

THE RELATIONSHIP BETWEEN EMOTIONAL LABOR, DIET, AND ALCOHOL
BEHAVIORS

By

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ABSTRACT

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The present study examines the relationship between emotional labor strategies at work and physical health behaviors, namely food and alcohol consumption, using a mood repairment framework. An experience sampling methodology was utilized, and 38 servers/bartenders completed three surveys a day for ten work days. Findings indicate that surface acting and negative affect are positively related to snacking, high fat/high calorie food consumption, and alcohol consumption after work. Furthermore, prevention focus moderated the indirect relationships between surface acting, snacking, and alcohol consumption via negative affect. Surface acting and negative affect, however, were not related to meal portion size or overall food consumed. Results also suggest that deep acting is negatively related to high fat/high calorie food consumption and snacking, but unrelated to meal size, total food consumption, and alcohol consumption. Theoretical and practical implications, as well as future research directions are discussed.

Keywords: emotional labor, alcohol, snacking, diet,

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CHAPTER 1

INTRODUCTION

In industrialized countries around the world, there has been a growth in the number of jobs and the number of individuals employed in the service-providing sector, which include jobs in healthcare, hospitality, and education, among others. In the United States, for example, as of 2011 there were over 112.8 million individuals employed in the service sector, and the US Bureau of Labor Statistics predicts that this sector will continue to be the main source of employment throughout 2018 (Bureau of Labor Statistics, 2013). This trend is also occurring worldwide. As of 2012, over 40% of employed individuals work in the service sector in a number of countries, including Australia, Canada, Japan, Korea, New Zealand, Netherlands, and England (Bureau of Labor Statistics, 2013).

Meanwhile, there is also a growing emphasis on physical health and well-being, particularly within the United States. With the implementation of new healthcare reforms, more individuals are gaining access to health care services. In addition, government programs are emphasizing the importance of preventive health. The Center for Disease Control and Prevention introduced a national prevention strategy to transform America into a healthier nation. The strategy identified a number of evidence-based practices that reduce the likelihood of major illness and preventable death, which includes the consumption of a healthy diet (CDC, 2014). Therefore, this study aims to address both of these trends by investigating whether the stress associated with service jobs is associated with physical health behaviors, namely diet and alcohol use.

A large body of research has been dedicated to the study of emotional labor over the past three decades. Emotional labor refers to the process of regulating expressions, feelings, and

affect in order to meet organizational goals (Grandey, 2000; Hochschild, 1983) and is a characteristic of jobs in the service-providing sector. Prior research has outlined two mechanisms by which emotional labor occurs: surface acting and deep acting. When engaging in surface acting, employees fake an emotional display without changing their underlying feelings, whereas while deep acting, individuals try to alter their internal emotions to align with the expressions they show (Grandey, 2000; Hochschild, 1983). Emotional labor has largely been investigated in the context of organizational outcomes, such as turnover (Chau, Dahling, Levy, & Diefendorff, 2009; Goodwin, Groth, & Frenkel, 2011), performance (Grandey, 2003; Hulsheger, Lang, & Maier, 2010), and employee psychological well-being (Goodwin et al., 2011; Holman, Chissick, & Totterdell, 2002, Hulsheger et al., 2010; Morris & Feldman, 1997). However, far less research has investigated the relationship between emotional labor and physical health behaviors. Therefore in this study, I will examine whether there is an association between practicing emotional labor and engaging in unhealthy behaviors, namely alcohol use and unhealthy food consumption.

This study aims to contribute to the literature in a number of ways. First, this study uses new outcome variables (i.e. food behaviors and alcohol consumption) that have yet to be studied within the emotional labor framework. These behaviors are important to investigate as they can directly and negatively impact employees' physical health. Furthermore, this aligns with Grandey and Gabriel's (2015) call for more behavioral indicators of well-being to be investigated as outcomes of emotional labor, other than burnout and job satisfaction. Doing so expands the nomological network of emotional labor, and identifies important pathways through which emotional labor may relate to workers' health. Second, this study contributes to the work-life literature by investigating the spillover effects of work on health behaviors that occur in the

non-work domain. Lastly, this study adds to the growing emotional labor literature that utilizes experience-sampling methodology (ESM) in order to capture, both, within- and between-person variability. The use of ESM is particularly important within this study because in addition to the intra-individual differences in emotional labor, diet and alcohol behaviors are also known to fluctuate within-person (Armeli, Carney, Tennen, Affleck, & O'Neil, 2000; Mohr et al., 2005; Steptoe, Lipsey, & Wardle, 1998). Therefore, using an ESM design will allow me to examine how these phenomena fluctuate using a corresponding measurement frequency.

CHAPTER 2

THEORETICAL BACKGROUND

Emotional Labor

In order for service-providing organizations to both survive and thrive in the competitive market that exists today, it is imperative that they deliver quality *service*, in addition to quality products (Parasuraman, Zeithaml, & Berry, 1985). For this reason, among others, many organizations choose to implement *affective display rules* which, either explicitly or implicitly, guide and direct employees to display a particular emotion at any given time (Grandey, 2000; Hochschild, 1983; Rafaeli & Sutton, 1987). The implementation of affective display rules has many benefits for the organization. Prior research shows that display rules impact an organization's immediate gains (i.e. higher sales), encore gains (i.e. customer loyalty and repeat visits; Rafaeli & Sutton, 1987), and influences overall service quality (Pugh, 2001).

There are several types of affective display rules, which vary greatly based on the nature of the service provided and the job at hand. One type of display rule directs employees to solely present positive emotions and to suppress all negative emotions (Grandey, 2000). This is known as positive affective display rules and are often seen within the hospitality and retail industries. For example, a waitress is told to always approach her table with a smile and a friendly greeting. Meanwhile, another type of display rule guides employees to suppress positive emotions and only display negative emotions (Grandey, 2000). For example, a bouncer is expected to act stern while checking IDs at a bar in order to act as a rule enforcer. Lastly, display rules may encourage employees to suppress all emotions altogether (Grandey, 2000). Examples of these jobs include judges and therapists, whose position is to remain neutral.

Despite the implementation of display rules, employees naturally experience a wide-range of emotions throughout any given day. Furthermore, these emotions do not always coincide with the affective display rules. Therefore, when employees are at work, they have to manage their own feelings and expressions in order to conform to the display rules. The process by which this occurs is known as *emotional labor*.

Over three decades ago, Hochschild (1983) first introduced the concept of emotional labor. She defined it as, "...require[ing] one to induce or suppress feeling in order to sustain the outward countenance that produces the proper state of mind in others... This kind of labor calls for coordination of mind and feeling" (p. 7). In her book, *The Managed Heart*, Hochschild differentiates between managing emotions in an individual's personal life and doing so within the context of the workplace, where emotions become a "marketplace commodity" (Morris & Feldman, 1997, p. 988). To be considered emotional labor, there are three requirements. First, there must be either face-to-face or voice-to-voice interactions with customers. Second, the employee must be trying to produce an emotional state in the customers as part of the interaction. Examples of emotional states include happiness and gratitude. Third, the employer must have control over the emotions and emotional activities of the employees (Hochschild, 1983).

There are two strategies by which employees engage in emotional labor: surface acting and deep acting. *Surface acting* refers to a mechanism by which employees manage their expressions (Grandey, 2000). When employees engage in surface acting, they avoid displaying their true feelings by either suppressing, amplifying, or faking an emotion (e.g. "putting on a happy face"; Grandey, 2000; Hochschild, 1983; Hulschegeer & Schewe, 2011). While engaging in surface acting, employees tend to experience emotional dissonance, due to the misalignment between the emotions they are expressing and those they are feeling (Grandey, 2000;

Hochschild, 1983). Another consequence of surface acting is emotional suppression. The combination of both emotional suppression and emotional dissonance leads to the experience of a “discordant emotional state” (Mesmer-Magnus, DeChurch, & Wax, 2012).

Deep acting, on the other hand, is a mechanism through which employees manage their feelings (Grandey, 2000). When employees engage in deep acting, they strive to experience the desired emotions outlined by the affective display rules (e.g. “acting in good faith;” Grandey, 2000; Hochschild, 1983). This alignment of feelings and expressions leads to congruent emotional states (Mesmer-Magnus et al., 2012). Despite the alignment between feelings and expressions, deep acting is still a form of *labor*. Employees still have to exert a degree of effort in order to genuinely change their feelings and act in an organizationally appropriate manner (Morris & Feldman, 1997).

Emotional labor has been widely studied over the past thirty years in relation to a number of organizational outcomes. Prior evidence demonstrates that the strategy chosen to carry out emotional labor differentially relates to a number of job attitudes. For example, Chau et al. (2009) found a positive relationship between surface acting and turnover intentions. Furthermore, turnover intentions were predictive of actual turnover behavior. Deep acting, on the other hand, was negatively related to turnover intentions, and thus, negatively related to actual turnover behavior (Chau et al., 2009; Goodwin et al., 2011). Prior research also shows that surface acting is negatively related to job satisfaction (Grandey, 2003; Judge, Wolf, & Hurst, 2009, Hulsheger & Schewe, 2011) and organizational commitment (Hulsheger & Schewe, 2011), whereas deep acting is unrelated to both job satisfaction (Judge et al., 2009; Hulsheger & Schewe, 2011) and organizational commitment (Hulsheger & Schewe, 2011).

Emotional labor also plays a role in job performance, although prior literature has found mixed support. Some studies show that deep acting is positively related to performance (Grandey, 2003; Hulsheger et al., 2010). However, in a recent meta-analysis by Hulsheger and Schewe (2011), results indicated that there was no positive relationship between deep acting and task performance. Deep acting was, however, positively related to emotional performance and customer satisfaction. Furthermore, Hulsheger, Lang, Schewe, and Zilstra (2015) found that deep acting was positively related to customer tips. Surface acting, on the other hand, was found to be both negatively related (e.g., Grandey, 2003) and unrelated (e.g., Totterdell & Holman, 2003) to job performance. Meta-analytic results show a small negative relationship between surface acting and task performance ($\rho = -.114$), emotional performance ($\rho = -.140$), and customer satisfaction ($\rho = -.048$). However, credibility intervals for task performance and emotional performance include zero, indicating that between-study moderators exist to alter the magnitude of these relationships (Hulsheger & Schewe, 2011).

Emotional labor has also been investigated within the context of employee psychological well-being. Initially, Hochschild (1983) suggested that all emotional labor, regardless of strategy, is harmful to well-being because "...the worker can become estranged or alienated from an aspect of self – either the body or the margins of the soul" (p. 7). Since Hochschild's initial work, there has been mixed support for her theory that *all* emotional labor is bad. Morris and Feldman (1997) found a significant positive relationship between emotional dissonance, which is experienced during surface acting, and emotional exhaustion. Furthermore, in their meta-analysis, Hulsheger and Schewe (2011) found that surface acting was significantly, positively related to emotional exhaustion, depersonalization, and psychological strain. Therefore, the evidence suggests that surface acting, overall, is harmful for employees' well-being. Meanwhile,

the evidence for the relationship between deep acting and well-being is inconsistent. Prior research has found a positive relationship between deep acting and stress-related outcomes (i.e. burnout, emotional exhaustion; Goodwin et al., 2011; Holman et al., 2002), as well as no relationship between deep acting and these well-being indicators (Hulsheger et al., 2010; Wagner, Barnes, & Scott, 2014). Meta-analytics results showed that the relationship between deep acting, emotional exhaustion, and psychological strain were approximately zero and the credibility intervals included zero, suggesting that between-study moderators exist to explain the relationship between deep acting and strains (Hulsheger & Schewe, 2011). Therefore, the relationship between deep acting and employee psychological well-being may be more complex than a bivariate relationship, and it is important to investigate boundary conditions that may alter the nature of the relationship.

Far less research, however, has investigated the relationship between emotional labor and employee physical health and/or behaviors that impact physical health. In their meta-analysis of 95 articles, Hulsheger and Schewe (2011) only found six studies that investigated emotional labor and psychosomatic complaints. The meta-analytic estimates showed a significant, positive relationship between surface acting and psychosomatic complaints ($p = .435$), and a small, but positive relationship between deep acting and psychosomatic complaints ($p = .175$).

