DO DEBT COLLECTORS PAY A PRICE?
CONSEQUENCES OF SURFACE ACTING

by

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A thesis submitted to the faculty of Radford University
in partial fulfillment of the requirements for the degree of
Master of Arts in the Department of Psychology

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July 2021

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Abstract

In some jobs, employees may need to consciously regulate their emotions on a daily basis. Two forms of emotion regulation are surface acting and deep acting. According to prior research, surface acting results in more personally harmful outcomes—both affective and behavioral—to the employee. A proposed mechanism of this negative influence is resource depletion. Research has largely examined the effects of forced displays of positive emotion; little has been directed toward negative surface acting. To this end, the present study examined the consequences that surface acting has on the health behaviors of debt collectors. Debt collectors (N = 33) employed at various universities in the United States and the attendees of a student loans and receivables collection conference were contacted through email to complete surveys. Among this sample, three participants from the conference engaged in a 21-day experience sampling case study. General measures demonstrated that surface acting was related to negative affect, and negative affect was related to unhealthy diet. Likewise, surface acting and negative affect were both related to different dimensions of sleep quality. Daily measures revealed that surface acting and negative affect have negative relationships with health behaviors, in general. One case study in particular, however, raised the question about how coping mechanisms fit into this picture. Future research is needed to explore these relationships and how to combat consequences of surface acting.

Keywords: emotional labor, surface acting, deep acting, positive affect, negative affect, diet, exercise, sleep, health

Contents

Do Debt Collectors Pay a Price? The Consequences of Surface Acting

Emotions in the workplace can facilitate success for individuals and for organizations. Some emotions are more appropriate for certain situations than others. Regardless of how employees decide to regulate their emotions, they engage in emotion regulation as a part of their job. This is called "emotional labor." Emotional labor was defined by Arlie Hochschild in 1983 as managing emotions for a wage; it is the work of governing one's own emotions as required by a profession in order to produce an appropriate state of mind in others. Though the service sector is typically at the center of emotional labor research, many researchers consider emotional labor to be a key element of any job that requires interpersonal contact (Diefendorff et al., 2006; Grandey et al., 2013; Sloan, 2004). This suggests that the ideas behind emotional labor can be applied to a majority of the current workforce (Grandey et al., 2013). Emotional labor can include enhancing, faking, or suppressing emotions to adjust emotional expressions. Many employees must manage their emotions in order to meet employment-related display rules (Ekman & Friesen, 1975; Goffman, 1959; Grandey, 2000; Hochschild, 1983). The display rules for expected emotional expression are sometimes explicitly stated during selection and training, and sometimes they are just learned through observation of coworkers (Grandey, 2000).

Why is it important to study emotional labor? Emotional labor can require effort, which contributes to the depletion of regulatory resources and fatigue. Resource depletion, in turn, can have consequences for the employee (Grandey, 2000; Grandey et al., 2013) that affect overall well-being. Well-being can affect individual behavior and performance and, subsequently, organizational outcomes, so it is important to understand ways in which well-being may be adversely affected. This thesis will describe the development and operationalization of the

construct of emotional labor, its mechanisms of regulation, examples in the empirical literature, and hypotheses for the current study.

Early Work on Emotional Labor

Morris and Feldman (1996) expanded upon the work of Hochschild (1983) and proposed that emotional labor was comprised of four dimensions: the *frequency of appropriate emotional displays*, *attentiveness to required display rules*, the *variety of emotions being displayed*, and the *emotional dissonance* produced when expressing organizationally desired emotions that are not actually felt. Attentiveness to display rules further involved the duration and intensity of an emotional display. They suggested that these dimensions are related and have antecedents and consequences. In this initial paper, a number of propositions were made that defined possible relationships among these dimensions, antecedents, and consequences. Some of these propositions went on to become hypotheses in their next study.

Morris and Feldman (1997) continued using their four dimensions of emotional labor but changed *attentiveness to display rules* to *duration of emotional labor*. They decided to eliminate intensity as it would be more appropriately measured through observation. Likewise, they narrowed their antecedents to explicitness of display rules, routineness of task, job autonomy, and power of the role receiver. Power of the role receiver refers to the extent that the types of felt emotions that are displayed depend on the status of the target. For instance, expressing anger toward a subordinate is more common than directing that anger toward a supervisor. Finally, consequences related to the four dimensions of emotional labor included emotional exhaustion (Maslach & Jackson, 1986), job satisfaction, and role internalization. Role internalization refers to the extent to which individuals incorporate organizational demands into their true or real identity.

As mentioned above, Morris and Feldman (1997) tested hypotheses that defined relationships among these antecedents, dimensions, and consequences of emotional labor. They were able to find that task routineness was positively associated with frequency of emotional display, and task routineness was negatively associated with duration of emotional labor. Further, they found that task routineness was positively correlated with emotional dissonance. They also found that job autonomy was negatively associated with emotional dissonance. Another finding was that duration of emotional labor was positively associated with the internalization of role demands. This means that the longer someone spends performing emotional labor, the more likely they are to incorporate demands of their role as part of their real or true identity. Likewise, they found that power of the role receiver over the role occupant was positively associated with the frequency of emotional labor. This means that the more power one has in their job position, the more often that person will be performing emotional labor.

In terms of consequences, Morris and Feldman (1997) found that emotional dissonance was positively associated with emotional exhaustion, and emotional dissonance was negatively associated with job satisfaction. This means that the more emotional dissonance an employee experiences, the more emotional exhaustion they will experience and the less satisfied they will be with their job. This set the scene for emotional labor to be viewed and studied as a multidimensional construct with different outcomes based on individual, job, and organizational antecedents. As research continued, the construct of emotional labor was further refined.

Brotheridge and Lee (2003) proposed six dimensions of emotional labor as an extension of the findings of Morris and Feldman (1997). Their model included the duration of a required emotional display, its frequency, its intensity, and the variety of emotional displays—along with surface acting and deep acting. The latter two dimensions are of particular importance. Surface

acting refers to faking required emotions that one does not actually feel, and deep acting refers to attempting to actually feel the emotions that one needs to display for a job. Brotheridge and Lee conducted a two-part study to develop and validate this factor structure in an assessment instrument. The first study generated items that clearly represented the six constructs. It resulted in a 15-item version of an instrument called the Emotional Labor Scale (ELS), and was the basis for the second study. Study 2 validated the factor structure of the ELS and examined evidence of its convergent and discriminant validity. To test factor structure, they assessed the fit of a six-factor model, a four-factor model, and a null model. The four-factor model showed improvement in fit over the null model, but still generally had a poor fit with the data. Through a non-significant chi-square value, the six-factor model demonstrated an acceptable fit with the data and corresponded to the proposed dimensions.

To establish convergent validity of the ELS, Brotheridge and Lee (2003) found moderate correlations with measures of similar constructs. Specifically, they correlated the six dimensions of the ELS with the emotional exhaustion, personal accomplishment, and depersonalization subscales of the Maslach Burnout Inventory (Maslach & Jackson, 1986); the emotional suppression and the emotional support and control subscales of Best et al.'s (1998) Emotional Work Requirements Scale; the expressive behaviors items of Snyder's (1974) Self-Monitoring Scale; and the positive affect and negative affect subscales of Watson, Clark, and Tellegen's (1988) Positive and Negative Affect Scale (PANAS). They found that surface acting was positively associated with emotional exhaustion, depersonalization, the requirement to hide and control emotions, self-monitoring of expressive behavior, and negative affectivity (Brotheridge & Lee, 2003). In contrast, surface acting was negatively associated with personal accomplishment, role identification, positive affectivity, and years of service. Deep acting was

associated only with the Emotional Work Requirements Scales, a sense of personal accomplishment, and identification with one's role. Divergent validity was suggested by non-significant or weak correlations with scales that one would not expect to be associated with the subscales of the ELS.

Brotheridge and Lee (2003) provided evidence of reliability as well as the convergent and discriminant validity of the ELS. Though their data showed that surface acting and deep acting were associated with emotional suppression, emotional support, self-monitoring, exhaustion, depersonalization, negative affectivity, and positive affectivity, a pattern emerged that seemed to suggest that surface acting was associated more strongly with these negative outcomes than deep acting. For instance, both deep acting and surface acting were correlated with negative affectivity, but surface acting had a stronger correlation than deep acting. This demonstrates that an employee who performs surface acting is also likely to experience an increase in negative affectivity. To confirm these observations, the current author conducted a series of t-tests (see Appendix A) as a supplement to Brotheridge and Lee (2003) that compared "correlated correlations" (Williams, 1959) in order to confirm this observation. Specifically, it was found that the relationships between surface acting and emotional suppression, emotional support, self-monitoring, exhaustion, depersonalization, positive affectivity, and negative affectivity are stronger than their associations with deep acting. For example, it was demonstrated that the link between surface acting and emotional exhaustion is stronger than with deep acting, and that the relationship between surface acting and negative affectivity trends in one direction. These additional analyses do, in fact, imply that surface acting and deep acting are differentially related to affect. Why does this matter? Why might surface and deep acting differ in their relationships with other variables?

