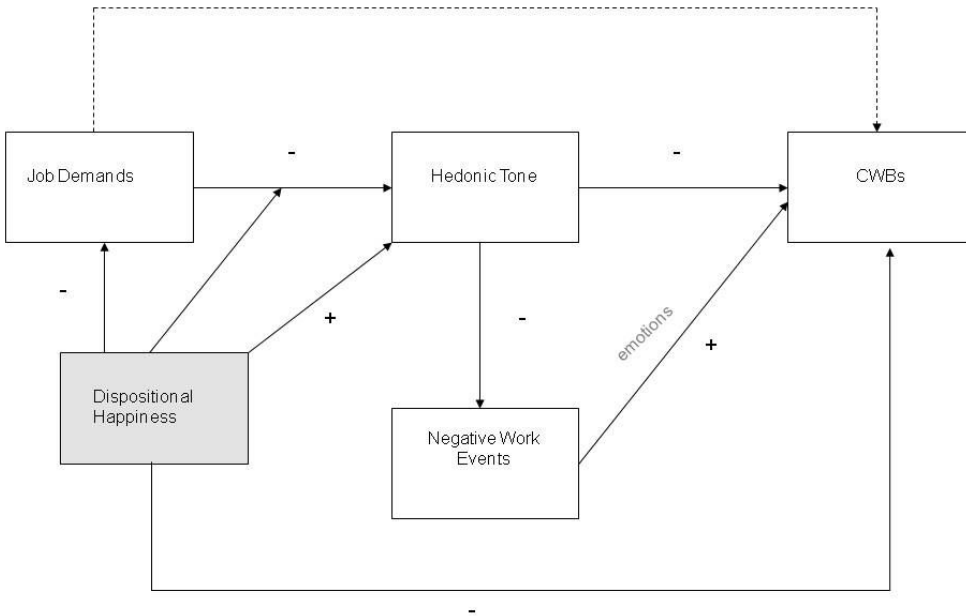
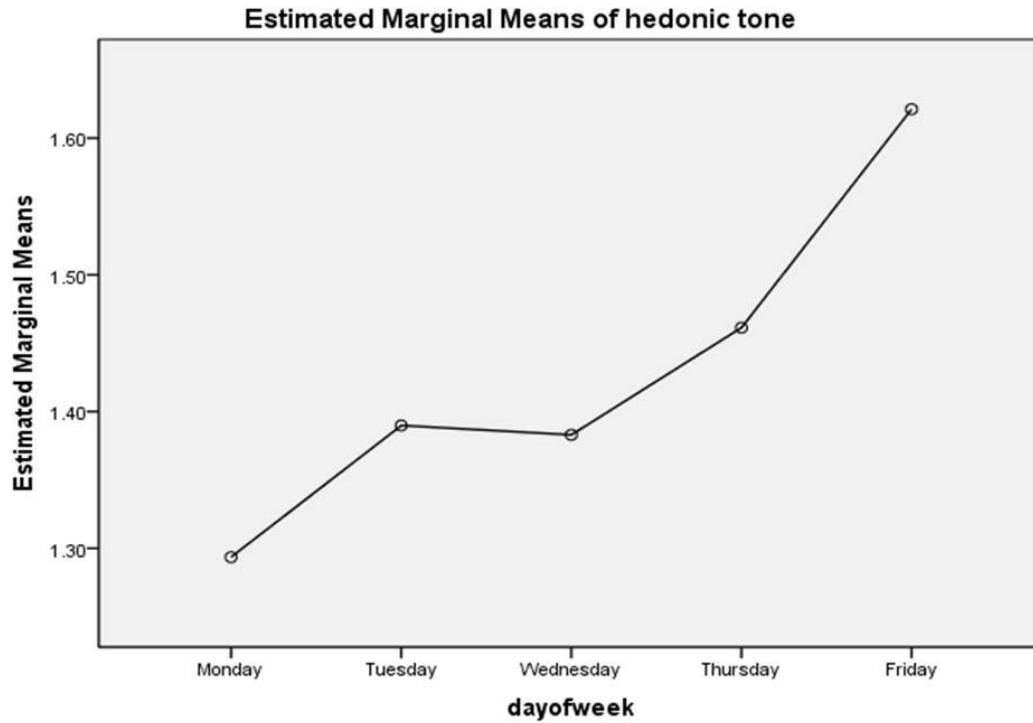
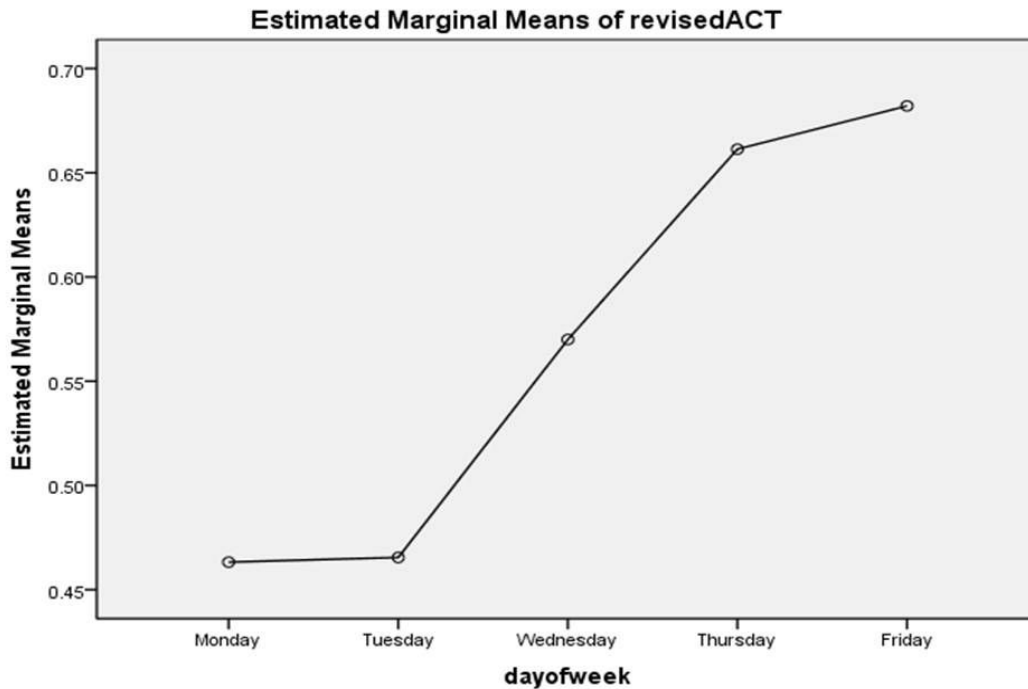


Figure 6

Graphic Depiction of Variables with Significant Trends over the Week

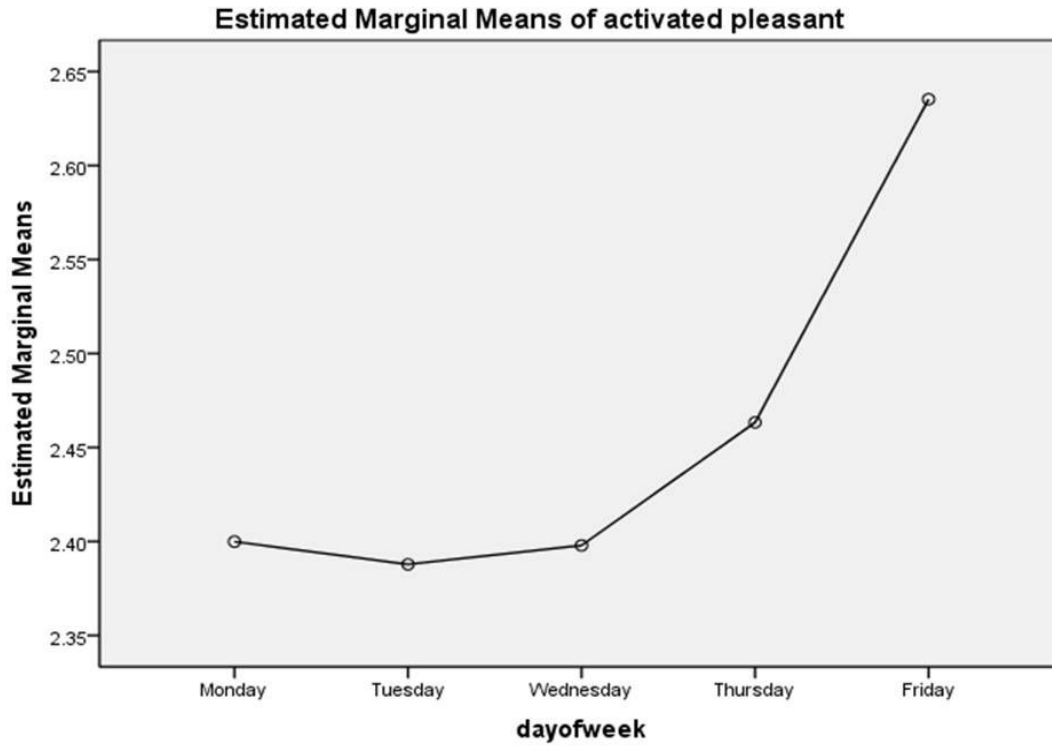


Covariates appearing in the model are evaluated at the following values: numericID = 57.0314