Additionally, two studies investigated emotional labor and physical health, although not specifically surface and deep acting. Schaubroeck and Jones (2010) found that the demand to express positive emotions at work, in general, was positively related to physical symptoms of illness. This relationship was stronger among those who had low identification with their organization. In their experimental study Hopp, Rorhmann, Zapf, and Hodapp (2010) found that in conditions where emotional dissonance was high (i.e. positive display rules and rude

customers), there was an increase in blood pressure and heart rate, suggesting an aversive physiological state. Lastly, in their experience-sampling study, Wagner et al. (2014) investigated the spillover effect of emotional labor on a number of outcomes, including insomnia. Their results indicated a significant, positive relationship between work-day surface acting and insomnia at night. The relationship between deep acting and insomnia was not significant.

The lack of research investigating physical health and behaviors that influence health is a major limitation of the emotional labor literature. In their recent review, Grandey and Gabriel (2015) call for the use of more well-being outcomes. They argue that the majority of current well-being outcomes are “work-centric” and “...ignores how emotional labor may affect the whole person” (p. 337). Therefore, this study aims to start filling in the gaps, by assessing behaviors that have an impact on physical health as an indicator of employee well-being. In addition, this study aims to investigate spillover effects of emotional labor onto non-work behaviors. To date, few studies have examined possible spillover effects of emotional labor. For example, Krannitz, Grandey, Liu, and Almeida (2015) found that hotel managers’ surface acting was directly related to their marital partner wanting them to quit and indirectly related to marital partners’ perceptions of work-family conflict. In addition, Wagner et al. (2014) found bus drivers’ surface acting was positively related to feelings of work-life conflict, emotional exhaustion experienced at home, and insomnia. Thus, this study will provide novel insight regarding the possible spillover effects of emotional labor, while simultaneously contributing to the work-life literature.

Furthermore, this study adds to the growing literature that investigates emotional labor over time. Traditionally, emotional labor research was conducted with cross-sectional studies. However, Judge et al. (2009) found that there was significant within-person variance as well as

between-person variance in emotional labor strategies utilized. More recently, Gabriel, Daniels, Diefendorff, and Greguras (2015) identified five latent profiles for emotional labor actors. Their analyses revealed that individuals vary in both the amount of acting they engage in, as well as the type of acting they engage in (i.e. surface acting, deep acting, combination). For example, regulators are individuals who practice a high amount of both surface and deep acting, non-actors practice a low amount of both surface and deep acting, and deep actors practice a high amount of deep acting and a low amount of surface acting. These findings show that individuals can vary with the amount of emotional labor they engage in and can switch between strategies during and across shifts. In addition, Gabriel and Diefendorff (2015) found that felt emotions and emotional regulation varied within a single interaction with a customer. These findings suggest that employees switch between emotional labor strategies throughout the course of a single interaction. Thus, it is only appropriate to use a within-person design to study emotional labor in order to capture this variation.

In light of these findings, more emotional labor research has been utilizing the ESM design to account for intra-individual differences (e.g., Judge et al., 2009; Scott & Barnes, 2011; Wagner et al., 2013). In this study, the use of ESM is particularly important. In addition to the predictor variables (i.e. emotional labor), the outcome variables being investigated (i.e. food and alcohol consumption) also tend to vary on a daily basis within and across individuals (Armeli et al., 2000; Mohr et al., 2005; Steptoe et al., 1998). Therefore, using an ESM design will allow me to capture both the within- and between-person variance in the predictor and outcome variables.

Emotional Labor, Negative Affect, and Positive Affect

As aforementioned, employees experience a wide-variety of emotions throughout any given day, which may not align with the affective display rules provided at work. As a result,

employees may choose to fake the appropriate affective display via surface acting or to modify their underlying affective state via deep acting (Hochschild, 1983). As such, affect is both a precursor to and consequence of the process of emotional labor and regulation (Judge et al., 2009; Scott & Barnes, 2011; Totterdell & Holman, 2003).

Drawing on Gross's (1998) emotional regulation taxonomy, surface acting is a form of response-focused emotional regulation meaning individuals respond to a particular stimulus after an emotion has already been developed. As a result, they have to change their facial, bodily, or affective expressions after the fact. Research on response-focused emotional regulation has found that changing an affective expression does not change the underlying affective experience (John & Gross, 2004) and rather, attempting to suppress negative emotions can amplify negative affect (Wegner, 1994). When individuals engage in surface acting, they avoid changing their underlying affective state that is mismatched from the affective display rules. Rather, they continue experiencing the affective state while demonstrating a different affective expression. Therefore, when positive display rules are in place, surface acting is likely to be positively related to state negative affect.

Hypothesis 1a: Daily surface acting will be positively related to state negative affect.

With respect to Gross's (1998) emotional regulation taxonomy, deep acting is an example of antecedent-focused emotional regulation. That is, emotional regulation occurs before an emotion develops and is experienced. The aim of antecedent-focused regulation is to change the perception of a situation in order to change the subsequent emotional response (Gross, 1998). When individuals engage in deep acting, they aim to align their affective display with their underlying affective state. When affective display rules are positive, engaging in deep acting should be positively related to state positive affect.

Hypothesis 1b: Daily deep acting will be positively related to state positive affect.

Regulatory Focus

Regulatory focus theory is a self-regulation theory that describes the nature by which individuals reach desired end-states, or goals. The underlying assumption of regulatory focus theory is that individuals will self-regulate differently when pursuing fundamentally different needs, such as those for nourishment and those for security. Regulatory focus theory suggests that nourishment-related and security-related self-regulation differ in their regulatory focus. Nourishment-related regulation activates a promotion focus, whereas security-related regulation activates a prevention focus (Higgins, 1997).

Promotion focus is an approach orientation, where individuals, "...attain a desired end-state by approaching matches...to that end-state" (Higgins, 1997, p.1284). Individuals high in promotion focus are primarily concerned with advancement, growth, and accomplishment. They constantly strive to improve themselves and gain growth experiences, which ultimately allow them to approach and attain their ideal goals. High promotion-focused individuals are most sensitive to the presence or absence of positive outcomes, or *gains*. They typically experience emotions ranging from cheerfulness to dejection, based on whether they are able to attain their ideal, desired end-state (Higgins, 1997).

Prevention focus is an avoidant orientation, where individuals, "...attain a desired end-state by...avoiding mismatches to that end-state" (Higgins, 1997, p. 1284). Individuals high in prevention focus are primarily interested in fulfilling their responsibilities and are concerned with safety and security. High prevention-focused individuals are sensitive to the presence or absence of negative outcomes, or losses. They tend to experience agitation-like emotions when

something impedes their ability to fulfill their duties. In general, these individuals experience emotions ranging from quiescence to agitation (Higgins, 1997).

Within an organization, the affective display rules are the desired end-states for employees to meet. Therefore, an employee's regulatory focus may influence the emotional labor strategy he/she uses in order to meet the display rules provided. Dahling and Johnson (2010) conducted research investigating the relationship between regulatory focus and emotional labor strategies. They found that trait promotion focus was positively related to deep acting, whereas trait prevention focus was positively related to surface acting, after controlling for display rule perceptions and trait affect. Dahling and Johnson also found that state regulatory focus, activated by a writing prime, affected emotional labor strategy selection such that state promotion focus led to the selection of deep acting and state prevention focus led to the selection of surface acting, during a hypothetical service encounter.

In this study, I explore trait regulatory focus as the individual difference that moderates whether employees experience positive or negative state affect after engaging in emotional labor. First, prior research shows that there is a positive relationship between surface acting and prevention focus, and between deep acting and promotion focus (Dahling & Johnson, 2010). Although Dahling and Johnson's study found positive associations between emotional regulation strategies and regulatory focus, this does not preclude other types of relationships between the two to exist. Second, the emotional spectrum associated with promotion and prevention focus map onto affective states. That is, individuals with high vs. low levels of a particular regulatory foci will experience different intensity of positive versus negative emotions in response to their environment. Finally, prior research has found that regulatory focus can moderate the effects of individuals' perceptions of the environment. For example, regulatory focus can impact how

individuals' cognitively and affectively appraise others (Pham & Avnet, 2009). Therefore, regulatory focus is likely to relate to how individuals perceive the experience of emotional labor.

More specifically, I expect that prevention focus will moderate the relationship between surface acting and state negative affect. When employees engage in surface acting, they do not express the emotions they internally feel. Rather they fake a particular expression, leading to feelings of inauthenticity and emotional dissonance (Grandey, 2000). Employees who surface act are likely to experience negative affect because they suppress their true feelings, which subsequently leads to the experience of emotional dissonance. This experience may be heightened for high prevention-focused individuals. High prevention-focused individuals are fixated on meeting their duties. Within the context of emotional labor, high prevention-focused individuals likely see affective display rules as obligations they need to meet, rather than something that they should internally align to. This emphasis on duties and obligations may cause high prevention-focused individuals to feel even more detached and experience more dissonance when engaging in surface acting because there is less internalization of the process. Rather, they are only acting to meet an external requirement. In addition, surface acting occurs when employees avoid displaying their true feelings, and high prevention-focused individuals are more sensitive to avoidance-related strategies. Furthermore, the emotional spectrum associated with prevention focus may be another factor. High prevention-focused individuals are already more susceptible to experiencing agitation-related emotions (Higgins, 1997), which overlap with negative affect. Therefore, these individuals may be more sensitive to negative affect while engaging in surface acting.

Hypothesis 2: The positive relationship between daily surface acting and state negative affect will be stronger for those with high versus low prevention focus.

Individuals high in promotion focus, however, aim to approach and achieve their desired end states. These individuals are excited to gain growth opportunities, which enhance their well-being (Higgins, 1997). When individuals engage in deep acting, they strive to genuinely experience the emotion that they are expressing. Employees who engage in deep acting are likely to experience state positive affect because they internalize the positive feelings they are expressing and aim to develop meaningful, authentic experiences with their customers. I expect this experience will be heightened for high promotion-focused individuals. High promotion-focused individuals will view deep acting as more of an opportunity to gain personal growth and mastery in their jobs. These individuals will also seek more meaningful connections with customers than those low in promotion focus. In addition, deep acting occurs when employees approach experiencing the emotion they want to display, and high promotion-focused individuals are more sensitive to approach-oriented strategies. Furthermore, high promotion-focused individuals tend to experience cheerful-related emotions, which overlaps with positive affect. Therefore, I believe that individuals high in promotion focus will experience more positive affect than individuals low in promotion focus when engaging in deep acting.

Hypothesis 3: The positive relationship between daily deep acting and state positive affect will be stronger for those with high versus low promotion focus.

Mood Repairment

When individuals experience negative affect or other aversive states, they want to alleviate the negative feelings. In order to do so, individuals often choose to engage in behaviors that bring them pleasure. These behaviors help to restore hedonic balance and act as mood repairment (Zillman & Bryant, 1985). However, the pleasurable behaviors individuals choose to engage in are not always healthy behaviors. These behaviors may act as a quick fix, but then

have negative long-term implications (Zillman & Bryant, 1985). In this study, I examine two mood repairment behaviors - food and alcohol consumption – which have often been used to mitigate negative feelings. I integrate the reward-based stress eating framework (Adam & Epel, 2007) to explain the mechanism by which food acts as mood repairment and the tension reduction theory (Conger, 1951; 1956) to explain the mechanism by which alcohol acts as mood repairment. Below I discuss the proposed relationship between state affect with food and alcohol consumption.

Reward-Based Stress Eating

The impact of stress and negative affect on food consumption is widely known, both in popular press and among researchers. In daily life, the phrases “comfort food” and “stress eating” are frequently used to describe the use of food to cope with negative emotions. In research, the literature is consistent regarding the relationship between the two variables; that is that when individuals experience negative affect, they tend to eat *more* food and *unhealthy* food. Allen and Armstrong (2006), for example, found that work-family conflict was related to unhealthy food consumption. Ng and Jeffrey (2003) found that working adults who perceived high stress consumed more high fat foods than working adults who perceived less stress. These results were consistent across both genders. Other research shows a positive relationship between negative emotions and the consumption of fast food (Hoffman, Lee, & Mendez-Luck, 2012; Mouchacca, Abbott, & Ball, 2013; Pak, Olsen, & Mahoney, 2000; Spillman, 1990), and soda intake (Hoffman et al., 2012; Spillman, 1990). These results suggest that consuming food high in fat or sugar seems to be a mechanism for mood repair for individuals who experience negative affect.

According to the reward-based stress eating framework (Adam & Epel, 2007), the relationship between emotions and food is largely due to how individuals appraise stressors and the subsequent biological response. If a stressor is perceived as a threat, the individual experiences a negative emotional response. The hypothalamic-pituitary-adrenal (HPA) axis is activated, which is how the body communicates that it is undergoing a harmful situation. The HPA system is activated by messages from the central nervous system to the hypothalamus, which begins the secretion of various hormones by the hypothalamus and the pituitary gland (Straub, 2012). One of the main hormones secreted during the activation of the HPA axis is cortisol. Cortisol is released to signal to the body to stop releasing other stress hormones. However, increased cortisol in the body is associated with higher levels of glucose in the blood and an increase in caloric intake, particularly with highly palatable food (Adam & Epel, 2007).