Surface Acting and Deep Acting

Hochschild (1983) argued that a service provider performs emotional labor by either surface acting or deep acting. In surface acting, one displays emotions that are not actually felt (Hochschild, 1983; Grandey, 2000; Grandey 2003). In deep acting, one complies with display rules by attempting to actually feel the emotions that one needs to display (Grandey, 2000; Grandey, 2003; Hulsheger & Schewe, 2011). Deep acting can be referred to as reappraisal or self-talk that results in faking in "good faith" (Grandey, 2000; Hulsheger & Schewe, 2011). It can be referred to as an antecedent-focused form of emotion regulation that influences the perception and processing of emotional cues before an emotion develops. This means that people will try to align their true feelings with emotion-display expectations set forth by the organization. Doing this results in a more genuine display of the required emotion (Grandey, 2000; Hulsheger & Schewe, 2011).

Grandey (2000) conceptualized surface acting as response-focused emotion regulation, meaning that an individual modifies the physiological or observable signs of emotions. A customer service employee, for example, may use surface acting to outwardly express a smile even if they actually feel more neutral. In doing this, the employee is using surface acting to adjust the intensity of their emotion to get the result that the organization needs from the customer. An employee may also express empathy in an effort to remain cordial to an annoying customer that actually makes the employee frustrated and, in doing so, the employee is using surface acting to fake an emotion (Grandey, 2000). Since the founding of these ideas, there has been work done to create more of a distinction between emotional labor and emotion regulation. Most of the initial studies on emotional labor were done through the lens of customer service roles. In doing so, these ideas are centered on performing emotional labor as an expected part of

one's job roles. Emotion regulation can occur in many forms and in many more occupations than just customer service. Hochschild's (1983) surface and deep acting were mapped into the 2000 model of antecedent- and response-focused strategies of reappraisal and suppression (Grandey, 2000), but these concepts do not match up perfectly (Grandey & Melloy, 2017). Grandey and Melloy (2017) conceptualized some differences between emotional labor and emotion regulation. First, they made the distinction that emotional labor is performed as part of a work role, and emotional labor is also focused on emotion regulation performed for interpersonal goals. For emotion regulation, reappraisal is deemed a specific cognitive strategy used to improve one's mood while suppression refers to controlling the physiology or expression of positive and negative emotions, and neither of these necessarily assume that there is an interpersonal goal at hand. Grandey and Melloy (2017) posited that emotion regulation should be represented more broadly than surface and deep acting by referring to antecedent- and response-focused strategies. The current study recognizes this growth in the literature but intended to examine emotion regulation through the lens of surface and deep acting.

Grandey and Sayre (2019) defined deep acting as modifying one's feelings using cognitive strategies like refocusing attention or reappraisal to proactively change how one feels. They aligned this conceptualization with Hochschild's (1983) claim that to deep act is to deceive oneself. They conceptualized surface acting as a type of behavior modulation like suppression or amplification in reaction to negative events. Grandey and Sayre (2019) also discussed expanding emotion regulation. They suggested that context can change expectations and effectiveness and that display rules depend on the audience and actor. Most early literature focuses on displaying positive emotions, but it is also true that one may need to display negative emotions to motivate and negotiate. The question is whether faking negative emotions has similar outcomes as faking

positive emotions. Likewise, are the consequences to one's well-being the same? Engaging in any of these types of emotion regulation may be helpful to the organization, but surface acting may have greater negative consequences for the employee (Grandey, 2000; Grandey & Sayre, 2019).

Why do Employees Surface Act?

Let's first address this question from 10,000 feet. Based on the general theories of emotion and stress from Lazarus (1999; as cited by Grandey, 2000), a physiological state of arousal occurs involving the endocrine system (hormone release) and the autonomic nervous system (increased breathing, blood pressure, heart rate, and skin conductance). During this state of arousal, the body is using its resources to produce energy to respond to an imminent crisis. In turn, not enough energy can be provided for other physiological tasks like good functioning of the immune system. For these reasons, emotions and emotion regulation are related to health problems like cancer and heart disease (Grandey, 2000; Gross, 1989, 1998a; Pennebaker, 1990; Steptoe, 1993). In general, when individuals experience a physiological state of arousal or emotion (anger or fear), they have a fight or flight response. The arousal state from emotions informs a person and prepares their body to respond to the situation, but in a work environment, people learn to try to control that natural emotional tendency such that their emotional reactions are closer in line with organizational norms (Cannon, 1932; as cited by Grandey, 2000). The "action tendencies" that typically answer to emotion-producing stimuli are superseded by coping or regulatory processes so that people act appropriately in work environments (Lazarus, 1999; as cited by Grandey, 2000). These regulatory processes include surface acting or deep acting.

Brotheridge and Lee (2003) posited that energy must be expended in order to perform the regulatory processes of surface acting or deep acting. This depleted energy can lead to things like

emotional distance from others (depersonalization), emotional exhaustion, and change in affect. The ELS validation study demonstrated that the requirement to hide one's emotions was more strongly associated with surface acting than deep acting. Emotional exhaustion and depersonalization were significantly correlated with only the surface acting subscale. They suggested that emotional strain stems largely from the effort required to hide one's true feelings or to pretend to feel expressed emotions. Their study also showed that positive and negative affect were significantly associated with only the surface acting subscale. Participants who experienced high levels of general malaise (negative affect in general) also reported more surface acting. In contrast, positive emotion (positive affect in general) was negatively correlated with surface acting. These results point in the direction of surface acting having stronger and different relationships with these outcomes than deep acting. What might account for these relationships?

Conservation of Resources Theory

To investigate how to combat these aforementioned negative effects, one could look to the conservation of resources theory (COR theory). The COR theory was developed by Stevan Hobfoll in 1989. It stated that people attempt to retain, protect, and build resources, and that potential or actual loss of these resources is a threat. Some of these resources, as indicated in earlier literature by Maslow (1968), include physical, social, and psychological resources, and these can be depleted by surface acting. Surface acting can be the cause of stress, and one must surface act due to demands of the external environment. Of course, along with the stressors of the external environment, employees surface act to regulate internal cognitive and emotional processes that are ongoing. COR theory attempts to bridge the gap between environmental and cognitive demands.

According to Hobfoll's COR theory (1989), people sometimes employ other resources to offset net loss, and resource replacement is the most direct way to accomplish this goal. However, a person may also simply try to avoid further loss of their current resources. If surface acting is a way to deplete a person's resources, then COR theory would suggest that a person will engage in maintenance behaviors that will replenish or conserve their resources. This will look different for different people, but it may mean that a person will do what he or she can to conserve what resources he or she has left. Hobfoll (1989) posited that employing resources for coping is also stressful in itself. Individuals will sometimes employ resources in the coping process, and that employment in itself can deplete resources (Hobfoll, 1989; Schonpflug, 1985). When using resources for coping, energy and favors are used up in order to avoid experiencing more loss. This can create what Hobfoll (1989) called a "loss spiral." If resources are spent to avert the loss of other resources, then such loss would be predicted to lead to further reduction in resource reserves. An employee who must perform surface acting will experience a loss of resources and, in doing so, may avoid expending other resources that require energy in non-work activities to avoid a loss spiral. Consider an employee, "Chris," for example. Chris is required to surface act several times per day at work in order to persuade clients to comply with the goals of the organization. It is exhausting. The energy required to engage in non-work activities becomes depleted. In turn, Chris experiences a loss in discipline in areas like diet and exercise.