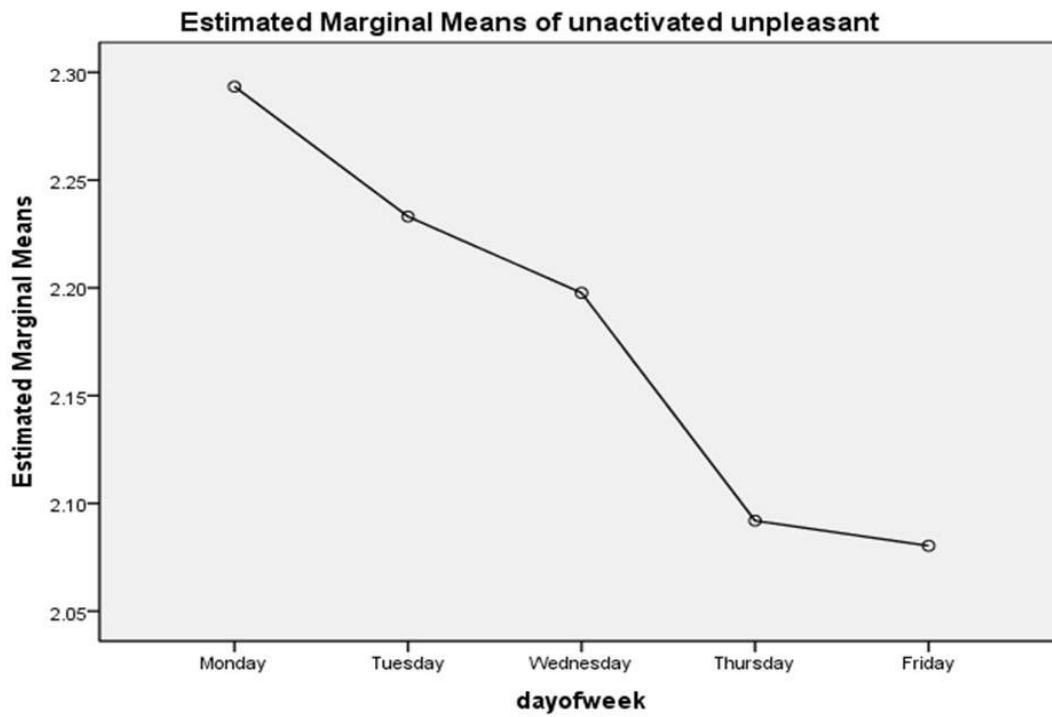


Covariates appearing in the model are evaluated at the following values: numericID = 57.0261

Figure 6 continued

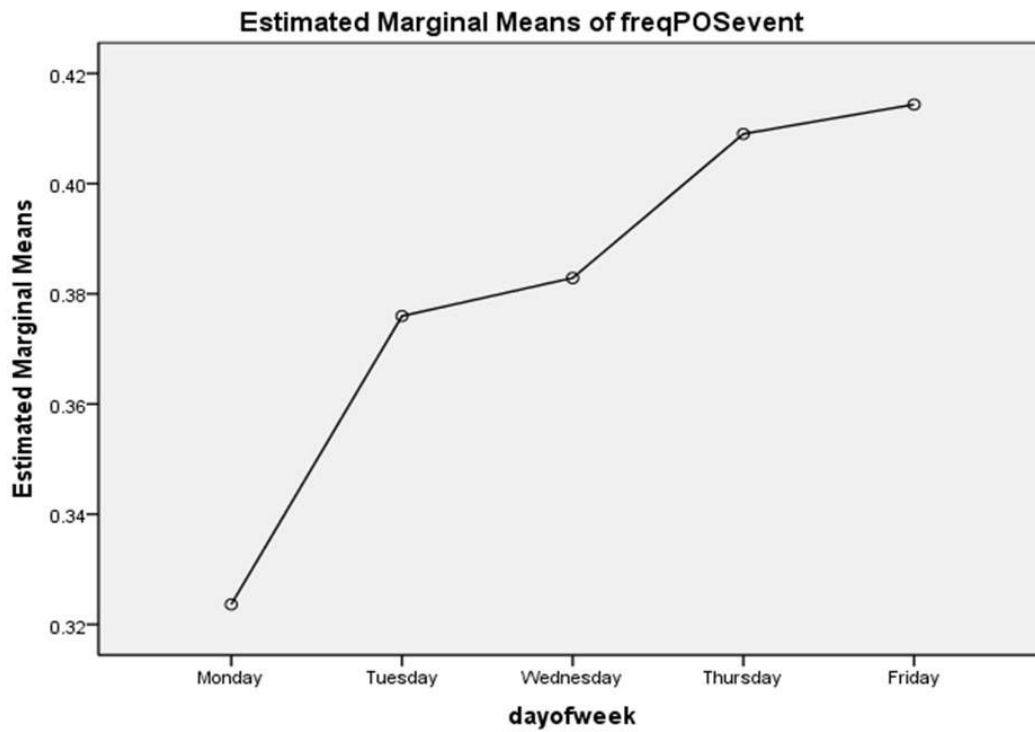


Covariates appearing in the model are evaluated at the following values: numericID = 57.0261



Covariates appearing in the model are evaluated at the following values: numericID = 57.0491

Figure 6 continued



Covariates appearing in the model are evaluated at the following values: numericID = 56.8262

Appendix A: STUDY ADVERTISEMENT

FEELINGS AND BEHAVIORS AT WORK SURVEY

We are looking for working individuals who have access to the internet at work and are able to complete online surveys throughout the work day to participate in an online research study investigating people's feelings and behaviors at work. Because you will be using time at work for a non-work activity, you should only participate in this study if your workplace allows for such discretionary activity. This study contains two phases, which will last a total of three weeks. In the first week, you will be asked to first complete an initial questionnaire (approx. 15 minutes) about yourself. Then, one week later you will begin the second phase of the study, which involves **completing brief (approx. 2 minutes) surveys regarding your feelings and behaviors at work three times each work day (morning, afternoon, and end of work day), for 10 consecutive work days** (thus, a total of 30 daily work surveys will be completed by the end of the study). If you complete both the initial survey as well as 85% of the daily surveys (at least 25 of the 30 possible surveys) you will be compensated \$25 and entered into a drawing to win one of three \$200 prizes. If you are interested in participating in this study or would like more information, please contact Malissa Clark at malissa@wayne.edu.

APPENDIX B: INITIAL SCREENING QUESTIONNAIRE

1. Are you currently employed?
 - No
 - Yes
 1a. If “yes”, please indicate the average number of hours you work per week. _____

2. What time do you typically begin your work day? _____

3. What time do you typically end your work day? _____

4. Do your work hours/times fluctuate day to day, or week by week, or are they relatively consistent?
 - Yes, they fluctuate. If yes, please explain how they fluctuate:

 - No, they are relatively consistent from day to day, and week to week.

5. Do you have access to the internet throughout the work day?
 - No
 - Yes

6. Will you be able to complete short (approximately 2 minutes long) questionnaires three times each working day, for ten consecutive calendar work days (i.e., Monday-Friday, Monday-Friday)?
 - No
 - Yes

7. Are you planning on missing work for any extended period of time (e.g., vacation time) during (*month of data collection*)?
 - No
 - Yes
 7a. If “yes”, please explain. _____

8. Do you work a “typical” work week? In other words, do you work Monday through Friday?
 - No
 - Yes
 8a. If “no”, please explain what days of the week you do and do not work.

In the event that you are eligible to participate in this study, please provide us with the following information about yourself:

1. Your first name: _____
2. Your last name: _____
3. What is your email address? (**IMPORTANT:** This *must* be an email address which you will be checking throughout the work day, as all surveys will be sent to this email address). _____
4. Please provide us with the mailing address in which you would like us to send your check: _____

5. Please choose a unique 4-digit code that you will be able to remember. _____

Note: You will be required to enter this 4-digit code each time you complete a survey.