Cortisol also plays a role in drug addiction. Prior research shows that cortisol mediates the relationship of stress on drug acquisition (Goeders, 2002). More recently, research has found that highly caloric food has properties that promote addiction. Highly palatable food can activate the brain reward system, which leads to the release of a number of chemicals in the brain, including opioids. The release of opioids decreases activity of the HPA axis, which then attenuates the negative emotional response. Therefore, over time, it seems that the overeating of highly palatable food leads to decreased negative affect, which reinforces this eating behavior (Adam & Epel, 2007).

Therefore, based on this theoretical framework, I expect that negative affect will be related to both an increase in caloric intake, as well as the intake of highly palatable foods, due to the release of cortisol. As such, I expect that surface acting will be related to both the

consumption of high fat/sugar food as well as overeating. This relationship will be mediated by negative affect.

Hypothesis 4a: State negative affect will be positively related to the consumption of high fat/sugar food.

Hypothesis 4b: State negative affect will mediate the positive relationship between daily surface acting and high fat/sugar food consumption.

Hypothesis 5a: State negative affect will be positively related to overeating.

Hypothesis 5b: State negative affect will mediate the positive relationship between daily surface acting and overeating.

On the other hand, if a stressor is perceived as a challenge, the individual experiences a positive emotional response, and the sympathetic-adrenomedullary (SAM) system is activated. The SAM system is the body's initial rapid response to stress (i.e. "fight or flight" response). Because the SAM system is designed for immediate and short-term stressors, it does not produce cortisol. Rather, it produces catecholamines, such as adrenaline and nonadrenaline, which allows the body to sustain a short-term stress response. While the SAM system is activated, other parts of the body undergo various physical responses. Physical responses include the acceleration of the heart and lungs, dilation of blood vessels, digestion slows, and hunger decreases. These physical responses are designed to give the body increased strength, speed, and focus in order to address the stressor at hand (Straub, 2012).

Given that the activation of the SAM system is associated with a decrease in hunger, the slowing of the digestive system, and occurs when individuals perceive a stressor as positive and challenging, I hypothesize that positive affect will be negatively related to overeating.

Furthermore, I expect that deep acting will be negatively related to overeating, and this relationship will be mediated by positive affect.

Hypothesis 6a: State positive affect will be negatively related to overeating.

Hypothesis 6b: State positive affect will mediate the negative relationship between daily deep acting and overeating.

Although there is evidence demonstrating the negative relationship between catecholamines and quantity of food consumption, there is very little research investigating the relationship between the release of catecholamine and the *quality* of food consumed. On the one hand, being in a state of arousal with adrenaline running through the body may leave individuals feeling lethargic and exhausted afterwards. In order to cope with this, individuals may choose to consume high sugar/fat foods in order to re-energize. However, it is also possible that individuals may want to avoid highly palatable because their hunger subsides during this state of arousal. It may take longer for individuals to begin experiencing feelings of hunger again. Given that there is no theoretical explanation for this potential relationship, I explore whether positive affect is related to the quality of food consumed in a research question.

Research Question 1: Is there a relationship between state positive affect and the consumption of high fat/sugar foods?

Tension Reduction Theory

Tension reduction theory points to another possible mood repair behavior—consumption of alcoholic beverages. Conger (1951, 1956) was the first to introduce the tension reduction theory, which states that alcohol serves to reduce tension and arousal in the body. Tension reduction theory has two propositions. First, consumption of alcohol will reduce tension after being exposed to any type of stressor. This proposition is known as “stress-response dampening”

(Conger, 1951, 1956; Greeley & Oei, 1999; Kushner, Sher, Wood, & Wood, 1994). Second, exposure to stressors will promote the use of alcohol as a way to mitigate feelings of tension. This proposition is known as “stress-induced substance abuse” (Conger, 1951; 1956; Greeley & Oei, 1999; Kushner et al., 1994). Therefore, this theory suggests that the consumption of alcohol relieves feelings of tensions, which thereby acts as negative reinforcement, and the cycle of alcohol use continues and potentially escalates. The underlying mechanism by which alcohol use reduces tension is through the reduction of self-awareness. When individuals consume alcohol, their inhibitions are lowered, and their attention is often redirected away from the stressful situation at hand (Conger, 1951, 1956; Greeley & Oei, 1999).

The tension reduction framework has been applied to a number of studies within the context of work. For example, in their daily diary study, Liu, Wang, Zhan, and Shi (2009) found that daily work stress was positively related to daily alcohol consumption, as well as the desire to consume alcohol. Wang, Liu, Zhan, and Shi (2010) found that work-family conflict had a significant within-person effect on daily alcohol consumption. Ballanger et al. (2010) found that work stress and post-traumatic stress disorder predicted alcohol consumption in police officers, regardless of gender.

Tension reduction theory states that individuals choose to consume alcohol to alleviate tension in the body. Given that negative affect is an effect that occurs after being exposed to a stressor and causes tension in the body, individuals are likely to consume alcohol for mood repair after experiencing negative affect. As such, I expect that negative affect will be positively related to alcohol consumption. Furthermore, I hypothesize that surface acting will be positively related to alcohol consumption, and that this relationship will be mediated by negative affect.

Hypothesis 7a: State negative affect will be positively related to alcohol consumption.

Hypothesis 7b: State negative affect will mediate the positive relationship between daily surface acting and alcohol consumption.

However, the tension reduction theory does not operationally define which types of tensions or arousals lead to the consumption of alcohol, although the majority of research on this topic has investigated negative arousal states (i.e. anxiety, distress; see Greeley & Oei, 1999 for a review). Based on the ambiguity of this theory, it is unclear whether state positive affect will be associated with alcohol use. From a biological perspective, positive affect can lead to physiological arousal in the body. The SAM system is activated, and the body releases adrenaline (Adam & Epel, 2007). On the other hand, because positive affect is a positive arousal state, individuals may not perceive this as tension. Thereby in this study, I explore the relationship between positive affect and alcohol use as exploratory research questions.

Research Question 2: Is state positive affect related to alcohol consumption?

Research Question 3: Is daily deep acting related to alcohol consumption via state positive affect?

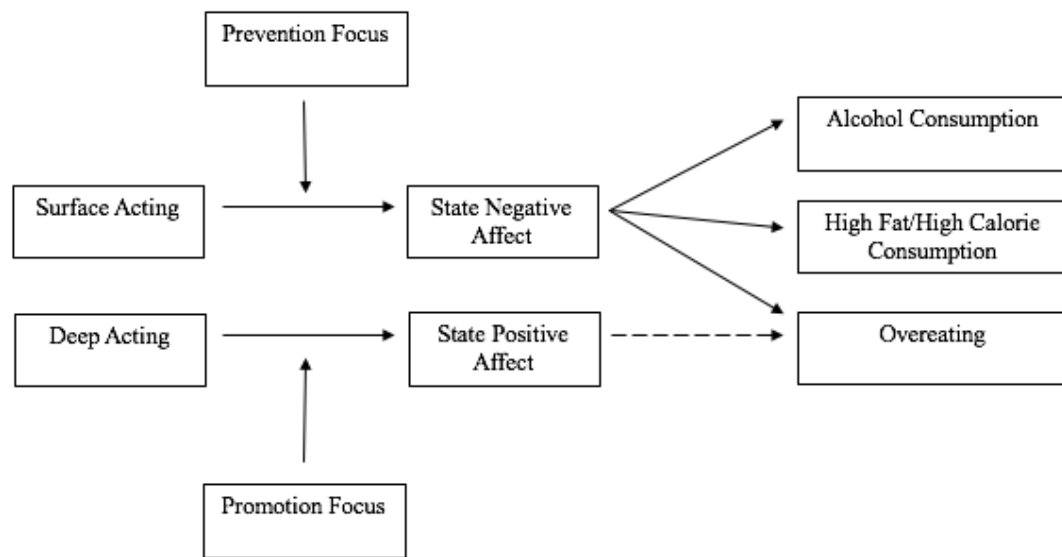


Figure 1. Theoretical model

CHAPTER 3

METHOD

Participants

The sample consisted of servers and bartenders working in restaurants in the Midwestern and northeastern United States. To participate in the study, participants had to be 21+ years of age and work either part-time or full-time as a server or bartender. Over 100 employees were invited to participate and 44 signed up for the study by completing the baseline survey. Of the 44 participants that completed surveys, 6 individuals were eliminated for failing to complete at least 60% of the daily surveys. In both the Midwest and northeastern sample, the participants were mostly female (71% and 83%, respectively), Caucasian (85% and 83%), and the average ages were comparable (27.52 and 24.22). Additionally, the average tenure (1.75 years and 3.31 years) and the number of shifts worked each week (3.62 and 5.04) were similar. Because of these similarities, the samples were combined. The final sample consisted of 38 servers and bartenders that were predominantly female (76%), 81.4% Caucasian, 12% Hispanic/Latino, 5.6% Asian, and 1% other. Participants' mean age was 26 ($M = 25.70$, $SD = 6.61$). On average, participants worked 5 shifts a week ($M = 4.80$, $SD = 1.93$) and had been at their current job for 2.61 years ($M = 2.61$, $SD = 1.10$).

Procedure

Participants were recruited in-person at the restaurants where they worked. The author hung up flyers in restaurants in the Midwestern and northeastern United States and spoke with employees at the restaurants. Flyers contained information about the study, as well as the contact information of the author. Interested participants emailed the author and received the consent

form (see Appendix A) and baseline survey shortly after. Once the baseline survey was completed, the daily portion of the surveys began. All surveys were completed online.

The study used an experience sampling methodology where three surveys were completed each workday for 10 days following the baseline. The baseline survey captured demographic information including job tenure, age, and gender, as well as regulatory focus, alcohol expectancy, and food choice expectancy. On each workday, participants filled out the morning survey (Time 1) which assessed sleep quality, sleep quantity, negative affect, and positive affect. This survey was completed before the start of their shift. Participants completed the second daily survey immediately after their shift ended (Time 2), where they filled out the extent to which they engaged in emotional labor during the shift, state affect felt during the shift, and the quantity and quality of food consumed during the shift. Finally, participants completed the third survey before going to bed (Time 3), which captured alcohol consumption after work and the quantity and quality of food consumed after work.

All survey emails sent were tailored to meet participants' individual work schedules. For example, if a participant worked from 11-4pm, they received the Time 1 survey and 1-2 reminders before 11am, they received the Time 2 at 4pm with reminders shortly after, and they received the Time 3 survey at 8:45pm with reminders shortly after. Participants were allowed to complete the nighttime survey the following morning, but Times 1 and 2 had to be completed on their respective day. In addition, scales were randomized in each survey to prevent ordering effects.

Lastly, participants were compensated \$2 per survey completed. If all surveys were completed, participants received \$60. As an incentive to complete all surveys, for each day

participants complete all three surveys, they were entered into a lottery to win an additional \$100. One person was selected as the lottery winner.

Measures

All measures can be found in Appendix B-D. Additionally, the variance decomposition for all level-one variables are listed below and can be found in Table 1. These values were calculated by examining the intra-class correlation (ICC-1) based on an unconditional random coefficient model (Bliese, 2006; Bliese & Ployhart, 2002).

Demographics (Baseline). Participants reported their gender, age, ethnicity, job tenure, job position, job location, and whether they work full-time or part-time.

Regulatory focus (Baseline). Regulatory focus was measured using the Wallace, Johnson, & Frazier (2009) work regulatory focus scale. The scale started with “Rate how often you focus on these thoughts and activities when you are working.” Six items measured promotion focus ($\alpha = .78$), and six items measured prevention focus ($\alpha = .84$). An example promotion focus item include “Accomplishing a lot of work” and an example prevention focus include “Following rules and regulations at work.” Items were scored on a 5-point scale, where 1 = “Never” and 5 = “Constantly.”

Sleep quality and quantity (Time 1). Sleep quality and quantity were measured before work each day. Sleep quality was measured with one item, “How would you rate the quality of your sleep last night?” on a three-point scale where 1 = “Poor” and 3 = “Excellent.” Sleep quantity was measured with one-item, “How many hours did you sleep last night?” The ICC(1) for sleep quality was .16 and .27 for sleep quantity. Therefore 16% of the variation in sleep quality and 27% in sleep quantity can be attributed to between-person variation.