Does this really happen? The following studies examine the consequences of emotional labor measured generally (i.e., at a single point in time). A study on U.S. service workers showed that unless service encounter employees have strong self-control tendencies or they are permitted to be self-governed at work, surface actors tend to drink more (Grandey et al., 2019). Here, consistent with the definition of self-control, surface acting involves inhibiting behavioral

impulses to conform to rules and meet long-term goals. In this case, the emotional expectations of service work were related to an adverse health behavior. The data collected from the nationally representative sample in this study supported that employees in prototypical emotional labor occupations performed the most surface acting and drank more after work than employees in other occupations. After controlling for demographic variables, the job's emotional demands, and employee trait negativity in employees with daily customer contact, the frequency of surface acting was positively related to the extent of drinking after work depending on job self-control (operationalized as work autonomy) and trait self-control (operationalized as trait impulsivity). In addition, surface acting predicted heavy drinking directly. Employees who tend to surface act with their customers were more likely to be heavy drinkers (four to five drinks at a time). Specifically, for those with service encounters, surface acting was strongly linked to heavy drinking for highly impulsive employees but not less impulsive employees, whereas employees in service relationships did not show the link between surface acting and drinking regardless of trait impulsivity. When employees drink heavily or frequently, it can put their health at risk and can lower the quality of their sleep. If an employee's health is at risk and they have poor sleep quality, there can be potential business costs like accidents, injuries, absenteeism, and lost productivity (Frone, 2019; Normand et al., 1994; Rehm et al., 2009; Rehm et al., 2006; Reynolds et al., 2003). These types of consequences make it important to investigate possible precursors to health risks and poor sleep quality like surface acting (Grandey et al., 2019). The current study examines how surface acting can act as a possible precursor to health risks in a particular population of employees.

Similarly, surface acting "neutral" can have harmful effects. Trougakos and Jackson (2011) asked undergraduate business students to act as poll workers. Participants were assigned

to two different conditions: positive display or neutral display, and both were asked to get other students to fill out a survey. At the end of this task, participants were asked to complete a one-time questionnaire about their use of emotion regulation strategies during the task. This study showed that displaying neutrality can influence the amount of expression suppression and that expression suppression has a negative relationship with critical work tasks (persistence), and a positive relationship with avoidance of critical work tasks. It was also found through indirect effects that expression suppression significantly mediates the relationship between display rules and persistence and avoidance. Returning to the idea that surface acting is a form of expression suppression and keeping neutral is a form of surface acting, the consequences of surface acting neutrality can be depleting.

The question stands: Would these same results be found if measured longitudinally? The following three studies suggest an answer. In terms of affect, surface acting involves modifying affective displays without changing underlying feelings. Scott and Barnes (2011) conducted a 2-week interval-contingent experience-sampling study on bus drivers. This study involved two surveys daily. One survey was completed after arriving to work before driving routes and assessed state negative affect and positive affect. The other survey was taken after work when routes were completed to assess surface acting, deep acting, state positive and negative affect, and work withdrawal. It was found that when employees engaged in surface acting, they were more likely to experience negative affect (high levels of general malaise) and less likely to experience positive affect (high levels of positive emotions). Consequently, they were more likely to report withdrawing from work (Scott & Barnes, 2011). In contrast, it was found that deep acting was associated with more positive affect and less negative affect. These findings would suggest that it is better to deep act when emotion regulation is required, but that is not

always possible. If, as a requirement of the job, surface acting has to be used, the resulting deleterious effect on the success of the organization and on one's well-being should be considered.

Likewise, regarding affect, Kong and Jeon (2018) conducted a 5-day survey study on bank tellers in South Korea who had a high degree of interaction with clients. The survey involved questions from Brotheridge and Lee (2003) to assess emotional labor as well as the Watson, Clark, and Tellegen (1988) PANAS scale to measure workplace negative affect. Measures were conducted twice a day. Affect state was measured before starting work, and emotional labor, state affect, and emotional exhaustion were measured at the end of the workday. A during-work affect measure was created by averaging affect before and after work. It found that surface acting increases emotional exhaustion, and the relationship between surface acting and emotional exhaustion is mediated by negative affect state within individuals. It was also found that affective commitment buffers the negative effects of emotional exhaustion from surface acting. Affective commitment is viewed as a personal resource that one can employ to relieve emotional exhaustion from surface acting. In this study, this personal resource belongs to the kinds of resources referred to in the COR theory. This study also demonstrated that deep acting reduced negative emotions.

In a 5-week experience sampling study on elementary school teachers, Headrick and Park (2019) found that, on a weekly basis, surface acting is significantly related to unhealthy eating and exercise via negative activation. This study also invoked the COR theory to describe how surface acting can induce a negative state of being in which one is then motivated to protect their resources. In a negative state, the employee is less likely to expend those resources typically available for a healthy diet and exercise routine. The current study will also measure *surface*

acting, deep acting, negative affectivity (i.e., typical affect), state negative affect, diet (unhealthy eating), and *exercise*. The rationale for measuring these variables implies a conservation of resources, though it is not specifically measured. It is inferred through an increase in state negative affect that surface acting will deplete more resources needed to maintain positive affect, healthy eating, and exercise compared to deep acting.

The Current Study

What do the previous studies have in common? They examined populations of employees who had to surface act via displays of mostly positive emotions, like those in customer service. In defining emotional labor, Hochschild conducted interviews with flight attendants and bill collectors. In these interviews, she was able to distinguish that emotional labor can fall on different ends of a spectrum. "The project of the flight attendant is to enhance the customer's status, to heighten his or her importance…The final stages of bill collecting typically deflate the customer's status, as the collector works at wearing down the customer's presumed resistance to paying," (Hochschild, 2012, p. 97). In a case study by Sutton from 1991, a collection agency was investigated, and a model was proposed that involved debt collectors' feelings and organizational norms in regard to varying types of debtors. This model suggested that when a debt collector is interacting with a friendly or sad debtor, the collector will probably feel neutrality or possibly sympathy, but the organizational norm is for the collector to demonstrate irritation or even anger. On the other hand, if a debt collector is dealing with an angry debtor, irritation or anger may result, but the organizational norm expects them to demonstrate neutrality or calmness toward the debtor (Sutton, 1991). This model demonstrates an occupation with very different emotional demands than that of a customer service provider. This means that there are times when these

professionals must surface act these emotions and may experience the negative consequences of surface acting as would a customer service employee when expected to display positive affect.

The current study also examined debt collectors. The tendency to surface act and its relationship with general negativity were assessed, as was the influence of surface acting on state negative affect on a daily basis. General measures were collected in one initial survey, and daily measures were collected through experience sampling. Some of the previously mentioned consequences can be explained by resource depletion, and it is expected that debt collectors will want to somehow engage in conservation of their resources. If debt collectors can be expected to suppress or fake emotions, they may experience depletion, experience an increase in negative affect, and see a reduction in overall health behaviors including diet, exercise, and sleep quality. The "four pillars of health" include proper diet, exercise, quality sleep, and connection to others (Healthy Sleep, n.d.; Neustadt, 2021). Overall, health behaviors were operationalized in the current study as a latent construct that is comprised of healthy eating habits, exercise frequency, and sleep routine. Taken together, these three—nutrition, exercise, and sleep—are part of the four pillars of health that were assessed.

Two sets of propositions and two exploratory questions were examined. Note that "negative affectivity" here refers to the disposition or tendency to experience negative emotion and "negative affect" refers to regular, daily reports of emotion. The first set proposes relationships among surface acting, negative affect, and health behavior, in general. The second set addresses the average within-person relationships among surface acting, state negative affect, and health behaviors (sleep, diet, and exercise) over time (a 21-day period). The exploratory questions were intended to examine relationships among these variables measured "in general" and within-person as well as how health behaviors relate to each another.

Propositions for In-General (Concurrent) Measures

Across participants, the tendency to surface act should predict *specific* health behaviors after controlling for trait negative affectivity and the tendency to engage in deep acting. The simple relationships (Hypotheses 1-11) were first examined, followed by the broader propositions (Hypotheses 12-14).

When measured concurrently:

Hypothesis 1: Surface acting will be positively related to negative affectivity.

Hypothesis 2: Surface acting will be negatively related to healthy diet.

Hypothesis 3: Surface acting will be positively related to unhealthy diet.

Hypothesis 4: Surface acting will be positively related to unhealthy dietary habits.

Hypothesis 5: Surface acting will be negatively related to exercise, specifically, light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity.

Hypothesis 6: Surface acting will be related to sleep, specifically, positively related to onset, latency, and rising time; negatively related to duration; negatively related to overall sleep quality, positively related to sleep disturbances, positively related to sleep medication use, and negatively related to both daytime dysfunction items.

Hypothesis 7: Negative affectivity will be negatively related to healthy diet.

Hypothesis 8: Negative affectivity will be positively related to unhealthy diet.

Hypothesis 9: Negative affectivity will be positively related to unhealthy dietary habits.

Hypothesis 10: Negative affectivity will be negatively related to exercise, specifically, light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity.