Your code can be any letter and/or number combination, but please avoid using codes that are “too easy,” such as 1234 or ABCD.

These passwords ARE case sensitive.

If your code is identical to another participant’s, you may be asked to choose another code.

Thank you for completing our initial screening questionnaire. We will be contacting you if you are eligible to participate in our study with further instructions.

APPENDIX C: INITIAL SURVEY**Research Information Sheet**

Title of Study: Feelings and Behaviors at Work

Principal Investigator (PI): Malissa Clark
Psychology
248-767-2107

Funding Source: Departmental funding

Purpose:

You are being asked to be in a research study of the various feelings and behaviors employees engage in at work because you currently work full-time and have access to the internet throughout the day. This study is being conducted at Wayne State University.

Study Procedures:

If you take part in the study, you will be asked to first complete an initial assessment, which consists of filling out questionnaires about yourself, and which should take approximately 30 minutes. Approximately one week later, you will begin the second phase of the study. During the second phase of the study, you will be asked to complete short (approximately 2 minutes each) online questionnaires about your current feelings and behaviors **three times each day, for 10 consecutive working days**. The morning survey should be completed upon arrival to work, the afternoon survey should be completed between 11-1, and the end of day survey should be completed before leaving work for that day. Email reminders will be sent to all participants at 8:00am, 11:00am, and 3:00pm each day, which will include a link to the online study. Because you will be filling out three at work surveys each day for 10 consecutive work days, the total number of at work surveys you will have completed by the end of the study is 30 (3 times per day * 10 working days).

Benefits

- As a participant in this research study, there may be no direct benefit for you; however, information from this study may benefit other people (society) now or in the future.

Risks

By taking part in this study, you may experience the following risks:

- Social risks: Possible effect to employment status if your workplace does not allow for such discretionary activity during the workday.

Costs

- There will be no costs to you for participation in this research study.

Compensation

- For taking part in this research study, you will be paid for your time and inconvenience. **You will receive compensation if you complete the initial assessment as well as at least 85% of the work day surveys.** For example, since there are a total of 30 possible surveys (3 per day over 10 working days), in order to complete at least 85% of the work day surveys you must complete at least 25 work day surveys.
- Eligible participants will be compensated for their time and inconvenience twenty five dollars (\$25) plus they will be entered into a drawing to win one of three \$200 prizes.

Confidentiality:

- You will be identified in the research records by a code name or number. Only the principal investigator will have this list, and it will be used solely for the purposes of determining eligibility for monetary compensation. **Once this has been determined, the master list linking your name to your 4-digit code will be destroyed, and your name in no way will be associated with your responses to the survey questionnaires.**

Voluntary Participation /Withdrawal:

Taking part in this study is voluntary. You are free to not answer any questions or withdraw at any time. Your decision will not change any present or future relationships with Wayne State University or its affiliates.

Questions:

If you have any questions about this study now or in the future, you may contact Malissa Clark or one of her research team members at the following phone number 248-767-2107. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Participation:

By clicking the "I agree" box at the bottom of the page, you are agreeing to participate in this study.

Please complete the following set of questions about yourself

1. What is your age? _____
2. Which of the following best describes your racial background? (Circle One)
 - African-American/Black
 - Caucasian/White (Non-Hispanic)
 - Hispanic
 - Asian American/Pacific Islander
 - Arabic
 - Native American
 - Other (specify) _____
3. What is your gender?
 - Male
 - Female
4. Are you currently employed?
 - No
 - Yes, hours per week: _____
5. Are you currently married?
 - No
 - Yes
6. Do you have children
 - No
 - Yes, number of children: _____ & ages: _____
7. Are you currently employed?
 - No
 - Yes, hours per week: _____
8. What is your job title? _____
9. How would you describe your position/job? (What are your basic job duties/responsibilities?)

10. Do you formally supervise any employees?
 - No
 - Yes, if so how many: _____
11. What time do you typically begin your work day? _____

12. What time do you typically end your work day? _____
13. Do your work hours/times fluctuate day to day, or week by week, or are they relatively consistent?
- No, they are relatively consistent from day to day, and week to week.
 - Yes, they fluctuate. If yes, please explain how they fluctuate:

14. Do you have access to the internet throughout the work day?
- No
 - Yes
15. Will you be able to complete short (approximately 2 minutes long) questionnaires three times each working day, for ten consecutive working days?
- No
 - Yes

DIRECTIONS: The following questions refer to the emotional reactions to typical life-events. Please indicate how YOU react to these events by placing a number from the following scale in the blank space preceding each item. Please base your answers on how YOU react, *not* on how you think others react or how you think a person should react.

Never	Almost Never	Occasionally	Usually	Almost Always	Always
1	2	3	4	5	6

- _____ 1. When I accomplish something difficult I feel delighted or elated.
- _____ 2. When I feel happy it is a strong type of exuberance.
- _____ 3. I enjoy being with other people very much.
- _____ 4. I feel pretty bad when I tell a lie.
- _____ 5. When I solve a small personal problem, I feel euphoric.
- _____ 6. My emotions tend to be more intense than those of most people.
- _____ 7. My happy moods are so strong that I feel like I'm "in heaven."
- _____ 8. I get overly enthusiastic.
- _____ 9. If I complete a task I thought was impossible, I am ecstatic.
- _____ 10. My heart races at the anticipation of some exciting event.
- _____ 11. Sad movies deeply touch me.
- _____ 12. When I'm happy it's a feeling of being untroubled and content rather than being zestful and aroused.
- _____ 13. When I talk in front of a group for the first time my voice gets shaky and my heart races.
- _____ 14. When something good happens, I am usually much more jubilant than others.
- _____ 15. My friends might say I'm emotional.

- _____ 16. The memories I like the most are of those of times when I felt content and peaceful rather than zestful and enthusiastic.
- _____ 17. The sight of someone who is hurt badly affects me strongly.
- _____ 18. When I'm feeling well it's easy for me to go from being in a good mood to being really joyful.
- _____ 19. "Calm and cool" could easily describe me.
- _____ 20. When I'm happy I feel like I'm bursting with joy.
- _____ 21. Seeing a picture of some violent car accident in a newspaper makes me feel sick to my stomach.
- _____ 22. When I'm happy I feel very energetic.
- _____ 23. When I receive an award I become overjoyed.
- _____ 24. When I succeed at something, my reaction is calm contentment.
- _____ 25. When I do something wrong I have strong feelings of shame and guilt.
- _____ 26. I can remain calm even on the most trying days.
- _____ 27. When things are going good I feel "on top of the world."
- _____ 28. When I get angry it's easy for me to still be rational and not overreact.
- _____ 29. When I know I have done something very well, I feel relaxed and content rather than excited and elated.
- _____ 30. When I do feel anxiety it is normally very strong.
- _____ 31. My negative moods are mild in intensity.
- _____ 32. When I am excited over something I want to share my feelings with everyone.
- _____ 33. When I feel happiness, it is a quiet type of contentment.
- _____ 34. My friends would probably say I'm a tense or "high-strung" person.

- _____ 35. When I'm happy I bubble over with energy.
- _____ 36. When I feel guilty, this emotion is quite strong.
- _____ 37. I would characterize my happy moods as closer to contentment than to joy.
- _____ 38. When someone compliments me, I get so happy I could "burst."
- _____ 39. When I am nervous I get shaky all over.
- _____ 40. When I am happy the feeling is more like contentment and inner calm than one of exhilaration and excitement.

Note. Reverse-scored items: 12, 16, 19, 24, 26, 28, 29, 31, 33, 37, 40.

PART I DIRECTIONS: Use the list below to answer the following question: IN GENERAL, HOW HAPPY OR UNHAPPY DO YOU USUALLY FEEL? Check the *one* statement below that best describes *your average happiness*.

- _____ 10. Extremely happy (feeling ecstatic, joyous, fantastic!)
- _____ 9. Very happy (feeling really good, elated!)
- _____ 8. Pretty happy (spirits high, feeling good.)
- _____ 7. Mildly happy (feeling fairly good and somewhat cheerful.)
- _____ 6. Slightly happy (just a bit above neutral.)
- _____ 5. Neutral (not particularly happy or unhappy.)
- _____ 4. Slightly unhappy (just a bit below neutral.)
- _____ 3. Mildly unhappy (just a little low.)
- _____ 2. Pretty unhappy (somewhat “blue”, spirits down.)
- _____ 1. Very unhappy (depressed, spirits very low.)
- _____ 0. Extremely unhappy (utterly depressed, completely down.)