State positive and negative affect (Time 1 and Time 2). State positive and negative affect were measured twice each day: once before work and again immediately after work using the Positive and Negative Affect Schedule (PANAS) scale (Watson et al., 1988). Ten items measured positive affect (Time 1: $\alpha = .96$, Time 2: $\alpha = .94$), and ten items measured negative affect (Time 1: $\alpha = .74$, Time 2: $\alpha = .85$). Participants were asked to indicate the extent they feel the following emotions. Sample items include, “Interested” and “Inspired” (positive affect), and “Hostile” and “Irritable” (negative affect). Items were scored on a scale from 1-5, where 1 = “Very slightly/Not at all” and 5 = “Extremely.”. Items were summed, so scores ranged from 10-50 for each scale. At Time 1, the ICC(1) for positive and negative affect were .65 and .29, respectively. At Time 2, the ICC(1) was .58 and .50.

Emotional labor (Time 2). Emotional labor was measured immediately after an employee’s shift using the six-item Brotheridge and Lee (2003) and Grandey (2003) measure. Three items assessed surface acting ($\alpha = .88$), and three items measured deep acting ($\alpha = .88$). Items included, “During my shift, I resisted expressing my true feelings” to measure surface acting, and “During my shift, I made an effort to actually feel the emotions that I needed to display to others” to measure deep acting. Items were scored on a five-point scale, where 1 = “Not at all” and 5 = “All the time.” The ICC(1) was .51 for surface acting and .58 for deep acting.

Food quantity (Time 2 and Time 3). Food quantity was measured twice each day: immediately after an employee’s shift and before the employee went to bed in the evening. Food quantity was assessed with three items, adapted from Oliver and Wardle (1999), which ask about overall food quantity, meal size, and snacking. Items are measured on a 5-point scale, where 1 = “None” and 5 = “Very much.” Each item was treated as a separate variable, as prior research has

found both within- and between-person differences in the quantity of snacks and meals consumed throughout the day (O'Connor et al., 2008). Additionally, O'Connor et al. (2008) and Oliver and Wardle (1999) found that stress had different relationships with meal consumption and snacking. The ICC(1) was .35 for snacking, .07 for meal size, and .09 for total food consumption.

Food quality (Time 2 and Time 3). Food quality was assessed with a modified checklist twice each day: immediately after an employee's shift and before the employee went to bed in the evening. Participants were asked to select each type of food that they have consumed during their shift and after leaving work. The list of food and beverages were created based on the United States Department of Agriculture's (USDA) MyPlate guideline descriptions with 30 food and beverage options (15 healthy, 15 unhealthy). Examples of foods high in fat or sugar include "cheese, butter, or cream-based sauces/dips" and "cakes, cookies, pastries, and donuts." Examples of healthy foods/foods low in fat and sugar include, "nuts and seeds" and "raw fruit." Items were summed to get an overall score of healthy foods and high fat/high calorie foods. The ICC(1) for high fat/high calorie food was .46.

Additionally, the Time 2 and Time 3 food quality and quantity variables were respectively aggregated (e.g. Time 2 and Time 3 snacking were aggregated) to capture total food consumption during and after the shift. Unlike traditional 9-5 hours, servers and bartenders' shifts often occur during normal dining hours, so it is likely that people might eat toward the end of their shift rather than waiting until the shift is over. Combining the two time points provides a clearer picture of participants' total food consumption. Additionally, the correlations between each of the variables at Time 2 and Time 3 were positive and significant ($p < .01$), suggesting

they are strongly related. Therefore, the Time 2 and Time values for each variable (i.e. high fa/high calorie, snacking, meal size, and total food consumption), were summed.

Alcohol consumption (Time 3). Alcohol consumption was measured immediately after an employee's shift. Alcohol consumption was assessed through three questions: (1) Did you consume an alcoholic beverage? (2) What type(s) of alcoholic beverage(s) did you consume? – check all that apply and (3) Given serving size definitions provided, how many alcoholic beverages did you consume? Number of alcoholic beverages was used to capture alcohol consumption. If participants reported that they did not consume an alcoholic drink, they were assigned a 0. This variable was treated as a count variable. The ICC(1) for alcohol consumption was .31.

Data Analysis

Data structure. Data was structured such that daily variables were nested within participants, creating a 2-level dataset. The dataset contained 20 level-one measures and 38 individuals. Per Scherbaum and Ferreter's (2009) recommendations, this should be sufficient to find achieve a power of .80 and find a medium effect size. From the 38 participants retained for analyses, a total of 370 days of data were collected. Participants provided approximately 9.68 days of data. Of the 370 days of data, several were removed for compliance reasons. Some participants completed the Time 1 survey in the morning and did not go into work that afternoon. For this reason, 8 days were excluded from analyses. In addition, compliance with the required timing of the surveys also resulted in 4 days being removed. For two of the days, participants completed all three surveys within 15 minutes of each other at the end of the day. For the other two days, Time 1 and Time 2 surveys were completed within 10 minutes of each other after the

shift. After removing these 12 days, 358 days of level-1 data were retained for analyses, or 96% of collected surveys.

Analytic approach. Bivariate analyses were conducted using the multilevel package in R (Bliese 2006; Bliese, 2016), given the nested nature of the data where daily measurements (level-1 variables) were nested within participants (level-2 variables). In line with recommendations by Nezlek (2012), coefficients were allowed to vary randomly, error terms were entered for each level-1 coefficient in level-2 equations, and random intercepts and slopes were used. Level-1 predictors (i.e. emotional labor) variables were person-mean centered, whereas the level-2 variables (i.e. regulatory focus) were grand mean centered. Moderated mediation and mediation analyses were tested with Mplus 7.0 (Muthén & Muthén, 2012) using the Bauer, Preacher, and Gil (2006) method, where the covariances of the Level 1 random effects were estimated in order to estimate random indirect effects and standard errors. Finally, the Monte Carlo method was used to estimate confidence intervals for the indirect effects in the mediation relationships (Preacher, Zyphur, & Zhang, 2010).

CHAPTER 4

RESULTS

Descriptive statistics, including means, standard deviations, and intra-class correlations (ICCs) are provided in Table 1. Additionally, intercorrelations between variables can be seen in Table 2. There are several bivariate relationships worth noting. Negative affect at time 1 is positively related to surface acting ($r = .14, p < .05$), and positive affect at time 1 is positively related to deep acting ($r = .16, p < .01$). Surface acting is positively related to negative affect at time 2 ($r = .46, p < .01$), high fat/calorie consumption ($r = .27, p < .01$), and snacking ($r = .42, p < .01$). Surface acting is also positively related to alcohol consumption after work ($r = .27, p < .01$). Surface acting is not significantly related to meal size or total food consumption during and after work. Deep acting is positively related to positive affect at time 2 ($r = .37, p < .01$) and negatively related to high fat/calorie consumption ($r = -.17, p < .01$) and snacking during work ($r = -.13, p < .05$). Deep acting is also negatively related to alcohol consumption after work ($r = -.18, p < .01$). Deep acting is not significantly related to meal size or total food consumption during and after work.

Hypothesis 1a proposed that within individuals, daily surface acting will be positively related to state negative affect. Results indicate that surface acting during the workday is positively related to state negative affect ($\gamma = 2.17, p < .001$) after controlling for sleep quantity, sleep quality, and psychological negative affect before work (see Table 3). Hypothesis 1b proposed that daily deep acting will be positively related to state positive affect. Results indicate that deep acting is positively related to state positive affect ($\gamma = 4.07, p < .001$) after controlling for sleep quantity, sleep quality, and positive affect before work (see Table 4). Therefore, Hypotheses 1a and 1b were supported. Although not hypothesized, there was also a significant,

negative effect between daily surface acting and state positive affect ($\gamma = -1.53, p < .01$) and a significant, negative effect between daily deep acting and state negative affect ($\gamma = -0.69, p < .05$) after controlling for sleep quantity, sleep quality, positive affect before work, and negative affect before work, respectively.¹

Hypothesis 2 proposed that the positive relationship between surface acting and state negative affect will be stronger for those with high versus low prevention focus. The results indicate that the main effect of prevention focus on state negative affect was not significant ($\gamma = -1.35, ns$), but the interaction term was positively and significantly related to state negative affect ($\gamma = 1.85, p < .01$). Simple slopes for the association between surface acting and state negative affect were tested for low ($-1 SD$ below the mean) and high ($+1 SD$ above the mean) levels of prevention focus (Preacher, Curran, & Bauer, 2006). The simple slopes test revealed a significant positive association between surface acting and state negative affect for high levels of prevention focus (simple slope = $7.87, p < .05$), but was not significant for low levels of prevention focus (simple slope = $0.22, ns$). Therefore, Hypothesis 2 was supported.

Hypothesis 3 stated that the positive relationship between daily deep acting and state positive affect will be stronger for those with high versus low promotion focus. Results indicate that both the main effect of promotion focus on state positive affect ($\gamma = 3.74, ns$) and the interaction term ($\gamma = 0.19, ns$) are in the hypothesized direction, but are not significant (see Table 4). Therefore, Hypothesis 3 was not supported.

Hypothesis 4a proposed that state negative affect will be positively related to the consumption of high fat/sugar food. This hypothesis was supported ($\gamma = .03, p < .01$; see Table

¹ I also controlled for demographic variables (i.e. age, gender, location, position) across hypotheses. This did not change the significant findings.

5). Hypothesis 4b proposed that state negative affect will mediate the relationship between daily surface acting and high fat/sugar food consumption. The indirect effect of surface acting on high fat/sugar food consumption was not significant, thereby providing no support for Hypothesis 4b. A summary of the indirect and total effects can be found in Table 6.

Hypothesis 5a stated that state negative affect will be positively related to overeating. This hypothesis was partially supported. State negative affect was positively and significantly related to snacking ($\gamma = .10, p < .01$), but was not significantly related to meal size or overall food consumption. A summary of these results can be found in Table 7. Hypothesis 5b proposed that state negative affect will mediate the positive relationship between daily surface acting and overeating. This hypothesis was partially supported. State negative affect mediated the relationship between surface acting and snacking, and the indirect effect of surface acting on snacking via state negative affect was significant ($\gamma = .11, p < .05$). Moreover, the indirect effect was moderated by prevention focus. For individuals with a high prevention focus, the indirect effect of surface acting on snacking via state negative affect was significant ($\gamma = .17, p < .05$), but the indirect effect was not significant for those with a low prevention focus ($\gamma = .06, ns$). A summary of results can be seen in Table 8. However, as can be seen in Tables 9 and 10, the indirect effect of surface acting on meal size and total food consumption were not significant. Therefore, Hypothesis 5b was only partially supported.

Hypothesis 6a proposed that state positive affect will be negatively related to overeating. Results indicate that the relationship between state positive affect and snacking ($\gamma = .00, ns$), meal portion size ($\gamma = .001, ns$), and overall food consumption ($\gamma = .003, ns$) were not significant (see Table 7). Therefore, Hypothesis 6a was not supported. Hypothesis 6b stated that state positive affect will mediate the negative relationship between daily deep acting and overeating.

Hypothesis 6b was not supported for any of the overeating variables. A summary of the indirect effects can be found in Tables 8-10. Research Question #1 explored whether there was a relationship between state positive affect and the consumption of high fat/sugar foods. Results indicate a significant, negative relationship between state positive affect and high fat/sugar consumption, after controlling for sleep quantity and quality ($\gamma = -.01, p < .05$). See Table 5 for results.

Hypothesis 7a stated that state negative affect will be positively related to alcohol consumption. Results demonstrated a positive and significant effect of negative affect on alcohol consumption after controlling for sleep quantity and quality ($\gamma = 0.06, p < .01$; see Table 11). Hypothesis 7b proposed that state negative affect will mediate the positive relationship between daily surface acting and alcohol consumption. The indirect effect was moderated by prevention focus. For individuals with a high prevention focus, the indirect effect of surface acting on alcohol consumption via state negative affect was significant ($\gamma = 0.10, p < .05$), but the indirect effect was not significant for those with a low prevention focus ($\gamma = .03, ns$). Therefore, Hypothesis 7b was partially supported. See Table 12 for a summary of the indirect and total effects.

Research Question #2 explored whether state positive affect was related to alcohol consumption. Results indicate that the relationship between state positive affect and alcohol consumption was not significant ($\gamma = 0.01, ns$). Research Question #3 explored whether daily deep acting was related to alcohol consumption via state positive affect. Results indicate that the indirect effect of deep acting on alcohol consumption was not significant ($\gamma = -0.01, ns$). A summary of results can be found in Table 11 and Table 12, respectively.