Hypothesis 11: Negative affectivity will be related to sleep, specifically, positively related to onset, latency, and rising time; negatively related to duration; negatively related to overall sleep quality, positively related to sleep disturbances, positively related to sleep medication use, and negatively related to both daytime dysfunction items.

Hypothesis 12: After controlling for deep acting and negative affectivity, the tendency to surface act will predict diet, including healthy diet, unhealthy diet, and unhealthy dietary habits.

Hypothesis 13: After controlling for deep acting and negative affectivity, the tendency to surface act will predict exercise, including light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity.

Hypothesis 14: After controlling for deep acting and negative affectivity, the tendency to surface act will predict sleep, including sleep demographics, sleep disturbances, overall sleep quality, sleep medication use, and both daytime dysfunction items.

Propositions for Daily Experience-Sampling

Daily fluctuations in surface acting should be related to daily self-reports of negative affect as well as to daily self-reports of health behaviors (sleep, diet, exercise). Based on the assumption that emotional resources are depleted by surface acting, and that negative affect itself is an index of resource depletion, the following were proposed. They represent the average within-person relationships among surface acting, state negative affect, and health behaviors.

When measured daily across several weeks:

Hypothesis 15: Surface acting will be positively related to negative affect.

Hypothesis 16: Surface acting will be positively related to unhealthy dietary habits.

Hypothesis 17: Surface acting will be negatively related to overall exercise, specifically, light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity.

Hypothesis 18: Surface acting will be negatively related to sleep quality.

Hypothesis 19: State negative affect will be positively related to unhealthy dietary habits.

Hypothesis 20: State negative affect will be negatively related to overall exercise, specifically, light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity.

Hypothesis 21: State negative affect will be negatively related to sleep quality.

Exploratory Questions

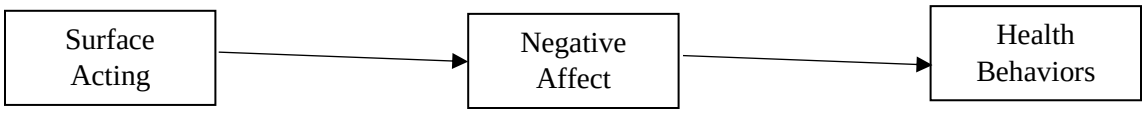
To explore how the relationship between negative affect and the tendency to surface act predicts health behavior, *in general*, correlations between initial measures and daily measures were planned. This postulate further examines the short term versus enduring nature of emotional labor.

Exploratory Question 1: The strength of the relationship between surface acting and negative affect will predict health behaviors, in general.

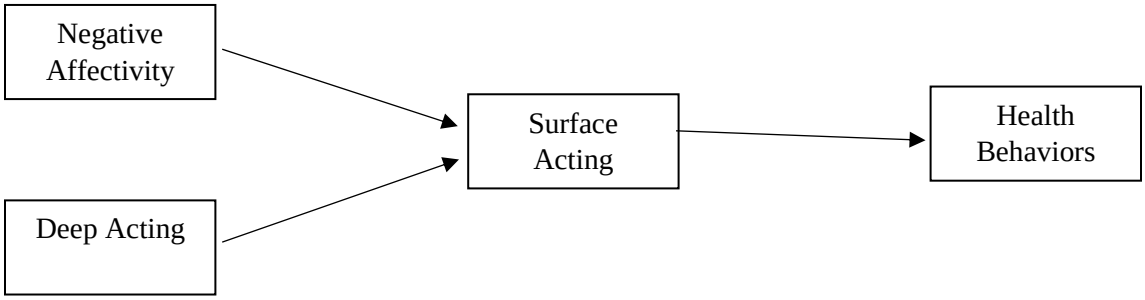
Exploratory Question 2: Diet, exercise, and sleep will be positively related to each other.

Altogether, this study examined (1) the across-person "trait" relationships between surface acting, negative affect, and health behaviors as well as (2) the within-person "state" relationships among these variables as a preliminary investigation of a model that combines state and trait relationships (see models).

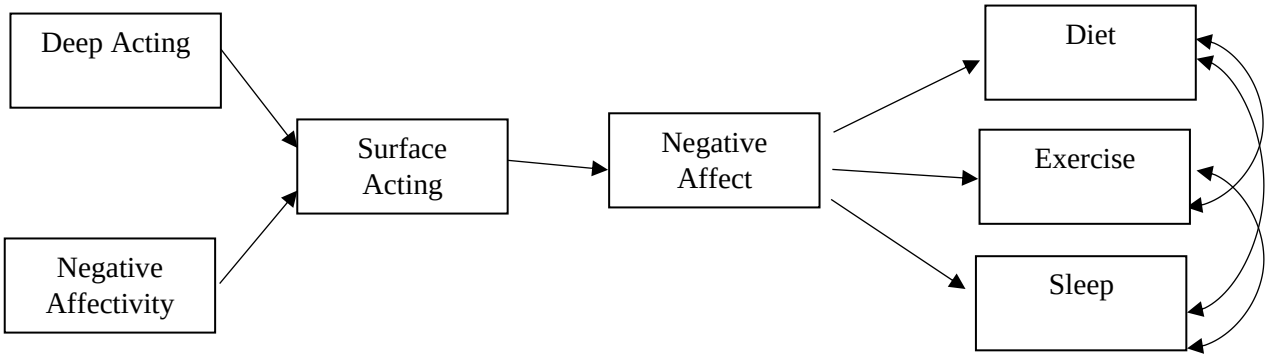
State Model: Surface Acting, Affect, and Health Behaviors within Person (Proposition Set 2: Hypotheses 15-21).



Trait Model: Emotional Labor, Affect, and Health Behaviors across Participants (Proposition Set 1: Hypotheses 12-14).



Overall Model of Emotional Labor, Affect, and Health Behaviors – for both within person and general measures (Exploratory Questions 1 & 2).



Method

Participants

A total of 191 emails were sent to potential respondents by an intermediary at the Williams & Fudge Agency to the attendees at the 2019 Williams & Fudge Loans and Receivables Collections Conference. Participation was requested for an initial survey, 21 days of responses to brief daily surveys, and a follow-up survey with the incentive of winning one of 10 lottery prizes of $100. After gaining informed consent (see Appendix B1), eight collectors responded to the initial survey and three of these completed the 21-day assessments. At this point, the study was modified to use a convenience/snowball sampling strategy and only request participation in the initial survey (i.e., one that assessed the variables concurrently). Recruitment requests were sent via email to approximately 300 publicly listed university financial offices and listservs for bursars. After gaining informed consent (see Appendix B2), 25 additional respondents completed the initial survey with the incentive of winning one $25 award in a lottery.

Across all participants, tenure ranged from 2 to 6 years, (M = 3.56, SD = 1.53). Regarding work environment, 12.1% of them worked completely remotely, 24.2% of them worked completely on-site, and the remainder reported some combination of the two.

Both initial and modified research protocols were approved by the Radford University IRB. Propositions regarding daily measures were examined as case studies of the three complete respondents from the initial recruitment.

Materials

Two versions of surveys were used. The first version was longer and included demographic questions. These asked participants how long they had been in this line of work and

if they had been working remotely or on-site. The demographic questions can be found in Appendix C1. This version was used as the initial survey for all participants and as the follow-up survey for those who completed the full 21-day study.

The second version was an abbreviated form of the initial survey and was used as a daily assessment for the 21-day study. Each day, these participants were asked to list their cellphone number as a way to keep their responses together. Participants were then asked, "Did you work today?" If yes, they were asked to indicate how many hours (rounding to the nearest whole number). These demographic questions can be found in Appendix C2.

Surface acting, deep acting, negative affectivity, as well as general levels of diet, exercise, and sleep quality were assessed in the longer initial survey. For the daily surveys, surface acting and negative affect were assessed for the current day; sleep, diet, and exercise were assessed for the prior day. Items were randomly presented where appropriate.

Emotional Labor Scale. The initial and follow-up measures of emotional labor were collected by asking participants to rate the frequency with which they engaged in different dimensions of emotional labor at work using a 16-item scale adapted from Brotheridge and Lee (1998) found in Appendix D1. These dimensions included duration, frequency, intensity, variety, surface acting, and deep acting. Response options ranged from 1 = not at all to 7 = most of the day. For dimensions with more than one item, responses were averaged such that there is one average score for that dimension. For example, the dimensions surface acting and deep acting each had three items. These item responses were averaged such that each person had one score for surface acting and one for deep acting.