PART II DIRECTIONS: Consider your emotions a moment further. *On the average*, what percent of the time do you feel happy? What percent of the time do you feel unhappy? What percent of the time do you feel neutral (neither happy nor unhappy)? Write down your best estimates, as well as you can, in the spaces below. Make sure the three figures add-up to equal 100%.

ON THE AVERAGE:

The percent of time I feel happy _____ %

The percent of time I feel unhappy _____ %

The percent of time I feel neutral _____ %

TOTAL: 100 %

Note to Participants: These instructions are provided to you in advance in order for you to have time to ask me questions if you are unclear as to what is considered a “work event.” Please read through this section carefully, and email me at malissa@wayne.edu if you have any questions.

Instructions:

Next week, you will be asked to report events that may have occurred relating to your co-workers, your supervisors, and your work tasks. For each of these three categories, you will report if 1) a positive event occurred, 2) a negative event occurred (or, if *both* a positive and negative event occurred you would check both), or 3) that no events occurred.

We present some examples of each type of event to help you classify work events in these categories. These are only a few examples- there are likely many other things that may happen throughout the course of your workday that you will classify in one of these categories. These are only meant to give you a general idea of the types of events we are looking for.

Sometimes an event may involve two different categories (for example, you may have a disagreement with a supervisor and a coworker at the same time). In this case, you should use your judgment to choose the category that BEST represents the event- do not classify the same event into more than one category (so, in this example, you would choose whether the event was most related to your supervisor or your coworker).

Example Events:

Co-Worker Events:

- A **positive** co-worker event could include:
 - I was praised by a co-worker
 - A co-worker came to me for assistance or advice about work
- A **negative** co-worker event could include:
 - I had problems getting along with a co-worker
 - A co-worker I had to work with was incompetent

Supervisor Events:

- A **positive** supervisor event could include:
 - My supervisor gave me positive feedback on my performance
 - My supervisor helped me with my tasks
- A **negative** supervisor event could include:
 - I had a disagreement with my supervisor
 - My supervisor gave me unclear directions

Work Task Events:

- A **positive** work task event could include:
 - I successfully completed a project or task
 - I was assigned interesting, challenging work, or a desirable project
- A **negative** work task event could include:
 - I had an excessive workload and not enough time to accomplish it
 - I was assigned work that seemed to have no purpose

APPENDIX D: MOMENTARY SURVEYS

Morning Survey

DIRECTIONS: For the following set of items, please describe how you are feeling *right now*, using the scale below.

Not at All				Very Much
1	2	3	4	5
<input type="checkbox"/>				

Distressed				
<input type="checkbox"/>				

Passive				
<input type="checkbox"/>				

Stimulated				
<input type="checkbox"/>				

Elated				
<input type="checkbox"/>				

Enthusiastic				
<input type="checkbox"/>				

Annoyed				
<input type="checkbox"/>				

Sluggish				
<input type="checkbox"/>				

Unhappy				
<input type="checkbox"/>				

Content				
<input type="checkbox"/>				

Calm				
<input type="checkbox"/>				

Bored				
<input type="checkbox"/>				

Active				
<input type="checkbox"/>				

Aroused				
<input type="checkbox"/>				

Sad				
<input type="checkbox"/>				

Tranquil				
<input type="checkbox"/>				

Inactive				
<input type="checkbox"/>				

Tired				
<input type="checkbox"/>				

Cheerful				
<input type="checkbox"/>				

Anxious				
<input type="checkbox"/>				

Glad				
<input type="checkbox"/>				

Relaxed				
<input type="checkbox"/>				

Excited				
<input type="checkbox"/>				

Happy				
<input type="checkbox"/>				

Gloomy				

Midday Survey

Please indicate your agreement with the following statements, as they apply to your work right now, using the scale provided below:

1=Strongly Disagree

2=Disagree

3=Neither Agree nor Disagree

4=Agree

5=Strongly Agree

- _____ 1. Today, I have to work fast.
- _____ 2. Today I have too much work to do for my job.
- _____ 3. I have to work extra hard to finish a task today.
- _____ 4. I will have to work under time pressure today.
- _____ 5. I can do my work in comfort.
- _____ 6. I can take my time in doing my work.
- _____ 7. Today, I have to deal with a work backlog.
- _____ 8. Today, I have problems with the high pace of work.
- _____ 9. The workload is high for this day.

Note: Items 5 and 6 are reverse-coded.

Instructions:

On the next page, you will be asked to report whether an event occurred relating to your co-workers, your supervisors, and your work tasks. For each of these three categories, you will report if 1) a positive event occurred, 2) a negative event occurred (or, if *both* a positive and negative event occurred you would check both), or 3) that no event occurred.

I present some examples of each type of event to help you classify work events in these categories. These are only a few examples- there are likely many other things that may happen throughout the course of your workday that you will classify in one of these categories. These are only meant to give you a general idea of the types of events we are looking for.

Sometimes an event may involve two different categories (for example, you may have a disagreement with a supervisor and a coworker at the same time). In this case, you should use your judgment to choose the category that BEST represents the event- do not classify the same event into more than one category (so, in this example, you would choose whether the event was most related to your supervisor or your coworker).

Example Events:

Co-Worker Events:

- A **positive** co-worker event could include:
 - I was praised by a co-worker
 - A co-worker came to me for assistance or advice about work
- A **negative** co-worker event could include:
 - I had problems getting along with a co-worker
 - A co-worker I had to work with was incompetent

Supervisor Events:

- A **positive** supervisor event could include:
 - My supervisor gave me positive feedback on my performance
 - My supervisor helped me with my tasks
- A **negative** supervisor event could include:
 - I had a disagreement with my supervisor
 - My supervisor gave me unclear directions

Work Task Events:

- A **positive** work task event could include:
 - I successfully completed a project or task
 - I was assigned interesting, challenging work, or a desirable project
- A **negative** work task event could include:
 - I had an excessive workload and not enough time to accomplish it
 - I was assigned work that seemed to have no purpose

For the following items, please check all that apply:

Since the last survey, did an event occur relating to...your COWORKERS?	Yes, a positive event occurred
	Yes, a negative event occurred
	No event occurred

Since the last survey, did an event occur relating to...your SUPERVISOR(S)?	Yes, a positive event occurred
	Yes, a negative event occurred
	No event occurred

Since the last survey, did an event occur relating to...your WORK TASK(S)?	Yes, a positive event occurred
	Yes, a negative event occurred
	No event occurred

Instructions:

On the next page, you will be asked to report whether an event occurred relating to your co-workers, your supervisors, and your work tasks. For each of these three categories, you will report if 1) a positive event occurred, 2) a negative event occurred (or, if *both* a positive and negative event occurred you would check both), or 3) that no event occurred.

I present some examples of each type of event to help you classify work events in these categories. These are only a few examples- there are likely many other things that may happen throughout the course of your workday that you will classify in one of these categories. These are only meant to give you a general idea of the types of events we are looking for.

Sometimes an event may involve two different categories (for example, you may have a disagreement with a supervisor and a coworker at the same time). In this case, you should use your judgment to choose the category that BEST represents the event- do not classify the same event into more than one category (so, in this example, you would choose whether the event was most related to your supervisor or your coworker).

Example Events:

Co-Worker Events:

- A **positive** co-worker event could include:
 - I was praised by a co-worker
 - A co-worker came to me for assistance or advice about work
- A **negative** co-worker event could include:
 - I had problems getting along with a co-worker
 - A co-worker I had to work with was incompetent

Supervisor Events:

- A **positive** supervisor event could include:
 - My supervisor gave me positive feedback on my performance
 - My supervisor helped me with my tasks
- A **negative** supervisor event could include:
 - I had a disagreement with my supervisor
 - My supervisor gave me unclear directions

Work Task Events:

- A **positive** work task event could include:
 - I successfully completed a project or task
 - I was assigned interesting, challenging work, or a desirable project
- A **negative** work task event could include:
 - I had an excessive workload and not enough time to accomplish it
 - I was assigned work that seemed to have no purpose

For the following items, please check all that apply:

Since the last survey, did an event occur relating to...your COWORKERS?	Yes, a positive event occurred
	Yes, a negative event occurred
	No event occurred

Since the last survey, did an event occur relating to...your SUPERVISOR(S)?	Yes, a positive event occurred
	Yes, a negative event occurred
	No event occurred

Since the last survey, did an event occur relating to...your WORK TASK(S)?	Yes, a positive event occurred
	Yes, a negative event occurred
	No event occurred