Supplementary analyses. In addition to the hypothesized relationships, additional mediation analyses were explored. Because surface acting was significantly negatively related to state positive affect, I investigated whether state positive affect mediated the relationship between surface acting and high fat/calorie consumption, snacking, and alcohol consumption. Results indicated that the indirect effects were not significant for any of these relationships (see Tables 6, 8, and 12). Similarly, I tested whether state negative affect mediated the relationship between deep acting and high fat/high calorie consumption. Again, the indirect effect was not significant.

CHAPTER 5

DISCUSSION

As the number of service jobs continues to increase across the US and worldwide (Bureau of Labor Statistics, 2013), the prevalence of emotional labor is likely to increase as well. As such, it is important for scholars to expand their knowledge of emotional labor to understand how it relates to the whole actor, beyond work-related outcomes (Grandey & Gabriel, 2015). The current study sought to do so by exploring the spillover effect of emotional labor at work on behaviors relevant to physical health, specifically food and alcohol consumption. Results from the study indicate that there is a significant relationship between emotional labor, state negative affect, and state positive affect. Additionally, state negative affect is significantly related to snacking, high fat/high calorie consumption, and alcohol intake, whereas state positive affect is only significantly related to high fat/high calorie intake. Finally, prevention focus moderated the indirect relationships between surface acting, snacking, and alcohol consumption via state negative affect. The following sections provide a more comprehensive review of the study's finding and their theoretical implications. Finally, practical implications are suggested, limitations are addressed and future research directions are discussed.

Emotional Labor and State Affect

The results from this study provide support that engaging in emotional labor daily is associated with state affective response. More specifically, engaging in surface acting daily is positively related to state negative affect. These findings are consistent with prior emotional labor research which found surface acting to have a detrimental effect on psychological well-being via emotional exhaustion (Bono & Vey, 2005; Chau et al., 2009; Goodwin et al., 2011; Hulsheger & Schewe, 2011; Judge et al., 2009; Totterdell & Holman, 2003; Wagner et al., 2014),

burnout (Brotheridge & Grandey, 2002), strain (Hulsheger et al., 2010; Hulsheger & Schewe, 2011), negative affect (Judge et al., 2009; Scott & Barnes, 2011), and stress (Grandey, 2003; Pugliesi, 1999). Therefore, this study provides further evidence that engaging in surface acting at work is associated with consequential affective responses, even after controlling for affective states prior to work.

In addition to the positive relationship between surface acting and state negative affect, results also indicated a significant negative relationship with surface acting and state positive affect. This provides further support for the negative relationship of surface acting. Actors engaging in surface acting are more likely to report negative affective responses and unlikely to report positive affective responses. Given the accumulating evidence showing the harmful relationships of surface acting, more research should investigate effective interventions organizations can use to train employees to utilize other emotional labor techniques that are less detrimental to the actors themselves, such as deep acting and expression of naturally felt emotion.

Similarly, this study found that engaging in deep acting was positively associated with experiencing state positive affect and negatively related to experiencing state negative affect at work. These findings are interesting, given the inconsistencies in the literature regarding the relationship between deep acting and state affect. For example, Judge et al. (2009) found that deep acting was significantly negatively related to both state positive and negative affect, whereas the results of Scott and Barnes (2011) were in line with the findings from the current study. It is possible that the inconsistencies in the literature might be due to the type of organization employees worked for. Judge et al. (2009)'s sample included individuals across different types of jobs, whereas Scott and Barnes (2011) used a sample of bus drivers and the

current study used a sample of servers and bartenders. It is possible that the variation in job type may explain the differences in findings. Future research may want to investigate the boundary conditions of job type in the relationship between deep acting and positive affect.

Emotional Labor, Regulatory Focus, and State Affect

Results from this study found mixed support for the relationship between emotional labor, regulatory focus, and state affect. Findings indicate that the relationship between surface acting and state negative affect is stronger when individuals are high in prevention focus. When individuals are low in prevention focus, the relationship between surface acting and experienced negative affect is weaker. These results suggest that an individual's goal orientation – especially an avoidant orientation – relates to affective responses and surface acting. In the context of the service industry, people who tend to be preoccupied with meeting obligations may be more sensitive to having to comply with affective display rules. Further research could explore which organizational resources may act as a buffer for high prevention-focused individuals so they experience less negative affect when engaging in surface acting. Additionally, future research could investigate methods to motivate high prevention-focused individuals to engage in deep acting, rather than surface acting. One method might include reframing affective display rules.

Despite the significant the moderation effect of prevention focus on the relationship between daily surface acting and state negative affect, the within-person relationship between deep acting and state positive affect was similar regardless of individuals' level of promotion focus. This may be due to the nature of affective display rules. Emotional labor may be more inherently about compliance to display rules, rather than opportunities to create positive experiences for customers, thereby making it more related to prevention focus than promotion focus. This is unfortunate given the positive emotions that are associated with a promotion focus

(Higgins,1997). Future research could investigate ways to make promotion focus more relevant for emotional labor. This may include reframing the affective display rules or altering the training for new servers and bartenders to activate a state promotion focus.

State Affect and Physical Health Behaviors

The study's findings indicate a mixed relationship between state affect and food consumption. First, results indicate that state negative affect at work was significantly and positively related to snacking and consumption of high fat/calorie food at Time 2 and Time 3. This aligns with the reward-based stress eating framework, which suggests that negative emotional and stress responses lead to increased cortisol in the body, and higher levels of cortisol are associated with an increase in caloric intake and highly palatable foods (Adam & Epel, 2007). These findings are important for several reasons. First, these results show the harmful effects of negative affect at work. In addition to its negative effect on psychological well-being, state negative affect is related to employees making poor diet choices during and after work. If sustained, these behaviors are likely to create health problems in the long-run and negatively impact employees' performance and absenteeism at work (Collins et al., 2005). Second, these findings contribute to the work-nonwork literature by exploring new outcomes that relate to negative affect at work. Future research could examine other work context factors that spillover and influence food choices.

However, state negative affect was not significantly related to meal size or overall food consumption at either time point. These findings may be the result of a variety of factors. First, wanting to consume highly palatable foods as a coping response to negative emotions may lend itself more to snacking, rather than consuming larger meal portions. Similarly, Oliver and Wardle (1999) found that during periods of high stress, there was an increase in consumption of

“snack-type” foods and a decrease in intake for “meal type” foods. Second, if people are snacking more, they may not eat a large meal portion. It is possible that meal portions may be smaller depending on the quantity of snacks consumed. Subsequently, if meal portions are smaller than usual then perceptions of total food consumption may be affected. Finally, it is easier to snack during work than to have a full meal. This is especially true for servers and bartenders who need to attend to their customers regularly. Therefore, further research is needed to better understand the nature of the relationship between negative affect, overall food consumption, and meal sizes.

Results also indicate a significant positive relationship between experiencing state negative affect and consuming alcohol after work. This is consistent with tension reduction theory (Conger, 1951, 1956) and builds upon prior research that has found work-related stress to influence alcohol intake (Liu et al., 2009; Wang et al., 2010). These findings provide support for the mood repairment framework, suggesting that individuals ingest alcohol as a coping mechanism to enhance their mood and affect. Future research could explore whether the relationship between negative affect and alcohol consumption is cyclical over time and whether consuming alcohol relates to negative affect on the following workday.

State positive affect, on the other hand, was not significantly related to any of the overeating variables. These findings are contrary to the rewards based stress eating framework which suggested that the SAM system activated by positive arousal is associated with a decrease in hunger (Adam & Epel, 2007). The results from this study indicate that the relationships between state positive affect and overeating were close to zero, suggesting that positive affect was unrelated to quantity of food intake during and after work. This may have been the result of our measure of positive affect and whether it was capturing the corresponding positive arousal.

Further research is needed to explore whether there is a relationship between state positive affect and quantity of food consumed.

Additionally, the results from the study indicated that state positive affect and alcohol consumption were not significantly related. This finding provides initial evidence for boundary conditions of tension reduction theory. Tension reduction theory suggests that individuals consume alcohol to reduce arousal and tension in the body (Conger, 1951, 1956). However, the theory does not specify the types of tension, and research in this area has typically assessed negative arousal states (see Greeley & Oei, 1999). This study provides initial evidence that the type of tension experienced might be related to whether or not alcohol is consumed. Additional physiological research is needed to provide support for this boundary condition.

Although explored as a research question, results indicated that state positive affect was significantly and negatively related to high fat/high calorie consumption. This finding, along with the aforementioned finding, suggest that when individuals report experiencing positive affective responses, they also report engaging in fewer mood repairing behaviors. These results suggest that state positive affect is negatively or unrelated to the maladaptive behavior that typically are associated with negative affected responses. Further research is needed to examine these relationships over time to discover whether the negative relationship between positive affect and some maladaptive behaviors is sustainable.

Emotional Labor and Physical Health Behaviors

The findings of this study suggest that there is a relationship between emotional labor and physical health behaviors, albeit a complex one. At the bivariate level, surface acting was significantly and positively related to alcohol consumption after work, high fat/high calorie consumption during and after work, and snacking during and after work. Surface acting was not

related to meal size or overall food consumption. Additionally, for individuals with a high prevention focus, engaging in surface acting was associated with increased snacking and alcohol behaviors after work, and these relationships were mediated by state negative affect. However, state negative affect did not mediate the relationship between high fat/high calorie consumption and surface acting.

At the bivariate level, deep acting was negatively related to snacking and high fat/high calorie food consumption during work and alcohol consumption after work. However, deep acting was not related to snacking and high fat/calorie food consumption after work, nor were any of the mediation relationships via positive affect significant. This may have been due to power issues given the smaller sample size. This issue will be addressed further in the limitations section.

It is worthwhile to note the differences in spillover effects at the bivariate level. The negative relationship between deep acting, snacking, and high fat/high calorie consumption was only significant for the Time 2 variables (during work). Whereas for surface acting, the positive relationship between surface acting, snacking, and high fat consumption was significant at both Time 2 and Time 3 (during and after work). It is possible that the negative effects of surface acting lasts longer than the positive effects of deep acting. Future research could explore under which conditions does emotional labor have a lasting impact and how these relationships unfold over time with autoregressive effects.

Overall, more research is needed to understand the relationship between emotional labor and physical health behaviors. The significant bivariate relationships suggest that there are associations between food and alcohol consumption and emotional labor. However, the lack of

support for many of the mediation analyses suggest issues with power or that other variables may play a role in these relationships.

Practical Implications

The findings from this study suggest that experiencing negative affect at work is associated with a number of negative health behaviors, including snacking, increased high fat/high calorie food consumption, and alcohol consumption both during and after work. Engaging in these behaviors regularly can lead to the deterioration of employees' health over time, as well as impacting their job performance and absenteeism rates (Collins et al., 2005). As such, the findings from this study have important practical implications.

First, organizations in the service industry could encourage their employees to engage in deep acting rather than surface acting. This can be done by adapting training and newcomer onboarding, reframing affective display rules to activate approach orientations, and utilizing a different hiring process to select candidates that are more likely to engage in deep acting. Additionally, organizations should try to promote a healthy climate at work to encourage employees to engage in healthy behaviors. One way to do so is to provide incentives for healthy activities. For example, the "5 a Day Challenge" encourages employees to eat five different colored fruits and vegetables every day for a week, and the winner gets a small prize (Center for Disease Control and Prevention, 2015).

Limitations

There were several limitations to this study, with respect to sample and measurement. First, although in line with the guidelines offered by Scherbaum and Ferretter (2009), the sample size for this study was fairly small. Given the complexity of the model and the small sample size, I was unable to obtain full model estimates and it is possible that additional effects were not

detected. Future research could utilize a larger sample for a similar design. In addition, the sample consisted of both part-time and full-time employees. For that reason, the days were not always consecutive, and I was unable to check for autoregressive effects. However, despite the “recovery” days in between shifts, significant results were still found between emotional labor and health behaviors. In addition, it is very common for restaurant employees to be a combination of part-time and full-time workers. According to the Bureau of Labor Statistics (2010), 40% of employees in bars and restaurants work part-time. Therefore, the sample was a realistic representation for this work context. Finally, because of the nature of their work participants had greater access to food and alcohol, so the generalizability of these findings is questionable. However, many other service industry jobs are located in close proximity to bars and restaurants (i.e. retail stores are typically located in malls and strip malls) or have access to unhealthy food options (i.e. cafeterias in hospitals). Additionally, I controlled for food consumption during work and examined whether surface acting and state negative affect still predicted snacking and high fat/high calorie food consumption after work. The relationships remained significant.