The *duration* dimension involved one question asking, "A typical interaction with a debtor takes about ____ minutes." This assessed how long an interaction typically took with a

debtor. A higher score indicates that the debt collector usually spent a great deal of time interacting with debtors over the past 3 weeks.

The *frequency* dimension assessed how often someone performed emotional labor. A high score indicated that the debt collector performed emotional labor rather often within the past 3 weeks. A low score meant that they did not perform emotional labor often within the past 3 weeks. A sample question for this dimension included “How often do you display specific emotions required by your job?”

The *intensity* dimension assessed whether the collector had to demonstrate strong emotions when performing emotional labor. An example item included “How often do you express intense emotions?” A high score indicated that they performed strong emotions in their emotional labor often within the past 3 weeks.

The *variety* dimension examines whether the collector used a variety of emotions in their emotional labor. A sample item included “How often do you display many different kinds of emotions?” A high score meant that the collector had to show many different emotions as part of their emotional labor over the past 3 weeks. A low score meant that there was not a variety of emotions displayed in the past 3 weeks.

The *surface acting* dimension examined how much a collector used surface acting as their form of emotion regulation during emotional labor (faking, suppressing, or hiding true emotions). An example of the three surface acting items included “Do you pretend to have emotions that you really don’t have?” A high score meant that a collector used surface acting often as their form of emotion regulation in the past 3 weeks.

The *deep acting* dimension assessed how much a collector used deep acting as their form of emotion regulation (trying to align true feelings with display rules). An example from the

three deep acting items included “Do you make an effort to actually feel the emotions that you need to display to others?” A high score meant that a person used deep acting often in the past 3 weeks as their form of emotion regulation.

Brotheridge and Lee (2003) reported $\alpha = .85$ for the surface acting scale, $\alpha = .82$ for the deep acting scale, $\alpha = .75$ for frequency, $\alpha = .58$ for intensity, and $\alpha = .68$ for variety.

For the daily survey, only surface acting and deep acting dimensions were assessed, and the six items were phrased to reflect this timeframe (see Appendix D2). A surface acting example item included “How often did you resist expressing your true feelings today?” A deep acting example item included “How often did you make an effort to actually feel the emotions that you needed to display to others today?” Response options ranged from 1 = not at all, 2 = seldomly, 3 = a few times a day, 4 = sometimes, 5 = regularly, 6 = more often than not, and 7 = most of the workday. A high score indicated more use of that form of emotion regulation during the workday.

Positive and Negative Affect Scale (PANAS). An initial and follow-up measure of trait negative affectivity (and positive affectivity) asked participants to rate the extent to which they experienced positive or negative feelings over the past 3 weeks with a 20-item scale adapted from Watson and Clark (1988) found in Appendix E1. An example item for positive affectivity included “Over the past three weeks, I felt interested.” An example item for negative affectivity included “Over the past three weeks, I felt distressed.” Scores range from 1 = very slightly or not at all, 2 = a little, 3 = moderately, 4 = quite a bit, and 5 = extremely for each item for positive and negative affectivity. A high score for positive affectivity indicated that a collector experienced more positive emotions during the past 3 weeks. A high score for negative affectivity indicated that a collector experienced more negative emotions over the past 3 weeks. For each variation in

time instruction, Watson and Clark (1988) reported Cronbach's values of $\alpha = .85$ or greater for both the positive and negative affect portions of the scale.

State negative affect was assessed on a daily basis by using the same scale (see Appendix E2). Questions reflected a daily timeframe by asking, "Today, I felt distressed."

Eating Behavior. An initial and follow-up assessment of diet was measured using a 14-item scale based on Liu et al. (2017) found in Appendix F1. This scale involves three dimensions: healthy diet, unhealthy diet, and unhealthy dietary habits. Response options included 1 = not at all, 2 = a couple times a week, 3 = several times a week, 4 = most of the week, or 5 = daily.

The *healthy diet* dimension listed food considered to be part of a "healthy" diet. An example healthy diet item included "Indicate whether you typically have the following foods throughout the workday and after you leave work: green vegetables." Scores were averaged together for this list of foods, and the higher the overall score was, the healthier their diet was considered for the specified time period of 3 weeks.

The *unhealthy diet* dimension listed food considered to be part of an "unhealthy" diet. An example unhealthy diet item included "Indicate whether you typically have the following foods throughout the workday and after you leave work: Fried food, (fried chicken, fried fish, French fries)." Once again, scores were averaged together for this list of foods, and the higher the overall score was, the less healthy their diet was considered for the specified time period of 3 weeks.

The *unhealthy dietary habits* dimension involved a list of dietary habits that were considered "unhealthy." A sample item included "Typically, I ate too many junk foods after work." These scores were averaged such that each person had an overall score for unhealthy

dietary habits. A high score indicates that over the past 3 weeks, a collector had often engaged in unhealthy dietary behaviors. This contributed to an unhealthy diet overall.

For the overall measure of eating behavior, it was noted that the coefficient alpha is not appropriate to provide as the checklist includes distinct types of food that might not be interrelated.

On a daily basis, diet was assessed by only the four unhealthy dietary habit questions of the same scale, but the questions reflected reporting on the previous day (see Appendix F2). An example included "Yesterday, I had too many unhealthy snacks after work." Response options were 1 = strongly agree to 5 = strongly disagree. Once again, these scores were averaged together to give one unhealthy dietary habit score for each person. The higher the average was, the more someone practiced unhealthy dietary habits, and the less healthy one's diet was.

Concise Physical Activity Questionnaire. General exercise level was assessed in the initial and follow-up surveys using a scale adapted from Sliter and Sliter (2014) found in Appendix G1. Participants were asked to think about the past 3 weeks and indicate how many days they participated in physical activity for at least 20 consecutive minutes after they left work. Items involved 1 = light aerobic activity (e.g., shopping, housework, leisurely walking), 2 = moderate aerobic activity (e.g., brisk walking, bicycling, tennis), 3 = vigorous aerobic activity (e.g., jogging/running, swimming laps, jumping rope), and 4 = muscle strengthening activity (e.g., lifting weights, pilates, yoga). To each of these items, response options included 1 = 1-3 day(s), 2 = 4-6 days, 3 = 7-9 days, 4 = 10-12 days, 5 = 13-15 days, 6 = 16-18 days, and 7 = 19-21 days. A response indicated approximately how many days out of the past 3 weeks that a person engaged in each type of exercise. For scoring, each individual's response to item three was multiplied by 2.5, and unweighted responses to items 1, 2, and 4, and the weighted response to

item three were summed. A higher score overall indicated that one engaged in more physical activity over the past 3 weeks. A high score on an individual item (i.e., light aerobic activity) means that a collector engaged in that specific type of physical activity frequently over the past 3 weeks.

The daily assessment of exercise (daily exercise) found in Appendix G2 asked, "Yesterday, to what extent did you engage in each of the following activities?" Items remained the same as above: 1 = light aerobic activity (e.g., shopping, housework, leisurely walking), 2 = moderate aerobic activity (e.g., brisk walking, bicycling, tennis), 3 = vigorous aerobic activity (e.g., jogging/running, swimming laps, jumping rope), and 4 = muscle strengthening activity (e.g., lifting weights, pilates, yoga). Responses to each of these items included 1 = much less than usual, 2 = less than usual, 3 = the same as usual, 4 = more than usual, and 5 = much more than usual. Responses indicated how much above or below someone's perceived baseline they exercised for the prior day. Daily exercise analyses involved the four individual items as well as an average of the four taken by the same scoring state above.

Sliter and Sliter (2014) reported that although assessments of reliability and dimensionality are fundamental initial steps in analyses for developing a scale, neither were deemed appropriate for this particular scale. The CPAQ was meant to function as a constructive measure of physical activity, combining separate forms of activity to form an overall estimate of physical activity. While all four items reference types of physical activity, and are consequently each related to the same overall construct, they are not necessarily expected to relate to each other, or to a scale total, in any consistent way.

Pittsburgh Sleep Quality Index. An initial and follow-up measurement of sleep quality was assessed using modified items from the Pittsburgh Sleep Quality Index (Buysse et al., 1988)

included in Appendix H1. This involved five dimensions including sleep demographics, sleep disturbances, overall sleep quality, sleep medication use, and daytime dysfunction.

Sleep onset, latency, rising time, and sleep duration were assessed using the first four questions of the Pittsburgh Sleep Quality Index (PSQI). *Sleep onset* is the time someone went to bed, *latency* is defined as time it took to fall asleep, *rising time* is when a person woke up, and *sleep duration* is how many hours one slept. A sample item included "How long (in minutes) did it take you to fall asleep typically in the past three weeks?" Time of day was recoded to reflect the 24-hour clock. Latency was indicated in minutes, and sleep duration was indicated in minutes.