REFERENCES

- Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*, vol. 2. (pp. 267-299). New York, NY: Academic Press.
- Adams, A., & Crawford, N. (1992). *Bullying at work*. London: Virago.
- Alliger, G. M., & Williams, K. J. (1993). Using signal-contingent experience sampling methodology to study work in the field: A discussion and illustration examining task perceptions and mood. *Personnel Psychology*, 46, 525-549.
- Anderson, C. A. (1997). Effects of violent movies and trait hostility on hostile feelings and aggressive thoughts. *Aggressive Behavior*, 23, 161-178.
- Anderson, C. A., Bushman, B. J., & Groom, R. W. (1997). Hot years and serious and deadly assault: Empirical tests of the heat hypothesis. *Journal of Personality and Social Psychology*, 73, 1213-1223.
- Andersson, L. M., & Pearson, C. M. (1999). Tit-for-tat? The spiraling effect of incivility in the workplace. *Academy of Management Review*, 24, 452-471.
- Aquino, K., Lewis, M. U., & Bradfield, M. (1999). Justice constructs, negative affectivity, and employee deviance: a proposed model and empirical test. *Journal of Organizational Behavior*, 20, 1073-1091.
- Ashkanasy, N. M., Härtel, C. E. J., & Zerbe, W. J. (2000). Emotions in the workplace: Research, theory, and practice-introduction. In N. M. Ashkanasy, W. Zerbe, & C. E. J. Härtel (Eds.), *Emotions in the workplace: Research, theory, and practice* (pp. 3-18). Westport, CT: Quorum Books.

- Averill, J. R. (1994). In the eyes of the beholder. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 7-14). New York, NY: Oxford University Press.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice Hall.
- Baron, R. A. (2004). Workplace aggression and violence: Insights from basic research. In R. W. Griffin & A. M. O'Leary-Kelly (Eds.), *The dark side of organizational behavior*. San Francisco, CA: Jossey-Bass.
- Baron, R. A., & Neuman, J. H. (1996). Workplace violence and workplace aggression: Evidence on their relative frequency and potential causes. *Aggressive Behavior*, 22, 161-173.
- Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Barsade, S. G., Brief, A. P., & Spataro, S. E. (2003). The affective revolution in organizational behavior: The emergence of a paradigm. In J. Greenberg (Ed.), *Organizational behavior: The state of the science, 2nd ed* (pp. 3-52). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Bassiri, D. (1988). *Large and small sample properties of maximum likelihood estimates for the hierarchical linear model*. Retrieved from ProQuest Digital Dissertations. (AAT 8912550).
- Bauer, D. J., Preacher, K. J., & Gil, K. M. (2006). Conceptualizing and testing random

- indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, 11, 142-163.
- Beal, D. J., Trougakos, J. P., Weiss, H. M., & Green, S. G. (2006). Episodic processes in emotional labor: Perceptions of affective delivery and regulation strategies. *Journal of Applied Psychology*, 91, 1053-1065.
- Beal, D. J., & Weiss, H. M. (2003). Methods of ecological momentary assessment in organizational research. *Organizational Research Methods*, 6, 440-464.
- Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, 85, 349-360.
- Berkowitz, L. (1998). Affective aggression: The role of stress, pain, and negative affect. In R. G. Geen & E. Donnerstein (Eds.), *Human aggression: Theories, research and implications for social policy* (pp. 49-72). San Diego, CA: Academic.
- Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology*, 92, 410-424.
- Bickel, R. (2007). *Multilevel analysis for applied research: It's just regression!* NY: The Guilford Press.
- Bless, H. (2000). Moods and general knowledge structures: Happy moods and their impact on information processing. In J. P. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp. 201-222). New York: Cambridge Univ. Press.
- Bliese, P. D., & Ployhart, R. E. (2002). Growth modeling using random coefficient

- models: Model building, testing, and illustrations. *Organizational Research Methods*, 5, 362-387.
- Bolger, N., DeLongis, A., Kessler, R. C., & Schilling, E. A. (1989). Effects of daily stress on negative mood. *Journal of Personality and Social Psychology*, 57, 808-818.
- Bower, G. H., & Forgas, J. P. (2001). Mood and social memory. In J. P. Forgas (Ed.), *The handbook of affect and social cognition* (pp. 95-120). Mahwah, NJ: Erlbaum.
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago: Aldine.
- Brockner, J., Konovsky, M., Cooper-Schneider, R., Forger, R., Martin, C., & Bies, R. J. (1994). Interactive effects of procedural justice and outcome negativity on victims and survivors of job loss. *Academy of Management Journal*, 37, 835-863.
- Bruk-Lee, V., & Spector, P. E. (2006). The social-stressors-counterproductive work behaviors link: Are conflicts with supervisors and coworkers the same? *Journal of Occupational Health Psychology*, 11, 145-156.
- Burke, M. J., Brief, A. P., George, J. M., Roberson, L., & Webster, J. (1989). Measuring affect at work: Confirmatory analyses of competing mood structures with conceptual linkage to cortical regulatory systems. *Journal of Personality and Social Psychology*, 57, 1091-1102.
- Buss, A. H. (1961). *The Psychology of Aggression*. New York: Wiley.
- Byrne, D. (1971). *The attraction paradigm*. New York: Academic Press.
- Carlson, M., & Miller, N. (1987). Explanation of the relation between negative mood and helping. *Psychological Bulletin*, 102, 91-108.

- Ciarrochi, J. V., & Forgas, J. P. (1999). On being tense yet tolerant: The paradoxical effects of trait anxiety and aversive mood on intergroup judgments. *Group Dynamics: Theory, Research and Practice*, 3, 227-238.
- Cohen-Charash, Y., & Mueller, J. S. (2007). Does perceived unfairness exacerbate or mitigate interpersonal counterproductive work behaviors related to envy? *Journal of Applied Psychology*, 92, 666-680.
- Collins, L. M., Schafer, J. L., & Kam, C. M. (2001). A comparison of inclusive and restrictive strategies in modern missing data procedures. *Psychological Methods*, 6, 330-351.
- Connelly, C. E., Zweig, D., & Webster, J. (2006, May). *Knowledge hiding in organizations*. Paper presented at the annual meeting of the Society for Industrial and Organizational Psychology, Dallas, TX.
- Cropanzano, R., Weiss, H. M., Hale, J. M. S., & Reb, J. (2003). The structure of affect: Reconsidering the relationship between negative and positive affectivity. *Journal of Management*, 29, 831-857.
- Dalal, R. S. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. *Journal of Applied Psychology*, 90, 425-445.
- Derryberry, D., & Rothbart, M. K. (1988). Arousal, affect, and attention as components of temperament. *Journal of Personality and Social Psychology*, 55, 958-966.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, 276-302.

- Diener, E., Larsen, R. J., Levine, S., & Emmons, R. A. (1985). Intensity and frequency: The underlying dimensions of positive and negative affect. *Journal of Personality and Social Psychology, 48*, 1253-1265.
- Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology, 69*, 130-141.
- Dollard, J., Doob, L. W., Miller, N. E., Mowrer, O. H., & Sears, R. R. (1939). *Frustration and Aggression*. New Haven: Yale University Press.
- Douglas, S. C., & Martinko, M. J. (2001). Exploring the role of individual differences in the prediction of workplace aggression. *Journal of Applied Psychology, 86*, 547-559.
- Eckenrode, J., & Bolger, N. (1995). Daily and within-day event measurement. In S. Cohen, R. Kessler, & L. U. Gordon (Eds.), *Measuring stress: A guide for health and social scientists* (pp. 80-101). New York: Oxford University Press.
- Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion, 6*, 169-200.
- Ekman, P. (1994) All emotions are basic. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 15-19). New York, NY: Oxford University Press.
- Feldman Barrett, L., & Russell, J. A. (1998). Independence and bipolarity in the structure of current affect. *Journal of Personality and Social Psychology, 74*, 967-984.
- Fiedler, K. (2000). Towards an integrative account of affect and cognition phenomena. In J. P. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp. 223-252). New York: Cambridge University Press.

- Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science and Medicine*, 45, 1207-1221.
- Fordyce, M. W. (1972). Happiness, its daily variation and its relation to values. *Dissertation Abstracts International*, 33, 1266B.
- Fordyce, M. W. (1988). A review of research on the happiness measure: A sixty second index of happiness and mental health. *Social Indicators Research*, 20, 355-381.
- Forgas, J. P. (1992). Affect in social judgments and decisions: A multi-process model. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25). San Diego, CA: Academic Press, 1992, pp. 227-275.
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117, 39-66.
- Forgas, J. P. (Ed.). (2001). *Handbook of affect and social cognition*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Forgas, J. P., & George, J. M. (2001). Affective influences on judgments and behavior in organizations: An information processing perspective. *Organizational Behavior and Human Decision Processes*, 86, 3-34.
- Fox, S., & Spector, P. E. (1999). A model of work frustration-aggression. *Journal of Organizational Behavior*, 20, 915-931.
- Fox, S. & Spector, P. E. (Eds.). (2005). *Counterproductive work behavior: Investigations of actors and targets*. Washington, DC: American Psychological Association.
- 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, 291-309.
- Geen, R. G. (1990). *Human aggression*. Belmont, CA: Brooks/Cole.
- Geen, R. G., & McCown, E. J. (1984). Effects of noise and attack on aggression and physiological arousal. *Motivation and Emotion*, 8, 231-241.
- George, J. M., & Brief, A. P. (1992). Feeling good-doing good: A conceptual analysis of the mood at work-organizational spontaneity relationship. *Psychological Bulletin*, 112, 310-329.
- Geurts, S. A. E., Kompier, M. A. J., Roxburgh, S., & Houtman, I. L. D. (2003). Does work-home interference mediate the relationship between workload and well-being? *Journal of Vocational Behavior*, 63, 532-559.
- Glomb, T. M. (2002). Workplace anger and aggression: Informing conceptual models with data from specific encounters. *Journal of Occupational Health Psychology*, 7, 20-36.
- Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. *Journal of Management*, 16, 399-432.
- Greenberg, L. S., & Paivio, S. C. (1997). *Working with emotions in psychotherapy*. New York: Guilford Press.
- Harris, C., Daniels, K., & Briner, R. B. (2003). A daily diary study of goals and affective well-being at work. *Journal of Occupational and Organizational Psychology*, 76, 401-410.

- Hershcovis, M. S., Turner, N., Barling, J., Arnold, K. A., Dupré, K. E., Innes, M., LeBlanc, M. M., & Sivanathan, N. (2007). Predicting workplace aggression: A meta-analysis. *Journal of Applied Psychology, 92*, 228-238.
- Hoffman, S. A., Griffin, M. A., & Gavin, M. B. (2000). The application of hierarchical linear modeling to organizational research. In K. Klien & S. Kozlowski, S. (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 75-170). San Francisco: Jossey-Bass.
- Holt, J. L., & DeVore, C. J. (2005). Culture, gender, organizational role, and styles of conflict resolution: A meta-analysis. *International Journal of Intercultural Relations, 29*, 165-196.
- Hormuth, S. E. (1986). The sampling of experiences in situ. *Journal of Personality, 54*, 262-293.
- Hough, L. M. (1992). The 'Big 5' personality variables- construct confusion: description vs. prediction. *Human Performance, 5*, 139-155.
- Ilies, R., & Judge, T. A. (2004). An experience-sampling measure of job satisfaction and its relationships with affectivity, mood at work, job beliefs, and general job satisfaction. *European Journal of Work and Organizational Psychology, 13*, 367-389.
- Ilies, R., Schwind, K. M., Wagner, D. T., Johnson, M. D., DeRue, D. S., & Ilgen, D. R. (2007). When can employees have a family life? The effects of daily workload and affect on work-family conflict and social behaviors at home. *Journal of Applied Psychology, 92*, 1368-1379.

- Ilies, R., Scott, B. A., & Judge, T. A. (2006). The interactive effects of personal traits and experienced states on intraindividual patterns of citizenship behavior. *Academy of Management Journal, 49*, 561-575.
- Isen, A. M., & Baron, R. A. (1991). Positive affect as a factor in organizational behavior. In L. L. Cummings & B. M. Staw (Eds.), *Research in Organizational Behavior* (Vol. 4, pp. 127-172). Greenwich, CT: JAI Press.
- Izard, E. E. (1972). *Patterns of emotions: A new analysis of anxiety and depression*. San Diego, CA: Academic Press.
- Izard, E. E. (1977). *Human Emotions*. New York: Plenum.
- Izard, E. E. (1984). Emotion-cognition relationships and human development. In C. E. Izard, J. Kagan, & R. B. Zajonc (Eds.), *Emotions, cognition and behavior*. New York: Cambridge University Press.
- Izard, E. E. (1992). Basic emotions, relations among emotions, and emotion-cognition relations. *Psychological Review, 99*, 561-565.
- Johnson-Laird, P. N., & Oatley, K. (1989). The language of emotions: An analysis of a semantic field. *Cognition and Emotion, 3*, 81-123.
- Johnson-Laird, P. N., & Oatley, K. (1992). Basic emotions, rationality and folk theory. *Cognition and Emotion, 6*, 201-223.
- Judge, T. A., & Ilies, R. (2004). Affect and job satisfaction: A study of their relationship at work and at home. *Journal of Applied Psychology, 89*, 661-673.
- Judge, T. A., Ilies, R., & Scott, B. A. (2006). Work-family conflict and emotions: Effects at work and at home. *Personnel Psychology, 59*, 779-814.

- Judge, T. A., Scott, B. A., & Ilies, R. (2006). Hostility, job attitudes, and workplace deviance: Test of a multilevel model. *Journal of Applied Psychology, 91*, 126-138.
- Judge, T. A., & Watanabe, S. (1993). Another look at the job satisfaction-life satisfaction relationship. *Journal of Applied Psychology, 78*, 939-948.
- Karasu, T. B. (1992). *Wisdom in the practice of psychotherapy*. New York: Basic Books.
- Keashly, L. (1998). Emotional abuse in the workplace: Conceptual and empirical issues. *Journal of Emotional Abuse, 1*, 85-117.
- Keashly, L., & Harvey, S. (2005). Emotional abuse in the workplace. In S. Fox & P. E. Spector (Eds.), *Counterproductive work behavior: Investigations of actors and targets* (pp. 201-235). Washington, DC: American Psychological Association.
- Keashly, L., & Jagatic, K. (2003). By any other name: American perspectives on workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. Cooper (Eds.), *Bullying and emotional abuse in the workplace: International perspectives in research and practice* (pp. 31-61). London: Taylor Francis.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology, 4th ed., Vol. 1* (pp. 233-265). New York: McGraw-Hill.
- Kenny, D. A., Korchmaros, J. D., & Bolger, N. (2003). Lower level mediation in multilevel models. *Psychological Methods, 8*, 115-128.
- Kinney, J. A. (1993). *Breaking point: The workplace violence epidemic and what to do about it*. Chicago, IL: National Safe Workplace Institute Press.
- Korchmaros, J. D., & Kenny, D. A. (2003, February). Step by step procedure for

- estimating lower-level mediation in random-effects multilevel models using HLM5. Retrieved from <http://davidakenny.net/downloads.htm>
- Kreft, I., & De Leeuw, J. (1998). *Introducing multilevel modeling*. Thousand Oaks, CA: SAGE Publications.
- Larsen, R. J. (1985). Theory and measurement of affect intensity as an individual difference characteristic. *Dissertation Abstracts International*, 45(7-B), 2297.
- Larsen, R. J. (1987). The stability of mood variability: A spectral analytic approach to daily mood assessments. *Journal of Personality and Social Psychology*, 52, 1195-1204.
- Larsen, R. J., & Diener, E. (1987). Affect intensity as an individual difference characteristic: A review. *Journal of Research in Personality*, 21, 1-39.
- Larsen, R. J., & Diener, E. (1992). Promises and problems with the circumplex model of emotion. In M. S. Clark (Ed.), *Review of Personality and Social Psychology*, Vol. 13 (pp. 25-59). Newbury Park, CA: SAGE Publications, Inc.
- Larsen, R. J., Diener, E., & Emmons, R. A. (1986). Affect intensity and reactions to daily life events. *Journal of Personality and Social Psychology*, 51, 803-814.
- Larsen, R. J., Diener, E., & Lucas R. E. (2002). Emotion: Models, measures, and individual differences. In R. G. Lord, R. J. Klimoski, & R. Kanfer (Eds.), *Emotions in the workplace: Understanding the structure and role of emotions in organizational behavior* (pp. 64-106). San Francisco, CA: Jossey-Bass.
- Larsen, R. J., & Kasimatis, M. (1990). Individual differences in entrainment of mood to the weekly calendar. *Journal of Personality and Social Psychology*, 58, 164-171.
- Larson, R., & Almeida, D. M. (1999). Emotional transmission in the daily lives of

- families: A new paradigm for studying family process. *Journal of Marriage and the Family*, 61, 5-20.
- Larson, R., Dworkin, J., & Verma, S. (2001). Men's work and family lives in India: The daily organization of time and emotion. *Journal of Family Psychology*, 15, 206-224.
- Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology*, 87, 131-142.
- Leymann, H. (1990). Mobbing and psychological terror at workplaces. *Violence and Victims*, 5, 119-126.
- Little, R. J. A., & Rubin, D. B. (1987). *Statistical analysis with missing data*. New York: Wiley.
- Luthans, F. (2002). Positive organizational behavior: Developing and managing psychological strengths. *Academy of Management Executive*, 16, 57-72.
- MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding, and suppression effect. *Prevention Science*, 1, 173-181.
- Marco, C. A., & Suls, J. (1993). Daily stress and the trajectory of mood: Spillover, response assimilation, contrast, and chronic negative affectivity. *Journal of Personality and Social Psychology*, 64, 1053-1063.
- McCrae, R. R., & Costa, P. T. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality*, 54, 385-405.