There were also limitations to the methodology and measurement utilized in the study. First, only self-report surveys were used to gather data. However, no objective measures exist to assess emotional labor, so self-report is the most appropriate measurement. In addition, the overeating variables were each assessed with one item. Findings might be more accurate if these constructs were assessed with scales, rather than single items.

Finally, although it is not a limitation, it is important to recognize the boundary conditions of this study. This study focused on jobs that require positive affective displays. It is unclear whether the same findings would be found for jobs that require negative affective

displays, such as tax collectors and police officers. Further research is needed to examine these relationships.

Conclusion

The present study aimed to explore the spillover effect of emotional labor on behaviors that influence physical health, namely food and alcohol consumption. Although the path model did not receive support, findings suggest that there is a relationship between emotional labor and state affect, affective responses and physical health behaviors during and after work, and a relationship between emotional labor and health behaviors – although the relationship may be more complicated than hypothesized. As one of the first studies to examine emotional labor and health behaviors, this study shows the importance of expanding the nomological network of emotional labor in order to gain a holistic understanding of the impact of emotional regulation on the individual actors.

APPENDICES

APPENDIX A

Tables and Figures

Table 1

Descriptive statistics, reliabilities, and intra-class correlation coefficients

	Min	Max	Reliability	ICC(1)	ICC(2)
Time 1					
Sleep Quality	1.00	3.00	-	0.16	0.63
Sleep Quantity	3.00	12.00	-	0.27	0.77
State PA	10.00	45.00	0.96	0.65	0.94
State NA	10.00	28.00	0.74	0.29	0.79
Time 2					
State PA	10.00	44.00	0.94	0.58	0.92
State NA	10.00	42.00	0.85	0.50	0.90
Surface Acting	1.00	5.00	0.88	0.51	0.91
Deep Acting	1.00	5.00	0.88	0.58	0.93
Time 2 & 3					
High Fat/High Calorie Foods	0.00	12.00	-	0.46	0.89
Amount Snacking	2.00	8.00	-	0.35	0.83
Meal Size	2.00	8.00	-	0.07	0.39
Overall Food Consumption	2.00	9.00	-	0.09	0.47
Time 3					
Alcohol Consumption	0.00	12.00	-	0.31	0.80
Baseline					
Prevention Focus	3.17	5.00	0.84	-	-
Promotion Focus	3.33	5.00	0.78	-	-

Table 2

Intercorrelations between variables

	<i>M(SD)</i>	1	2	3	4	5	6	7	8	9	10	11
1. Sleep Quantity	7.20(1.42)	--	.30	-.27	-.15	-.08	.06	.10	-.15	.10	.11	-.12
2. Sleep Quality	1.97(0.65)	.47	--	.08	.17	-.15	.11	-.42	.20	.17	.15	.14
3. State Negative Affect (T1)	12.78(3.40)	-.09	-.15	--	.16	.30	.15	.58	.30	.35	.20	-.29
4. State Positive Affect (T1)	22.00(9.67)	.05	.25	-.07	--	-.31	.15	-.02	.68	-.18	-.24	.02
5. Surface Acting	2.67(0.98)	-.08	-.03	.14	-.20	--	-.06	.56	-.36	.45	.58	-.13
6. Deep Acting	3.14(0.89)	.05	.04	.01	.16	-.03	--	-.27	.28	-.18	-.43	.02
7. State Negative Affect (T2)	14.58(5.19)	-.03	.08	.33	-.06	.46	-.19	--	-.12	.58	.51	-.20
8. State Positive Affect (T2)	26.52(9.59)	-.03	.10	.07	.59	-.30	.37	-.16	--	-.07	-.23	.03
9. High fat/ calorie (T2/T3)	2.35(1.99)	.06	.02	.09	-.18	.27	-.17	.35	-.15	--	.60	-.27
10. Snacking (T2/T3)	3.94(1.45)	.03	.06	.11	-.08	.42	-.13	.37	-.11	.57	--	-.30
11. Meal Size (T2/T3)	4.21(1.38)	.04	-.05	-.13	-.03	-.08	.04	-.08	.03	.28	.24	--
12. Overall Food (T2/T3)	4.70(1.30)	.04	.01	.03	-.01	.03	-.05	.14	.01	.55	.58	.77
13. Alcohol Quantity (T3)	1.39(2.02)	.02	.15	.03	-.02	.27	-.18	.27	-.03	.25	.21	.02
14. Prevention Focus	4.47(0.47)	-.10	-.06	-.03	.20	-.06	.10	-.18	.03	-.15	.01	-.04
15. Promotion Focus	4.21(0.51)	-.02	.00	.03	.36	-.20	.10	-.16	.23	-.14	-.05	-.07
16. Age	25.70(6.72)	-.20	.10	-.17	.30	-.05	-.22	-.09	.21	-.06	-.01	-.02
17. Gender	0.76(0.43)	.17	-.05	.01	-.27	.01	.24	.03	-.09	.13	.14	-.03
18. Tenure	2.61(1.11)	-.01	.03	-.09	.12	.27	-.06	.13	.01	.07	.09	-.08
19. Location	3.87(3.78)	.04	-.06	.06	-.14	-.08	-.15	-.07	-.09	-.02	-.13	.03
20. Position	1.14(0.38)	.04	-.18	.01	-.13	-.04	-.25	-.01	-.12	.00	.01	.02
21. Shift	1.91(0.63)	-.04	.01	-.14	.01	.10	-.05	.07	.05	.20	.03	.07

Note: $N = 358$ days from $N = 38$ participants, $p < .01, .05$; Values below the diagonal represent correlations at the between-person level, while variables above the diagonal represent correlations at the within-person level

Table 2 (cont'd).

	12	13	14	15	16	17	18	19	20	21
1. Sleep Quantity	.09	.09	-.18	.05	-.41	.43	-.07	.19	.08	-.16
2. Sleep Quality	.20	-.46	-.27	-.08	.27	-.04	.18	-.18	-.26	.18
3. State Negative Affect (T1)	.13	.27	.06	.14	-.24	-.04	-.16	.17	-.16	-.17
4. State Positive Affect (T1)	.10	-.08	.30	.42	.40	-.28	.20	-.21	-.18	-.07
5. Surface Acting	-.08	.44	-.03	-.33	-.08	.06	.36	-.08	-.03	.28
6. Deep Acting	-.19	-.38	.04	.03	-.36	.45	-.24	.06	-.38	-.40
7. State Negative Affect (T2)	.15	.55	-.27	-.26	-.11	.06	.21	-.14	.03	.12
8. State Positive Affect (T2)	.14	-.09	.02	.27	.27	-.10	-.01	-.02	-.21	-.14
9. High fat/ calorie (T2/T3)	.53	.58	-.28	-.21	-.11	.28	.18	-.06	-.10	.19
10. Snacking (T2/T3)	.38	.40	.08	-.06	-.01	.29	.33	-.17	-.02	.35
11. Meal Size (T2/T3)	.47	-.27	.07	.03	-.09	-.14	-.43	.41	.07	-.31
12. Overall Food (T2/T3)	--	.34	.07	.02	-.17	.25	-.22	.19	-.13	-.01
13. Alcohol Quantity (T3)	.10	--	-.17	-.19	.16	-.19	.42	-.42	.04	.15
14. Prevention Focus	-.05	-.11	--	.33	.23	-.10	-.06	-.10	-.09	-.23
15. Promotion Focus	-.07	-.14	.33	--	.07	.02	-.09	.02	-.08	.01
16. Age	-.06	.11	.20	.07	--	-.40	.38	-.29	.05	.27
17. Gender	.10	-.13	-.08	.01	-.53	--	-.13	.04	-.27	.09
18. Tenure	-.05	.21	-.06	-.06	.10	-.14	--	-.39	.32	.32
19. Location	.02	-.20	-.01	-.04	.19	.05	-.68	--	-.09	-.30
20. Position	.01	.05	-.04	-.06	.06	-.23	.19	-.02	--	-.20

Note: $N = 358$ days from $N = 38$ participants, $p < .01, .05$; Values below the diagonal represent correlations at the between-person level, while variables above the diagonal represent correlations at the within-person level

Table 3.

Surface acting predicting negative affect with prevention focus moderation

State NA (Time 2)				
Predictor	Coefficient	SE	<i>t</i>	<i>p</i> -value
Intercept	13.40	1.56	8.55	< 0.001**
Negative Affect (Time 1)	0.16	0.07	2.36	0.02**
Sleep Quantity	-0.38	0.19	-1.94	.05*
Sleep Quality	-1.00	0.41	-2.42	0.02*
Surface Acting	2.17	0.32	6.82	< 0.001**
Deep Acting	-0.69	0.35	-1.96	.05*
Pseudo R ²	0.16			
Intercept	13.50	1.56	8.65	< 0.001**
Negative Affect (Time 1)	0.17	0.07	2.47	0.01*
Sleep Quantity	-.039	0.19	-2.05	0.04*
Sleep Quality	-0.96	0.41	2.35	0.04*
Deep Acting	-0.73	0.35	-2.08	0.04*
Surface Acting	2.15	0.31	6.94	< 0.001**
Prevention Focus	-1.35	1.26	-1.07	0.29
Promotion Focus	-1.17	1.18	-0.99	0.32
Surface Acting*Prevention Focus	1.85	0.71	2.60	0.01*
Deep Acting*Promotion Focus	0.21	0.73	0.28	0.78
Surface Acting*Promotion Focus	0.22	0.67	0.32	0.75
Deep Acting*Prevention Focus	-0.25	0.84	-0.30	0.76
Pseudo R ²	0.22			

Note: N = 358 days from N = 38 participants, deep acting and surface acting were centered at individuals' means, promotion focus and prevention focus were grand mean centered, $p < .05^*$, $.01^*$, coefficients are unstandardized from the R multilevel package, pseudo- R^2 calculated using Snijder and Bosker's (1999) formula