The *sleep disturbances* dimension involved nine questions. A sample question included "In the past three weeks, did you have trouble sleeping because you felt too hot?" Response options included 1 = yes and 2 = no. This was recoded such that 1 = no and 0 = yes. Scores for sleep disturbances were averaged together to indicate one's overall sleep disturbances. The lower a score was, the more sleep disturbances were experienced. This would likely indicate that someone's sleep quality was lower due to a greater number of disturbances.

Overall sleep quality was assessed with one item: "How would you rate your sleep quality over the past three weeks?" Response options included 1 = very good, 2 = fairly good, 3 = fairly poor, and 4 = very poor. The higher the score was, the lower sleep quality someone experienced over the past 3 weeks.

Sleep medication use was assessed with one item: "Did you have to take medicine (prescribed or "over the counter") to help you sleep?" Response options included 1 = yes and 2 = no. The higher the score means a collector did not have to use sleep medication at some point over the past 3 weeks to help with sleep.

Daytime dysfunction was assessed with two questions. The first asked, "Did you have trouble staying awake while driving, eating meals, or engaging in social activity?" The second asked, "Did you have any problem with keeping enough enthusiasm to get things done?" Response options for both questions included 1 = yes and 2 = no. This was recoded such that 1 = no and 0 = yes. Responses were not averaged, so analyses were conducted with individual question responses. A high score on these questions indicated that a person did not have these daytime dysfunctions during the past 3 weeks.

The Cronbach's value for the internal reliability of the full PSQI scale is $\alpha = .83$.

A daily measure of overall sleep quality can be found in Appendix H2. The one-item measure asked, "Compared to your 'usual,' how would you rate your sleep quality for LAST NIGHT?" Response options included 1 = very good, 2 = fairly good, 3 = same as usual, 4 = fairly poor, and 5 = very poor. A higher score indicated poorer overall sleep quality (relative to one's perceived baseline) for the night before.

Procedure

Attendees of the 2019 Williams and Fudge Student Loans & Receivables Collection Conference were contacted through email to solicit participation, gain informed consent, collect initial assessments (emotional labor, affectivity, health behaviors, and demographics), and collect cell phone numbers of participants. Following this initial survey, three participants were subjected to signal-contingent experience-sampling (Sonnentag et al., 2012) that lasted 3 weeks (21 days). At the end of each day for 21 days, participants received a text message with a link to a Qualtrics survey that assessed daily surface and deep acting, and negative affect. Exercise, diet, and sleep quality were assessed in the same manner, but inquiry referred to the prior day. A follow-up assessment consisting of the same questions as the initial assessment for emotional

labor, affect, diet, exercise, and sleep was conducted at the end of the 21 days. A full list of the scales used for these measurements can be found in Appendixes C1-H2. Each of the three participants were given $100.

Financial departments at various universities were contacted and asked to send an email to anyone in their department involved in debt collection. This email involved a description of the study and a link to the informed consent and initial survey. This initial survey asked about emotional labor experiences, affectivity, diet, exercise, and sleep quality in general as well as demographics. All of those who participated in the initial survey were entered into a drawing for one person to win $25.

There was a poor response rate in the first round of surveys. Further, only three participants from the 2019 Williams and Fudge conference completed the full 21-day portion of the study. With inadequate time left to run the 21-day portion of the study on another group, the three participants were treated as case studies in the analyses.

Analysis Plan

Demographic data were first assessed.

In Set 1, propositions 1-11 were analyzed through bivariate correlations to determine whether surface acting and negative affectivity had relationships with each health behavior. Propositions 12-14 were analyzed through hierarchical regressions to determine if the tendency to surface act in general predicts health behaviors (diet, exercise, and sleep) when controlling for deep acting and negative affectivity.

Propositions in Set 2 were analyzed with bivariate correlations to examine relationships between daily surface acting, state negative affect, diet, exercise, and sleep.

The first exploratory question was to be analyzed by first generating a canonical variate among health behaviors measured daily and then correlating it with the *r* between surface acting and negative affect to determine whether surface acting and state negative affect together share common variance with health behaviors (diet, exercise, and sleep), in general.

The second exploratory question used bivariate correlations to examine the relationships among the health behaviors.

Results

Model Testing

The state model addressing *Proposition Set 2* (*Hypotheses 15-21*) was not tested. This was due to overall low sample size. The trait model addressing *Proposition Set 1* (*Hypotheses 12-14*) was tested, and results are stated in the "in-general measures" section to follow. The overall model was not able to be tested, but part of the model is addressed and measured in *Exploratory Question 2*. Correlations were conducted between the in-general health measures, and those results are also stated in the following exploratory questions section.

Descriptive Statistics and Correlations for In-General Measures

All analyses are based on two-tailed tests. Means, standard deviations, and correlations for the in-general measures are displayed in Table 1. The diagonal displays reliabilities where appropriate. In terms of demographic information, only tenure and work location were collected. Tenure had small, nonsignificant relationships with surface acting, but had a significant negative relationship with negative affectivity ($r(31) = -.54$, $p < .01$), and a significant positive relationship with positive affectivity ($r(31) = .42$, $p < .05$).

Hypothesis Testing and Analysis for In-General Measures

Hypothesis 1 predicts that surface acing will be positively related to negative affectivity. *Hypothesis 2* predicts that surface acting will be negatively related to healthy diet. *Hypothesis 3* predicts that surface acting will be positively related to unhealthy diet, and *Hypothesis 4* predicts that surface acting will be positively related to unhealthy dietary habits. *Hypothesis 5* predicts that surface acting will be negatively related to exercise, specifically, light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity. *Hypothesis 6* predicts that surface acting will be related to sleep, specifically, positively related to onset, latency, and rising time; negatively related to duration; negatively related to overall sleep quality, positively related to sleep disturbances, positively related to sleep medication use, and negatively related to both daytime dysfunction items.

Surface acting was positively associated with negative affectivity ($r(31) = .61$, $p < .01$), supporting *Hypothesis 1*. Surface acting had a positive association with healthy diet that was nonsignificant ($r(31) = .08$, n.s.), so *Hypothesis 2* was not supported. Surface acting had a nonsignificant positive association with unhealthy diet ($r(31) = .32$, $p = .07$), so *Hypothesis 3* was not supported. Likewise, surface acting had a nonsignificant positive association with unhealthy dietary habits ($r(31) = .05$, n.s.), so *Hypothesis 4* was not supported. Surface acting had a positive association with general exercise level ($r(31) = .11$, n.s.). Additionally, surface acting had positive relationships with light aerobic activity ($r(31) = .18$, n.s.), moderate aerobic activity ($r(31) = .08$, n.s.), vigorous aerobic activity ($r(31) = .06$, n.s.), and a negative relationship with muscle-strengthening activity ($r(31) = -.01$, n.s.). Because these correlations did not reach significance, these results do not support *Hypothesis 5*. In regard to the different dimensions of sleep, surface acting had a positive association with onset ($r(31) = .07$, n.s.), a

positive association with latency ($r(31) = .27$, n.s.), a positive association with rising time that approaches significance ($r(31) = .33$, $p = .06$), a negative association with sleep duration ($r(31) = -.03$, n.s.), a positive association with overall sleep quality ($r(31) = .13$, n.s.), a negative association with sleep disturbances ($r(31) = -.06$, n.s.), a negative association with sleep medication use ($r(31) = -.03$, n.s.), and a negative association with daytime dysfunction (question 1), and a negative association with the second daytime dysfunction item ($r(31) = -.18$, n.s.; $r(31) = -.39$, $p < .05$, respectively). These results provide partial but minimal support for *Hypothesis 6*.

Hypothesis 7 predicts that negative affectivity will be negatively related to diet. *Hypothesis 8* predicts that negative affectivity will be positively related to unhealthy diet, and *Hypothesis 9* predicts that negative affectivity will be positively related to unhealthy dietary habits. *Hypothesis 10* predicts that negative affectivity will be negatively related to exercise, specifically, light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity. *Hypothesis 11* predicts that negative affectivity will be related to sleep, specifically, positively related to onset, latency, and rising time; negatively related to duration; negatively related to overall sleep quality, positively related to sleep disturbances, positively related to sleep medication use, and negatively related to both daytime dysfunction items.