- McFarlin, S. K., Fals-Stewart, W., Major, D. A., & Justice, E. M. (2001). Alcohol use and workplace aggression: An examination of perpetration and victimization. *Journal of Substance Abuse, 13*, 303-321.
- Miner, A. G., Glomb, T. M., & Hulin, C. (2005). Experience sampling mood and its correlates at work. *Journal of Occupational and Organizational Psychology, 78*, 171-193.
- Morris, W. N. (1989). *Mood: The frame of mind*. New York: Springer-Verlag.
- Namie, G., & Namie, R. (2000). *The bully at work: What you can do to stop the hurt and reclaim your dignity on the job*. Naperville, IL: Sourcebooks.
- Neuman, J. H., & Baron, R. A. (1998). Workplace violence and workplace aggression: Evidence concerning specific forms, potential causes, and preferred targets. *Journal of Management, 24*, 391-419.
- Neuman, J. H., & Baron, R. A. (2005). Aggression in the workplace: A social psychological perspective. In S. Fox & P. E. Spector (Eds.), *Counterproductive work behavior: Investigations of actors and targets* (pp. 13-40). Washington, DC: American Psychological Association.
- Newman, D. A. (2003). Longitudinal modeling with randomly and systematically missing data: A simulation of ad hoc, maximum likelihood, and multiple imputation techniques. *Organizational Research Methods, 6*, 328-362.
- Newman, D. A. (2010, Spring). *Missing data: Problems and prospects* [Video podcast]. Presentation for the Center for the Advancement of Research Methods and Analysis (CARMA), hosted by Wayne State University, Detroit, MI. Retrieved from <http://carma.wayne.edu/VideoLibrary.asp>

- O'Leary-Kelly, A. M., Griffin, R. W., & Glew, D. J. (1996). Organization-motivated aggression: A research framework. *Academy of Management Review, 21*, 225-253.
- Ortony, A., Clore, G. L., & Collins, A. (1988). *The cognitive structure of emotions*. Cambridge: Cambridge University Press.
- Ortony, A., & Turner, T. J. (1990). What's basic about basic emotions? *Psychological Review, 97*, 315-331.
- Penney, L.M., Spector, P.E., Goh, A., Hunter, E.M., & Turnstall, M. (2007). A *motivational analysis of counterproductive work behavior (CWB)*. Unpublished manuscript, University of Houston.
- Peterson, C., Park, N., Hall, N., & Seligman, M. E. P. (2009). Zest and work. *Journal of Organizational Behavior, 30*, 161-172.
- Plutchik, R. (1980). *Emotion: A psychoevolutionary synthesis*. New York: Harper & Row.
- Plutchik, R. (2003). *Emotions and life: Perspectives from psychology, biology, and evolution*. Washington, DC: American Psychological Association.
- Preacher, K. J., & Leonardelli, G. J. (2003). Calculation for the Sobel test: An interactive calculation tool for mediation tests [Computer software]. Retrieved from <http://www.people.ku.edu/~preacher/sobel/sobel.htm>
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and data analysis methods, 2nd ed.* Thousand Oaks, CA: Sage Publications.

- Rentsch, J. R., & Steel, R. P. (1998). Testing the durability of job characteristics as predictors of absenteeism over a six-year period. *Personnel Psychology, 51*, 165-189.
- Robinson, M. D., & Clore, G. L. (2002). Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin, 128*, 934-960.
- Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multi-dimensional scaling study. *Academy of Management Journal, 38*, 555-572.
- Robinson, S. L., & Bennett, R. J. (1997). Workplace deviance: Its definition, its manifestations, and its causes. *Research on Negotiations in Organizations, 6*, 3-27.
- Robinson, S. L., & Greenberg J. (1998). Employees behaving badly: Dimensions, determinants and dilemmas in the study of workplace deviance. In C. L. Cooper & D. M. Rousseau (Eds.), *Trends in Organizational Behavior, Vol. 5* (pp. 1–30). New York: Wiley.
- Rossi, A. S., & Rossi, P. E. (1977). Body time and social time: Mood patterns by menstrual cycle phase and day of the week. *Social Science Research, 6*, 273-308.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology, 39*, 1161-1178.
- Russell, J. A., & Carroll, J. M. (1999a). On the bipolarity of positive and negative affect. *Psychological Bulletin, 125*, 3-30.
- Russell, J. A., & Carroll, J. M. (1999b). The phoenix of bipolarity: Reply to Watson and Tellegen (1999). *Psychological Bulletin, 125*, 611-617.

- Sackett, P. R., & DeVore, C. J. (2002). Counterproductive behaviors at work. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work, and organizational psychology, Vol. 1* (pp. 145-164). London: Sage.
- Salgado, J. F. (2002). The Big Five personality dimensions and counterproductive behaviors. *International Journal of Selection and Assessment, 10*, 117-125.
- Schachter, S. (1964). The interaction of cognitive and physiological determinants of emotional state. In P. H. Leiderman & D. Shapiro (Eds.), *Psychobiological approaches to social behavior*. Stanford, CA: Stanford University Press.
- Schachter, S., & Singer, J. E. (1962). Cognitive, social, and physiological determinants of emotional state. *Psychological Review, 69*, 379-399.
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Bulletin, 7*, 147-177.
- Scherer, K. R. (1994). Toward a concept of "modal emotions." In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 25-31). New York, NY: Oxford University Press.
- Seidlitz, L., & Diener, E. (1993). Memory for positive versus negative events: Theories for the differences between happy and unhappy persons. *Journal of Personality and Social Psychology, 64*, 654-664.
- Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further explorations of a prototype approach. *Journal of Personality and Social Psychology, 52*, 1061-1086.

- Shweder, R. A. (1994). "You're not sick, you're just in love." In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 32-44). New York, NY: Oxford University Press.
- Skarlicki, D. P., & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology*, 82, 434-443.
- Smith, C. A., & Lazarus, R. S. (1993). Appraisal components, core relational themes, and the emotions. *Cognition and Emotion*, 7, 233-269.
- Smith, C. A., & Pope, L. K. (1992). Appraisal and emotion: the interactional contributions of dispositional and situational factors. In M. S. Clark (Ed.), *Review of personality and social psychology*, Vol. 14: *Emotion and social behavior* (pp. 32-62). Newbury Park, CA: Sage.
- Snijders, T. A. B., & Bosker, R. J. (1994). Modeled variance in two-level models. *Sociological Methods and Research*, 22, 342-363.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290-312). San Francisco: Jossey-Bass.
- Sonnentag, S., Binnewies, C., & Mojza, E. J. (2008). "Did you have a nice evening?" A day-level study on recovery experiences, sleep, and affect. *Journal of Applied Psychology*, 93, 674-684.
- Spector, P. E. (1975). Relationships of organizational frustration with reported behavioral reactions of employees. *Journal of Applied Psychology*, 60, 635-637.

Spector, P. E. (1978). Organizational frustration: A model and review of the literature. *Personnel Psychology, 31*, 815-829.

Spector, P. E., & Fox, S. (2002). An emotion-centered model of voluntary work behavior: Some parallels between counterproductive work behavior and organizational citizenship behavior. *Human Resource Management Review, 12*, 269-292.

Spector, P. E., & Fox, S. (2005). The stressor-emotion model of counterproductive work behavior. In S. Fox & P. E. Spector (Eds.), *Counterproductive work behavior: Investigations of actors and targets* (pp. 151-174). Washington, DC: American Psychological Association.

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*, 446-460.

Spielberger, C. D. (1991). *State-Trait Anger Expression Inventory: Revised Research Edition*. Odessa, FL: Psychological Assessment Resources.