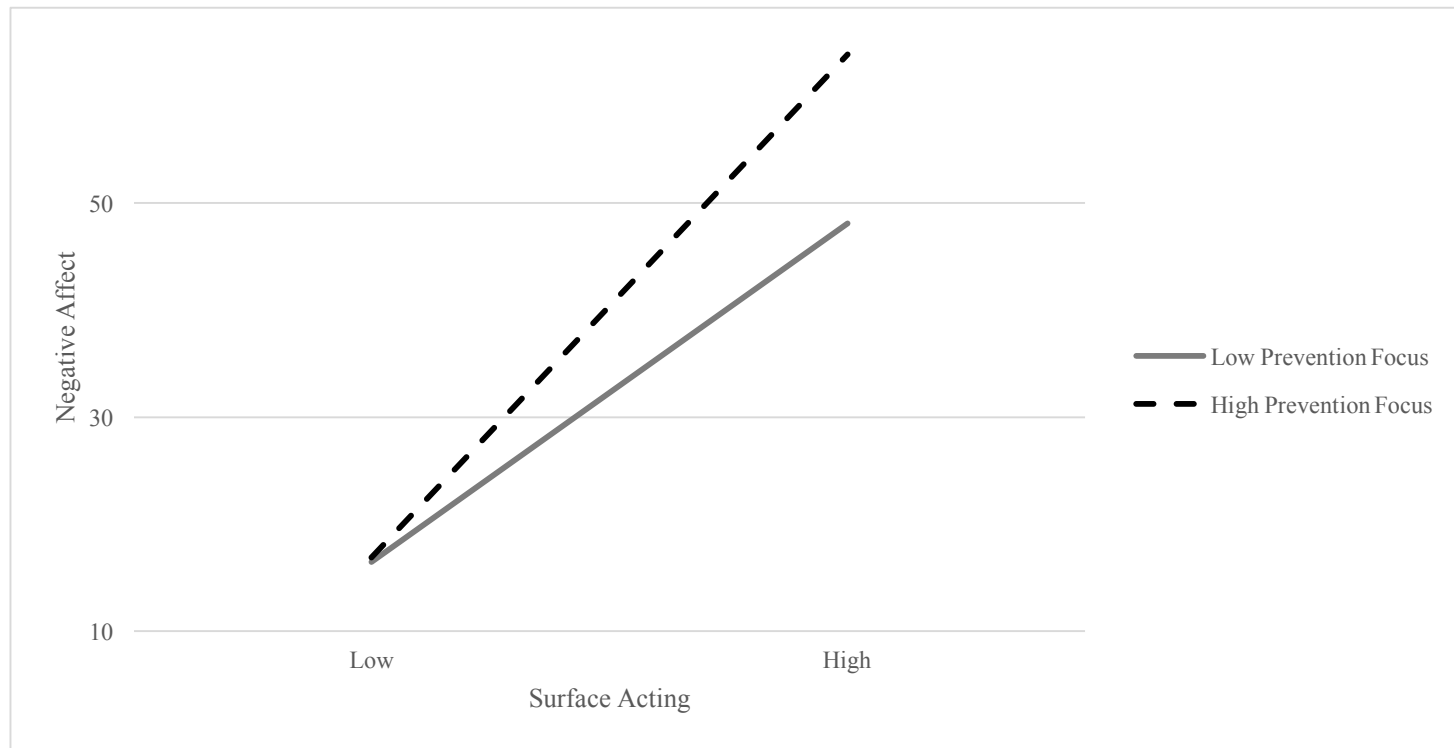


Figure 2. Interaction of surface acting and prevention focus on negative affect

Table 4

Deep acting predicting positive affect with promotion focus moderation

Predictor	State Positive Affect (Time 2)			
	<i>Coefficient</i>	SE	<i>t</i>	<i>p-value</i>
Intercept	21.18	2.09	10.15	<0.001**
Positive Affect (Time 1)	0.28	0.05	5.15	<0.001**
Sleep Quantity	0.14	0.29	0.47	0.64
Sleep Quality	0.96	0.29	1.52	0.13
Surface Acting	-1.53	0.46	-3.32	0.001**
Deep Acting	4.07	0.79	5.17	< 0.001**
Pseudo R ²	0.24			
Intercept	21.51	2.11	10.22	< 0.001**
Positive Affect (Time 1)	0.25	0.06	4.57	< 0.001**
Sleep Quantity	0.16	0.29	0.55	0.59
Sleep Quality	0.94	0.63	1.49	0.14
Deep Acting	4.07	0.80	5.07	< 0.001**
Promotion Focus	3.74	2.08	1.79	0.07
Surface Acting	-1.58	0.47	-3.39	< 0.001**
Prevention Focus	-1.46	2.17	-0.67	0.50
Deep Acting*Promotion Focus	0.19	1.64	0.11	0.91
Surface Acting*Prevention Focus	0.87	1.29	0.68	0.50
Deep Acting*Prevention Focus	-1.94	1.80	-1.08	0.28
Surface Acting*Promotion Focus	-0.14	1.05	-0.13	0.90
Pseudo R ²	0.25			

Note: N = 358 days from N = 38 participants, deep acting and surface acting were centered at individuals' means, promotion focus and prevention focus were grand mean centered, $p < .05^*$, $.01^*$, coefficients are unstandardized from the R multilevel package, pseudo- R^2 calculated using Snijder and Bosker's (1999) formula

Table 5

State affect predicting high fat/calorie food consumption

High Fat/Calorie Food Consumption (Time 2 & 3)				
Predictor	<i>Coefficient</i>	SE	<i>z</i>	Pr(> <i>z</i>)
Intercept	0.76	0.31	2.49	0.01*
Sleep Quantity	0.01	0.03	0.34	0.73
Sleep Quality	-0.10	0.07	-1.47	0.14
Positive Affect (Time 2)	-0.01	0.01	-2.04	0.04*
Negative Affect (Time 2)	0.03	0.01	3.24	0.001**
Pseudo R ²	0.22			

Note: N = 358 days from N = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from the R multilevel package

Table 6

Moderated mediation for emotional labor, regulatory focus, state affect, and high fat/calorie consumption

<i>Indirect Effect</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Surface Acting → NA → High Fat/Calorie Consumption	0.05	0.03	[-0.07, 0.10]
Surface Acting*High Prevention → NA → High Fat/Calorie Consumption	0.07	0.05	[-0.07, 0.11]
Surface Acting*Low Prevention → NA → High Fat/Calorie Consumption	0.02	0.02	[-0.09, 0.13]
Surface Acting → PA → High Fat/Calorie Consumption	0.02	0.011	[-0.03, 0.16]
Deep Acting → PA → High Fat/Calorie Consumption	-0.04	0.03	[-0.12, 0.03]
Deep Acting*High Promotion → PA → High Fat/Calorie Consumption	-0.04	0.03	[-0.11, 0.03]
Deep Acting *Low Promotion → PA → High Fat/Calorie Consumption	-0.04	0.03	[-0.13, 0.04]
Deep Acting → NA → High Fat/Calorie Consumption	-0.02	0.02	[-0.07, 0.02]
<i>Total Effect</i>			
Surface Acting → NA → High Fat/Calorie Consumption	0.18*	0.05	[0.05, 0.31]
Surface Acting*High Prevention → NA → High Fat/Calorie Consumption	0.20*	0.05	[0.07, 0.34]
Surface Acting*Low Prevention → NA → High Fat/Calorie Consumption	0.16*	0.06	[0.02, 0.29]
Surface Acting → PA → High Fat/Calorie Consumption	0.15*	0.06	[0.01, 0.30]
Deep Acting → PA → High Fat/Calorie Consumption	-0.06	0.07	[-0.24, 0.12]
Deep Acting*High Promotion → PA → High Fat/Calorie Consumption	-0.06	0.07	[-0.24, 0.12]
Deep Acting *Low Promotion → PA → High Fat/Calorie Consumption	-0.06	0.07	[-0.24, 0.13]
Deep Acting → NA → High Fat/Calorie Consumption	-0.05	0.08	[-0.25, 0.16]

Note: N = 358 days from N = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from MPlus

Table 7

State affect predicting overeating

Predictor	Amount of Snacking (Time 2 & 3)				Portion Size (Time 2 & 3)				Overall Food Consumption (Time 2 & 3)			
	<i>Coefficient</i>	SE	<i>t</i>	<i>p-value</i>	<i>Coefficient</i>	SE	<i>t</i>	<i>p-value</i>	<i>Coefficient</i>	SE	<i>t</i>	<i>p-value</i>
Intercept	2.77	0.61	4.57	0.001**	4.44	0.53	7.75	0.001**	4.07	0.61	6.73	0.001**
Sleep Quantity	-0.02	0.06	-0.36	0.72	0.05	0.07	0.74	0.46	0.03	0.06	0.44	0.66
Sleep Quality	-0.02	0.14	-0.20	0.84	-0.17	0.14	-1.20	0.23	-0.07	0.13	-0.54	0.59
NA (T2)	0.10	0.02	3.84	0.001**	-0.02	0.02	-0.94	0.34	0.03	0.02	1.93	0.06
PA (T2)	0.00	0.01	0.03	0.97	-0.001	0.01	-0.04	0.97	0.003	0.01	0.30	0.76
Pseudo R ²	0.41				0.07				0.17			

Note: N = 358 days from N = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from the R multilevel package, pseudo- R^2 calculated using Snijder and Bosker's (1999) formula

Table 8

Moderated mediation for emotional labor, regulatory focus, state affect, and snacking

<i>Indirect Effect</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Surface Acting → NA → Snacking	0.11*	0.05	[0.02, 0.23]
Surface Acting*High Prevention → NA → Snacking	0.17*	0.08	[0.02, 0.22]
Surface Acting*Low Prevention → NA → Snacking	0.06	0.04	[-0.03, 0.16]
Surface Acting → PA → Snacking	-0.01	0.02	[-0.06, 0.04]
Deep Acting → PA → Snacking	0.02	0.04	[-0.09, 0.14]
Deep Acting*High Promotion → PA → Snacking	0.02	0.04	[-0.09, 0.14]
Deep Acting *Low Promotion → PA → Snacking	0.02	0.05	[-0.09, 0.14]
Deep Acting → NA → Snacking	-0.04	0.03	[-0.10, 0.04]
<i>Total Effect</i>			
Surface Acting → NA → Snacking	0.46*	0.14	[0.11, 0.81]
Surface Acting*High Prevention → NA → Snacking	0.52*	0.14	[0.16, 0.87]
Surface Acting*Low Prevention → NA → Snacking	0.41*	0.14	[0.06, 0.77]
Surface Acting → PA → Snacking	0.34*	0.13	[0.01, 0.67]
Deep Acting → PA → Snacking	0.03	0.12	[-0.29, 0.35]
Deep Acting*High Promotion → PA → Snacking	0.03	0.12	[-0.09, 0.14]
Deep Acting *Low Promotion → PA → Snacking	0.03	0.13	[-0.09, 0.13]
Deep Acting → NA → Snacking	-0.03	0.12	[-0.34, 0.28]

Note: N = 358 days from N = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from MPlus

Table 9

Moderated mediation for emotional labor, regulatory focus, state affect, and meal size

<i>Indirect Effect</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Surface Acting → NA → Meal Size	0.05	0.18	[-0.08, 0.17]
Surface Acting*High Prevention → NA → Meal Size	0.07	0.07	[-0.12, 0.26]
Surface Acting*Low Prevention → NA → Meal Size	0.03	0.03	[-0.04, 0.09]
Deep Acting → PA → Meal Size	-0.08	0.07	[-0.26, 0.10]
Deep Acting*High Promotion → PA → Meal Size	-0.08	0.06	[-0.25, 0.09]
Deep Acting *Low Promotion → PA → Meal Size	-0.08	0.07	[-0.27, 0.11]
<i>Total Effect</i>			
Surface Acting → NA → Meal Size	-0.06	0.15	[-0.44, 0.33]
Surface Acting*High Prevention → NA → Meal Size	-0.03	0.15	[-0.41, 0.35]
Surface Acting*Low Prevention → NA → Meal Size	-0.08	0.16	[-0.48, 0.33]
Deep Acting → PA → Meal Size	0.05	0.17	[-0.63, 0.27]
Deep Acting*High Promotion → PA → Meal Size	0.05	0.18	[-0.41, 0.52]
Deep Acting *Low Promotion → PA → Meal Size	0.05	0.18	[-0.40, 0.51]

Note: N = 358 days from N = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from MPlus

Table 10

Moderated mediation for emotional labor, regulatory focus, state affect, and total food consumption

<i>Indirect Effect</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Surface Acting → NA → Total Food	0.08	0.05	[-0.03, 0.11]
Surface Acting*High Prevention → NA → Total Food	0.12	0.07	[-0.04, 0.19]
Surface Acting*Low Prevention → NA → Total Food	0.04	0.03	[-0.03, 0.30]
Deep Acting → PA → Total Food	-0.05	0.08	[-0.20, 0.10]
Deep Acting*High Promotion → PA → Total Food	-0.05	0.08	[-0.22, 0.08]
Deep Acting *Low Promotion → PA → Total Food	-0.05	0.09	[-0.21, 0.11]
<i>Total Effect</i>			
Surface Acting → NA → Total Food	0.18	0.14	[-0.18, 0.53]
Surface Acting*High Prevention → NA → Total Food	0.22	0.14	[-0.14, 0.57]
Surface Acting*Low Prevention → NA → Total Food	0.14	0.14	[-0.23, 0.50]
Deep Acting → PA → Total Food	0.05	0.19	[-0.40, 0.55]
Deep Acting*High Promotion → PA → Total Food	0.06	0.18	[-0.42, 0.49]
Deep Acting *Low Promotion → PA → Total Food	0.05	0.19	[-0.41, 0.51]

Note: N = 358 days from N = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from MPlus

Table 11

State affect predicting alcohol consumption

Predictor	Alcohol (Time 3)			
	<i>Coefficient</i>	SE	<i>z</i>	Pr(> <i>z</i>)
Intercept	0.42	0.80	0.51	0.61
Sleep Quantity	-0.07	0.09	-0.76	0.45
Sleep Quality	0.23	0.20	1.16	0.25
PA (Time 2)	0.01	0.02	0.35	0.72
NA (Time 2)	0.06	0.02	2.60	0.01**
Pseudo R ²	0.10			

Note: N = 358 days from *N* = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from the R multilevel package, pseudo- R^2 calculated using Snijder and Bosker's (1999) formula

Table 12

Moderated mediation for emotional labor, regulatory focus, state affect, and alcohol consumption