Negative affectivity had a nonsignificant negative relationship with healthy diet ($r(31) = -.04$, n.s.), so *Hypothesis 7* was not supported. Negative affectivity had a nonsignificant positive relationship with unhealthy diet ($r(31) = .22$, n.s.), so *Hypothesis 8* was not supported. Likewise, negative affectivity had a positive relationship with unhealthy dietary habits ($r(31) = .30$, $p = .09$), so *Hypothesis 9* was not supported. Negative affectivity had a negative relationship with general exercise level ($r(31) = -.14$, n.s.). Additionally, negative affectivity had negative

relationships with light aerobic activity ($r(31) = -.01$, n.s.), moderate aerobic activity ($r(31) = -.19$, n.s.), vigorous aerobic activity ($r(31) = -.10$, n.s.), and muscle-strengthening activity ($r(31) = -.21$, n.s.). These results do not support *Hypothesis 10*. In regard to the different dimensions of sleep, negative affectivity had a negative relationship with onset ($r(31) = -.05$, n.s.), a positive relationship with latency ($r(31) = .32$, $p = .07$), a positive relationship with rising time ($r(31) = .18$, n.s.), a positive relationship with sleep duration ($r(31) = .08$, n.s.), a positive relationship with overall sleep quality ($r(31) = .13$, n.s.), a negative relationship with sleep disturbances ($r(31) = -.20$, n.s.), a positive relationship with sleep medication use ($r(31) = .03$, $p = .09$, n.s.), and a negative relationship with both daytime dysfunction questions ($r(31) = -.30$, n.s.; $r = -.51$, $p < .01$). These results provide partial support for *Hypothesis 11*. Simple correlations between all measures appear in Table 1.

Table 1

Means, Standard Deviations, Correlations, and Cronbach's Alphas for In-General Measures

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Tenure	3.56	1.53	--											
2. Work Location	6.07	1.46	.13	--										
3. Duration	2.27	1.36	-.31	.25	--									
4. Frequency	4.27	1.52	-.14	.42*	.05	(.91)								
5. Intensity	2.24	0.78	-.30	.02	-.07	.52**	(.62)							
6. Variety	2.89	1.16	.12	.31	.00	.50**	.29	(.87)						
7. Surface Acting	3.73	1.51	-.06	.33	.13	.50**	.10	.16	(.82)					
8. Deep Acting	3.48	1.37	.06	.61**	.08	.51**	.16	.49**	.20	(.85)				
9. Positive Affectivity	3.15	0.88	.42*	-.10	-.23	-.08	-.02	.19	-.40*	.27	(.93)			
10. Negative Affectivity	1.53	0.44	-.54**	.32	.18	.45**	.18	.06	.61**	.20	-.52**	(.77)		
11. Healthy Diet	3.35	0.73	.41*	.42*	.03	.19	-.02	.47**	.08	.44*	.37*	-.04	(.79)	
12. Unhealthy Diet	2.98	0.57	-.08	-.07	-.14	.31	.25	-.12	.32	-.13	-.22	.22	-.52**	(.66)
13. Unhealthy Dietary Habits	2.53	0.97	-.38	.03	-.01	-.02	.01	-.24	.05	.08	-.27	.30	-.55**	.48**
14. General Exercise Level	16.5	6.86	.07	.15	-.16	.01	-.27	.24	.11	.07	.32	-.14	.39*	-.13
15. Light Aerobic Activity	4.52	2.25	-.15	-.05	-.29	-.07	-.13	.05	.18	.03	.26	-.01	.13	.03

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
16. Moderate Aerobic Activity	3.52	2.11	.15	.12	-.30	-.04	-.19	.14	.08	.12	.37*	-.19	.28	.05
17. Vigorous Aerobic Activity	2.39	1.12	.06	.24	.10	.08	-.27	.28	.06	.06	.17	-.10	.42*	-.28
18. Muscle-Strengthening Activity	2.48	1.4	.26	.19	-.08	.06	-.30	.34	-.01	-.01	.25	-.21	.43*	-.18
19. Onset	2261	88.4	-.15	.31	.20	-.12	.06	-.34	.07	.09	-.15	-.05	.02	.00
20. Latency	30.7	27.7	-.13	-.07	.18	.30	.23	-.14	.27	-.03	-.11	.32	-.08	.42*
21. Rising Time	641	96.7	-.19	-.05	.27	.30	.39*	.13	.33	.20	-.03	.18	.04	.11
22. Sleep Duration	6.44	1.06	-.10	-.08	-.30	.17	.14	.12	-.03	-.10	-.11	.08	.09	.00
23. Overall Sleep Quality	2.09	0.63	-.04	-.01	.39*	-.10	-.05	-.11	.13	-.07	-.16	.13	-.15	.15
24. Sleep Disturbances	5.55	2.12	.05	.02	-.25	-.15	-.29	-.03	-.06	-.21	.07	-.20	-.04	-.16
25. Sleep Medication Use	1.82	0.39	-.06	.09	-.04	.03	.10	.09	-.03	-.18	-.06	.03	.03	-.06
26. Daytime Dysfunction Q1	0.91	0.29	-.06	.14	.07	-.11	-.17	0	-.18	-.04	-.01	-.30	.00	-.16
27. Daytime Dysfunction Q2	0.67	0.48	.29	-.46*	-.06	-.30	-.20	.04	-.39*	-.10	.64**	-.51**	.19	-.25

	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
13. Unhealthy Dietary Habits	(.82)														
14. General Exercise Level	-.25	(.79)													
15. Light Aerobic Activity	-.02	.75**	--												
16. Moderate Aerobic Activity	-.16	.82**	.72**	--											
17. Vigorous Aerobic Activity	-.29	.82**	.33	.43*	--										
18. Muscle-Strengthening Activity	-.41*	.82**	.32	.52**	.88**	--									
19. Onset	.23	-.02	.01	.10	-.03	-.19	--								
20. Latency	.24	-.04	.05	-.01	-.06	-.13	.05	--							
21. Rising Time	.19	-.12	.05	.04	-.18	-.38*	.34	.33	--						
22. Sleep Duration	-.22	.06	.12	.12	-.06	.05	-.23	-.30	.10	--					
23. Overall Sleep Quality	.24	-.25	-.28	-.20	-.10	-.27	.17	.42*	.09	-.62**	--				
24. Sleep Disturbances	-.33	.28	.19	.10	.28	.37*	-.10	-.36*	-.49**	.23	-.46**	(.71)			
25. Sleep Medication Use	-.23	.04	-.03	.12	-.05	.17	-.02	-.16	-.15	.03	-.31	.27	--		
26. Daytime Dysfunction Q1	-.10	.20	.12	.18	.21	.11	.07	-.11	-.15	.08	-.12	.23	-.15	--	
27. Daytime Dysfunction Q2	-.25	.21	.16	.18	.14	.25	-.10	.08	-.04	-.13	-.10	.25	0	.22	--

Note. N = 33 (except for tenure (N = 28), work location (N = 25), duration (N = 30)). * p < .05, ** p < .01, *** p < .001., two-tailed.

Cronbach's alphas for appropriate measures are found in the diagonal in parentheses.

Hypothesis 12 stated that after controlling for deep acting and negative affectivity, the tendency to surface act will predict diet, including healthy diet, unhealthy diet, and unhealthy dietary habits. The tendency to surface act was not found to be a significant predictor of healthy diet [R_{CH}^2 = .007, F(1, 29) < 1, n.s.], unhealthy diet [R_{CH}^2 = .063, F(1, 29) = 2.15, *p* = .15], or unhealthy dietary habits [R_{CH}^2 = .027, F(1, 29) < 1, n.s.]. *Hypothesis 13* stated that after controlling for deep acting and negative affectivity, the tendency to surface act will predict exercise and, specifically, light aerobic activity, moderate aerobic activity, vigorous aerobic activity, and muscle strengthening activity. The tendency was not found to be a significant predictor of general exercise level [R_{CH}^2 = .055, F(1, 29) = 1.727, n.s.], light aerobic activity [R_{CH}^2 = .053, F(1, 29) = 1.617, n.s.], moderate aerobic activity [R_{CH}^2 = .053, F(1, 29) = 1.747, n.s.], vigorous aerobic activity [R_{CH}^2 = .020, F(1, 29) < 1, n.s.], or muscle strengthening activity [R_{CH}^2 = .020, F(1, 29) < 1, n.s.]. *Hypothesis 14* stated that after controlling for deep acting and negative affectivity, the tendency to surface act will predict sleep, including sleep demographics, sleep disturbances, overall sleep quality, sleep medication use, and daytime dysfunction. The tendency to surface act did not significantly predict sleep demographics: onset [R_{CH}^2 = .013, F(1, 29) < 1, n.s.], latency [R_{CH}^2 = .013, F(1, 29) < 1, n.s.], rising time [R_{CH}^2 = .072, F(1, 29) = 2.40, p = .132], sleep duration [R_{CH}^2 = .008, F(1, 29) < 1, n.s.]. Similarly, the tendency to surface act also did not significantly predict the following sleep dimensions: overall sleep quality [R_{CH}^2 = .005, F(1, 29) < 1, n.s.]; sleep disturbances [R_{CH}^2 = .008, F(1, 29) < 1, n.s.]; sleep medication use [R_{CH}^2 = .002, F(1, 29) < 1, n.s.]; or daytime dysfunction Q1 [R_{CH}^2 = .000, F(1, 30) < 1, n.s.], or Q2 [R_{CH}^2 = .011, F(1, 29) < 1, n.s.].