Stanley, R., & Burrows, G. (2001). Varieties and functions of human emotion (pp. 3-19). In R. L. Payne & C. L. Cooper (Eds.), *Emotions at work: Theory, research and applications in management*. New York: John Wiley & Sons, Inc.

Staw, B. M., Bell, N. E., & Clausen, J. A. (1986). The dispositional approach to job attitudes: A lifetime longitudinal test. *Administrative Science Quarterly, 31*, 56-77.

Storms, P. L., & Spector, P. E. (1987). Relationships of organizational frustration with reported behavioural reactions: The moderating effect of locus of control. *Journal of Occupational Psychology, 60*, 227-234.

- Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A. H. Tuma & J. D. Maser (Eds.), *Anxiety and the anxiety disorders* (pp. 681-706). Hillsdale, NJ: Erlbaum.
- Tellegen, A., Watson, D., & Clark, L. A. (1999). Further support for a hierarchical model of affect: Reply to Green and Salovey. *Psychological Science, 10*, 307-309.
- Teuchmann, K., Totterdell, P., & Parker, S. K. (1999). Rushed, unhappy, and drained: An experience sampling study of relations between time pressure, perceived control, mood, and emotional exhaustion in a group of accountants. *Journal of Occupational Health Psychology, 4*, 37-54.
- Thayer, R. E. (1967). Measurement of activation through self-report. *Psychological Reports, 20*, 663-678.
- Tomkins, S. S. (1970). Affect as the primary motivational system. In M. Arnold (Ed.), *Feelings and emotions* (pp. 101-110). New York: Academic Press.
- Totterdell, P. (1999). Mood scores: Mood and performance in professional cricketers. *British Journal of Psychology, 90*, 317-332.
- Totterdell, P. (2000). Catching moods and hitting runs: Mood linkage and subjective performance in professional sport teams. *Journal of Applied Psychology, 85*, 848-859.
- Totterdell, P., Wood, S., & Wall, T. (2006). An intra-individual test of the demands-control model: A weekly diary study of psychological strain in portfolio workers. *Journal of Occupational and Organizational Psychology, 79*, 63-84.
- Tuckey, M. R., Dollard, M. F., Hosking, P. J., & Winefield, A. H. (2009). Workplace

- bullying: The role of psychosocial work environment factors. *International Journal of Stress Management*, 16, 215-232.
- Underwood, B., & Froming, W. J. (1980). The mood survey: A personality measure of happy and sad moods. *Journal of Personality Assessment*, 44, 404-414.
- U.S. Bureau of Labor Statistics, Office of Compensation and Working Conditions. (2002). *Occupational Classification System Manual (OCSM)*. Retrieved from <http://www.bls.gov/ncs/ocs/ocsm/commain.htm>
- Van Veldhoven, M., & Meijman, T. (1994). Het meten van psychosociale arbeidsbelasting (The measurement of psychosocial job demands). Amsterdam: NIA.
- Wang, M., Liu, S., Zhan, Y., & Shi, J. (2010). Daily work-family conflict and alcohol use: Testing the cross-level moderation effects of peer drinking norms and social support. *Journal of Applied Psychology*, 95, 377-386.
- Watson, D. (2000). *Mood and Temperament*. New York: The Guilford Press.
- Watson, D., & Clark, L. A. (1992). Affects separable and inseparable: On the hierarchical arrangement of the negative affects. *Journal of Personality and Social Psychology*, 62, 489-505.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, 98, 219-235.

- Watson, D., & Tellegen, A. (1999). Issues in the dimensional structure of affect- effects of descriptors, measurement error, and response formats: Comment on Russell and Carroll (1999). *Psychological Bulletin*, *125*, 601-610.
- Weiss, H. M. (2002). Conceptual and empirical foundations for the study of affect at work. In R. G. Lord, R. J. Klimoski, & R. Kanfer (Eds.), *Emotions in the workplace: Understanding the structure and role of emotions in organizational behavior* (pp. 20-63). San Francisco, CA: Jossey-Bass.
- Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior*, *18*, 1-74.
- Weiss, H. M., Nicholas, J. P., & Daus, C. S. (1999). An examination of the joint effects of affective experiences and job beliefs on job satisfaction and variations in affective experiences over time. *Organizational Behavior and Human Decision Processes*, *78*, 1-24.
- Wessman, A. E., & Ricks, D. F. (1966). *Mood and Personality*. Oxford, England: Holt, Rinehart, & Winston.
- West, S. G., & Hepworth, J. T. (1991). Statistical issues in the study of temporal data: Daily experiences. *Journal of Personality*, *59*, 609-662.
- Wheeler, L., & Reis, H. T. (1991). Self-recording of everyday life events: Origins, types, and uses. *Journal of Personality*, *59*, 339-354.
- Williams, K. J., & Alliger, G. M. (1994). Role stressors, mood spillover, and perceptions of work-family conflict in employed parents. *Academy of Management Journal*, *37*, 837-868.

- Williams, K. J., Suls, J., Alliger, G. M., Learner, S. M., & Wan, C. K. (1991). Multiple role juggling and daily mood states in working mothers: An experience sampling study. *Journal of Applied Psychology, 76*, 664-674.
- Zillmann, D. (1979). *Hostility and aggression*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Zillmann, D., & Bryant, J. (1974). Effect of residual excitation on the emotional response to provocation and delayed aggressive behavior. *Journal of Personality and Social Psychology, 30*, 782-791.
- Zillmann, D., Johnson, R. C., & Day, K. D. (1974). Attribution of apparent arousal and proficiency of recovery from sympathetic activation affecting excitation transfer to aggressive behavior. *Journal of Experimental Social Psychology, 10*, 503-515.
- Zillmann, D., Katcher, A. H., & Milavsky, B. (1972). Excitation transfer from physical exercise to subsequent aggressive behavior. *Journal of Experimental Social Psychology, 8*, 247-259.
- Zohar, D. (1999). When things go wrong: The effect of daily work hassles on effort, exertion, and negative mood. *Journal of Occupational and Organizational Psychology, 72*, 265-283.

ABSTRACT**WHY DO EMPLOYEES BEHAVE BADLY? AN EXAMINATION OF THE EFFECTS OF MOOD, PERSONALITY, AND JOB DEMANDS ON COUNTERPRODUCTIVE WORK BEHAVIOR**

by

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Given the recent interest in the organizational literatures on the topic of workplace aggression and other acts of counterproductive work behavior (CWB), coupled with the interest in how affect and emotions influence organizational behavior, this study aimed to integrate these two themes to test how mood, personality, and factors relating to one's job influence a person's propensity to engage in acts of CWB. This study contributes to the extant literature in several ways. First, this is one of only a handful of studies that examines the relationship between momentary moods and counterproductive work behaviors using an experience sampling methodology. Second, this study includes two personality variables which are rarely examined in the organizational literatures, affect intensity and dispositional happiness. Third, this study adds to the current literature on how moods affect organizational behavior in that the present study examines both the hedonic tone and the activation dimensions of mood using the circumplex model of moods and emotions as a guiding framework.

The sample consisted of one hundred and fourteen employees and students at a large Midwestern university. Participants completed short self-report questionnaires three times daily for two weeks, in addition to an initial demographic questionnaire. Data were analyzed using hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002). Results revealed that all momentary variables varied both within- and between-persons. Individual factors (i.e., personality, mood) were more predictive of CWBs than situational factors (i.e., job demands, work events) in the present study. Broadly, individuals were less likely to engage in CWBs when they were in positive moods. There were several unanticipated findings. Notably, individuals in activated mood states were less likely to engage in acts of counterproductive work behavior, and individuals in unactivated unpleasant (i.e., bored) mood states were more likely to engage in acts of counterproductive work behavior. While mood occasionally was related to subsequent perceptions of work events, more evidence was found that work events influenced subsequent mood states. In addition, positive work events indirectly decreased CWBs by increasing activated mood states. Implications of these findings and suggestions for future research are discussed.

AUTOBIOGRAPHICAL STATEMENT

Malissa Clark attended Davison High School, in Davison, MI. She received her bachelor's degree from the University of Michigan, where she majored in Organizational Studies. After finishing her undergraduate degree, she and her husband lived and worked in San Diego for two years. It was there she realized her "true calling" was academia, and she subsequently dragged her reluctant husband back to Michigan so she could pursue her doctorate degree at Wayne State University.

Malissa's research interests include work-family conflict, moods and emotions in the workplace, and empathy and organizational behavior. She, her husband, and their two kids are looking forward to their upcoming move to Auburn, AL, where she will begin work as an assistant professor of industrial/organizational psychology at Auburn University.