<i>Indirect Effect</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Surface Acting → NA → Alcohol	0.06	0.03	[-0.03, 0.14]
Surface Acting*High Prevention → NA → Alcohol	0.10*	0.05	[0.001, 0.15]
Surface Acting*Low Prevention → NA → Alcohol	0.03	0.06	[-0.03, 0.09]
Surface Acting → PA → Alcohol	-0.02	0.02	[-0.07, 0.04]
Deep Acting → PA → Alcohol	-0.01	0.06	[-0.17, 0.14]
Deep Acting*High Promotion → PA → Alcohol	-0.01	0.06	[-0.17, 0.13]
Deep Acting *Low Promotion → PA → Alcohol	-0.02	0.06	[-0.17, 0.14]
<i>Total Effect</i>			
Surface Acting → NA → Alcohol	0.12	0.06	[-0.03, 0.26]
Surface Acting*High Prevention → NA → Alcohol	0.15*	0.06	[0.02, 0.29]
Surface Acting*Low Prevention → NA → Alcohol	0.09	0.06	[-0.07, 0.24]
Surface Acting → PA → Alcohol	0.04	0.06	[-0.12, 0.19]
Deep Acting → PA → Alcohol	-0.10	0.15	[-0.74, 0.06]
Deep Acting*High Promotion → PA → Alcohol	-0.10	0.16	[-0.74, 0.06]
Deep Acting *Low Promotion → PA → Alcohol	-0.11	0.15	[-0.74, 0.06]

Note: N = 358 days from N = 38 participants, $p < .05^*$, $.01^*$, coefficients are unstandardized from MPlus

APPENDIX B

Consent Form

Consent to Participate in a Research Study: Working in the service industry and health behaviors

Please read the information below completely and carefully:

This research study investigates the affective experiences and health behaviors of people who work in the service industry, namely servers and bartenders. The research is designed to help us better understand how work experiences can impact employees' health behaviors during and outside of work. The research contains two components:

1. **A baseline survey** (about 15 minutes) of demographic and background information
2. For **10 work days**, you will fill out **3** short surveys: (~2-3 minutes) **before work, immediately after work, and before bed.**

You will be compensated \$2 for each short survey. **Therefore, if all surveys are completed, you will be compensated \$60. However, if all surveys are not completed, you will not receive this amount (i.e. if you fill out 20 surveys, you will receive 20 x \$2 = \$40).** In addition, for each day you complete all three surveys, you will be entered into a "lottery" to win \$100. You will receive your initial compensation after you have completed your 10 days. The "lottery" drawing will occur after all participants have completed their 10 days.

You will use your birthday and phone number as an identifier, in order to be properly compensated you and link your survey responses. **All information you provide will be confidential.** Only the primary investigator, the co-investigator, and the Institutional Review Board (should the project be selected for audit) will have access to the data and/or the identification numbers. Data will be stored for five years on the investigator's password protected computer in an encrypted folder. Please be aware that your confidentiality will be protected to the maximum extent allowable by law.

Please note that your participation is voluntary. This means that refusal to participate will involve NO penalty. We will not be keeping record of who does not participate. You are free to withdraw your consent and discontinue participation at any point during the survey. You may choose not to answer specific questions or to stop participating at any time.

We appreciate your time and participation! If you have concerns or questions about this study, such as scientific issues, how to do any part of it, or to report an injury due to your participation in the research (i.e., physical, psychological, social, financial, or otherwise), please contact Taylor Lauricella, Psychology Building, 316 Physics, Room 302, East Lansing, MI 48824. E-mail: laurice5@msu.edu, Phone: (201) 264-1256. If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Michigan State University's Human Research Protection Program at 517-355-2180, Fax 517-432-4503, or e-mail irb@msu.edu or regular mail at 207 Olds Hall, MSU, East Lansing, MI 48824.

Please write your name below to indicate that you voluntarily agree to participate in this research study.

APPENDIX C

Baseline Survey

Demographic Information

- How old are you?
- What is your sex?
 - Male
 - Female
- What is your ethnicity?
 - Hispanic or Latino
 - Not Hispanic of Latino
- What is your race?
 - White
 - Black or African American
 - American Indian or Alaska Native
 - Asian
 - Native Hawaiian or Pacific Islander
 - Other
- What is the name of the restaurant you currently work at?
- How long have you been working at this restaurant?
 - Drop down menu:
 - < 1 year
 - 1-2 years
 - 3-4 years
 - 5+ years
- How many shifts do you work each week?
- What is your work schedule?
- Do you work full-time or part-time?
 - Full-time
 - part-time
- Job Position (check all that apply)
 - Server
 - Bartender

Regulatory Focus

Rate how often you focus on these thoughts and activities when you are working.

1. Following rules and regulations at work
2. Completing my work tasks correctly
3. Doing my duty at work
4. My work responsibilities
5. Fulfilling my work obligations
6. On the details of my work
7. Accomplishing a lot of work
8. Getting my work done no matter what
9. Getting a lot of work finished in a short amount of time

10. Work activities that allow me to get ahead at work
11. My work accomplishments
12. How many job tasks I can complete

APPENDIX D

Before Work Survey (Daily)

Right now, I feel:

- Interested
- Distressed
- Excited
- Upset
- Strong
- Guilty
- Scared
- Hostile
- Enthusiastic
- Proud
- Irritable
- Alert
- Ashamed
- Inspired
- Nervous
- Determined
- Attentive
- Jittery
- Active
- Afraid

1 = Very slightly or not at all

2 = A little

3 = Moderately

4 = Quite a bit

5 = Extremely

How many hours did you sleep LAST NIGHT? _____

How would you rate the quality of your sleep LAST NIGHT? When responding, please consider the quality of your sleep last night relative to what's typical for you.

- Poor
- Average
- Excellent

APPENDIX E

After Work Survey (Daily)

Which shift did you work? (Drop down)

- Lunch
- Dinner
- Double

What position were you? (Drop down)

- Server
- Bartender

** logic, if server: Approximately how many tables did you have?

If bartender, Approximately, how many customers did you serve at the bar?

During my shift, I... (Brotheridge & Lee, 2003; Grandey, 2003)

- Resisted expressing my true feelings
- Pretended to have emotions that I didn't really have
- Hid my true feelings about a situation
- Made an effort to actually feel the emotions that I needed to display to others
- Tried to actually experience the emotions that I must show
- Really tried to feel the emotions I have to show as part of my job

1 = Never

2 = Rarely

3 = Sometimes

4 = Often

5 = Always

During my shift, I felt...

- Interested
- Distressed
- Excited
- Upset
- Strong
- Guilty
- Scared
- Hostile
- Enthusiastic
- Proud
- Irritable
- Alert
- Ashamed
- Inspired
- Nervous
- Determined
- Attentive

- Jittery
- Active
- Afraid

1 = Very slightly or not at all

2 = A little

3 = Moderately

4 = Quite a bit

5 = Extremely

What foods and beverages did you consume DURING your shift today? Please check all that apply. (*add in servings)

Beverages

Diet and Non-diet soda (Coca-cola, Pepsi, Gingerale, Diet Coke, Sweet tea, Sprite,)

Energy drinks (RedBull, Monster)

Sports drinks (Gatorade, PowerAid)

Sugar-sweetened fruit juices/cocktails/mixers (e.g. cranberry juice cocktail, lemonade, fruit punch, margarita mix)

Sweetened tea

Full fat (whole) milk, cream, half-and-half

Water and carbonated water (unsweetened)

Low-fat or fat-free milk, soy milk, almond milk

100% Juice

Unsweetened tea (green tea, black tea, mint tea)

Foods

Cakes, cookies, pastries, and donuts (e.g. cupcakes)

Candies and candy bars (e.g. Sour Patch Kids, M&Ms)

Fried foods (e.g., french fries, fried chicken, mozzarella sticks, fried vegetables, fried seafood)

Chips and related bagged snack foods (e.g., Doritos, Cheetos, Tortilla Chips)

Cheese, butter, or cream-based sauces/dips/spreads (e.g., nacho cheese, alfredo sauce, ranch dressing, sour cream)

Pizza (with cheese and/or meat)

Sausages, bacon, regular hot dogs, ribs, regular (less than 85% lean) ground beef, deli meat

Ice cream, frozen full-fat yogurt, or frozen dairy desserts/novelties (e.g., Klondike bar, popsicles)

Refined grains (e.g. white bread, white rice, pasta, flour tortillas, pretzels, crackers, bagel, pita, couscous)

Whole grains (whole wheat bread, brown rice, popcorn, oatmeal, corn tortilla, whole-wheat tortilla, whole-wheat pasta, whole-wheat crackers, quinoa)

Raw fruit (e.g. apple, banana, strawberries, mango, avocado)

Canned fruit in light syrup (e.g. canned peaches, canned pineapples)

Raw vegetables (e.g. peppers, carrots, lettuce)

Cooked vegetables (e.g. sautéed vegetables, baked vegetables) and canned vegetables (e.g. canned green beans, canned corn)

Chicken, >85% lean ground beef/turkey

Dried fruit (e.g. dried cranberries, dried apricots)

Nuts and seeds (e.g. cashews, almonds, peanuts)

Beans (e.g. black beans, refried beans)

Eggs

Seafood (e.g. shrimp, salmon)

The amount of snacking I did during my shift was:

- a) None
- b) Very little
- c) Moderate
- d) Quite a bit
- e) A lot

During my shift, the portion size of my meal was:

- a) I did not eat a meal during my shift
- b) Very small
- c) Moderate
- d) Large
- e) Very large

Overall, the amount of food I consumed during my shift was:

- a) None
- b) Very little
- c) Moderate
- d) Quite a bit
- e) A lot

Overall, how would you rate your customer interactions today?

- a. Very poor
- b. Poor
- c. Satisfactory
- d. Good
- e. Excellent

APPENDIX F

Before Bed Survey (Daily)

1. Since leaving work today, did you consume an alcoholic beverage?
 - a. Yes
 - b. No
 - c. ** add logic into qualtrics, If yes... **
2. What type of alcoholic beverages did you consume (check all that apply)?
 - a. Wine
 - b. Beer
 - c. Hard Liquor
3. One drink serving is defined as 12 oz of beer (one can or bottle), 5 oz of wine (one glass), or 1.5 oz of liquor (one shot). Given these definitions, how many alcoholic beverages did you consume? (fill in) _____
4. Since leaving work today, what foods and beverages did you consume? Please check all that apply.

Beverages

Diet and Non-diet soda (Coca-cola, Pepsi, Gingerale, Diet Coke, Sweet tea, Sprite,)

Energy drinks (RedBull, Monster)

Sports drinks (Gatorade, PowerAid)

Sugar-sweetened fruit juices/cocktails/mixers (e.g. cranberry juice cocktail, lemonade, fruit punch, margarita mix)

Sweetened tea

Full fat (whole) milk, cream, half-and-half

Water and carbonated water (unsweetened)

Low-fat or fat-free milk, soy milk, almond milk

100% Juice

Unsweetened tea (green tea, black tea, mint tea)

Foods

Cakes, cookies, pastries, and donuts (e.g. cupcakes)

Candies and candy bars (e.g. Sour Patch Kids, M&Ms)

Fried foods (e.g., french fries, fried chicken, mozzarella sticks, fried vegetables, fried seafood)

Chips and related bagged snack foods (e.g., Doritos, Cheetos, Tortilla Chips)

Cheese, butter, or cream-based sauces/dips/spreads (e.g., nacho cheese, alfredo sauce, ranch dressing, sour cream)

Pizza (with cheese and/or meat)

Sausages, bacon, regular hot dogs, ribs, regular (less than 85% lean) ground beef, deli meat

Ice cream, frozen full-fat yogurt, or frozen dairy desserts/novelty (e.g., Klondike bar, popsicles)

Refined grains (e.g. white bread, white rice, pasta, flour tortillas, pretzels, crackers, bagel, pita, couscous)

Whole grains (whole wheat bread, brown rice, popcorn, oatmeal, corn tortilla, whole-wheat tortilla, whole-wheat pasta, whole-wheat crackers, quinoa)

Raw fruit (e.g. apple, banana, strawberries, mango, avocado)
Canned fruit in light syrup (e.g. canned peaches, canned pineapples)
Raw vegetables (e.g. peppers, carrots, lettuce)
Cooked vegetables (e.g. sautéed vegetables, baked vegetables) and canned vegetables (e.g. canned green beans, canned corn)
Chicken, >85% lean ground beef/turkey
Dried fruit (e.g. dried cranberries, dried apricots)
Nuts and seeds (e.g. cashews, almonds, peanuts)
Beans (e.g. black beans, refried beans)
Eggs
Seafood (e.g. shrimp, salmon)

The amount of snacking I did after leaving work was:

- f) None
- g) Very little
- h) Moderate
- i) Quite a bit
- j) A lot

After leaving work, the portion size of my meal was:

- f) I did not eat a meal during my shift
- g) Very small
- h) Moderate
- i) Large
- j) Very large

Overall, the amount of food I consumed after leaving work was:

- f) None
- g) Very little
- h) Moderate
- i) Quite a bit
- j) A lot

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