Descriptive Statistics and Correlations for Experience-Sampling

Means, standard deviations, and correlations for the daily measures are displayed in Table 2. The diagonal displays reliabilities where appropriate. Demographic questions asked if participants worked on a particular day and for how many hours. Due to low participation in the 21-day study, results were treated as three case studies. These three case studies will be referred to as Participant 423, Participant 678, and Participant 931. Over the 21 days, Participant 423 worked an average of 7.92 hours per day (*SD* = 1.75), Participant 678 worked an average of 9.15 hours per day (*SD* = .80), and Participant 931 worked an average of 8.80 hours per day (*SD* = 1.01), on the days they reported working.

Hypothesis Testing and Analysis for Experience-Sampling

As stated in the method section, details of the dependent variables changed from the "in-general" measures. Surface acting, deep acting, negative affect, positive affect, and work hours measured on one day were matched and correlated with the health behaviors measured on the next day. Questions about health behaviors referred to their occurrence on the previous day. Any days with measurements for either surface acting, deep acting, negative affect, positive affect, and work hours but not health behaviors (or vice versa) were not used in the analyses as there is nothing there to correlate. For example, negative affect on a Wednesday was matched with diet on Thursday for Wednesday before correlations were conducted.

There were very few significant correlations. For Participant 423, surface acting had a positive relationship with muscle-strengthening activity that approached significance ($r(10) = .58$, $p = .08$), and positive affect had a positive relationship with muscle-strengthening activity ($r(10) = .65$, $p = .04$). The only significant correlations for Participant 678 include positive relationships between work hours and moderate aerobic activity, vigorous aerobic activity, and

muscle-strengthening activity ($r(9) = .98$, $p < .001$; all). *Hypotheses 15-21* were not supported for Participants 423 and 678.

For Participant 931, surface acting had positive relationships that reached or approached significance with overall exercise level ($r(18) = .57$, $p = .01$), light aerobic activity ($r(18) = .68$, $p < .01$), moderate aerobic activity ($r(18) = .40$, $p = .10$), vigorous aerobic activity ($r(18) = .43$, $p = .08$). This provides partial support for *Hypothesis 15*, but does not provide support for *Hypothesis 17*. Deep acting had a negative relationship with work hours ($r(18) = -.47$, $p < .05$). There was a negative relationship between work hours and sleep quality ($r(18) = -.53$, $p < .05$). Positive affect had a positive relationship with vigorous aerobic activity ($r(18) = .48$, $p < .05$). Negative affect had a positive relationship with overall exercise level ($r(18) = .79$, $p < .001$), light aerobic activity ($r(18) = .50$, $p < .05$), moderate aerobic activity ($r(18) = .51$, $p < .05$), and vigorous aerobic activity ($r(18) = .76$, $p < .001$). This does not provide support for *Hypothesis 20*. The rest of the daily experience sampling propositions were not supported for Participant 931.

Overall, surface acting had a positive relationship with negative affect. Similarly, the predicted relationships between surface acting, negative affectivity, and criterion variables (diet, exercise, and sleep) were either negative or almost non-existent.

Table 2

Means, Standard Deviations, and Correlations for Experience Sampling measures across time for case studies

	Participant 423				Participant 678				Participant 931			
	M	SD	SA	NA	M	SD	SA	NA	M	SD	SA	NA
Response Duration (in secs)	290.90	202.93	.48	-.12	161.0	36.20	-.25	-.26	10495.8	40988.6	-.22	-.16
Hours Worked	8.80	.63	.31	.22	8.22	3.15	.09	.09	8.78	1.00	.12	.28
Surface Acting	1.83	.74	--	.47	1.04	.11	--	-.13	2.63	1.59	--	.39
Deep Acting	4.47	1.42	-.66**	-.39	1.00	.00	--	--	3.43	1.24	.28	-.23
Positive Affect	2.79	.31	.11	-.28	3.20	.31	-.24	.37	1.93	.61	.23	.23
Negative Affect	1.03	.05	.47	--	1.02	.07	-.13	--	1.12	.19	.39	--
Diet	1.00	.00	--	--	1.08	.25	-.13	-.13	1.43	.46	-.13	-.10
Exercise Overall	15.60	1.71	.21	-.24	26.00	4.50	.13	.13	13.72	4.07	.57*	.79****
Light Aerobic Activity	5.00	.00	--	--	5.00	.00	--	--	4.22	1.56	.68***	.50**
Moderate Aerobic Activity	3.10	1.37	-.20	-.39	4.67	1.00	.13	.13	2.67	1.53	.40	.51**
Vigorous Aerobic Activity	2.00	.00	--	--	4.67	1.00	.13	.13	2.22	.94	.43*	.76****
Muscle-strengthening Activity	2.50	1.08	.58*	.11	4.67	1.00	.13	.13	2.00	.00	--	--
Sleep Quality	2.00	.67	.15	.33	3.00	.87	.43	.00	2.67	1.03	.04	.10

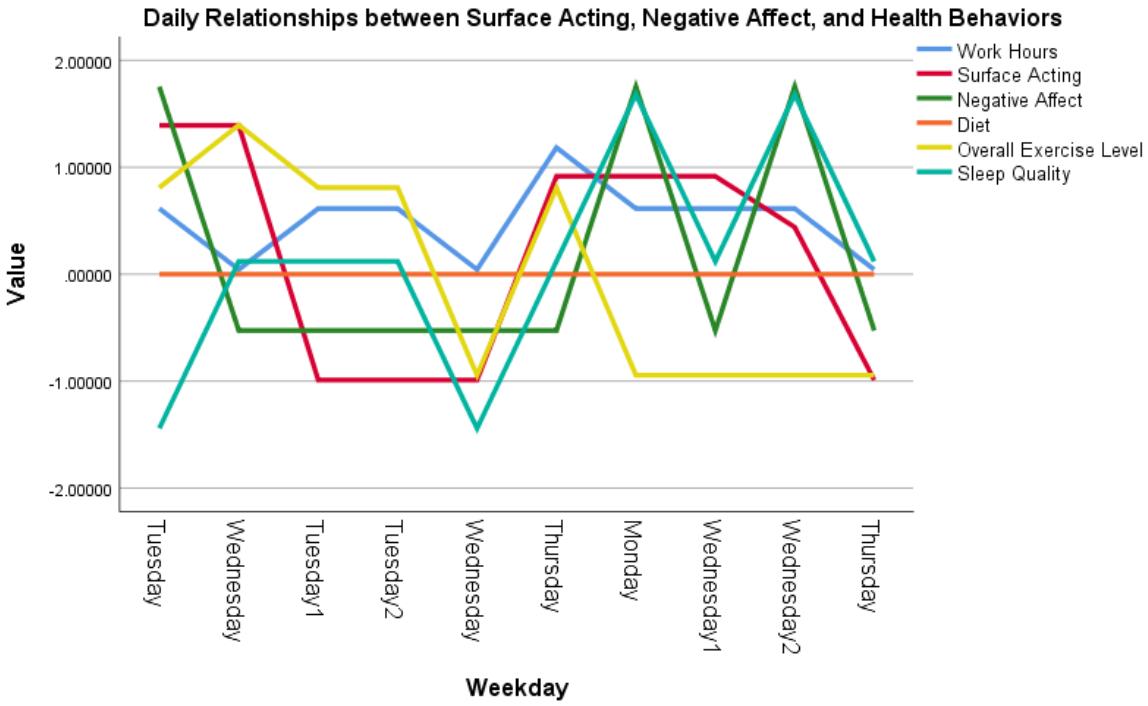
Note. N_{423} = 10, N_{678} = 9, N_{931} = 18, * p < .10, ** p < .05, *** p < .01, **** p < .001 two-tailed.

SA refers to surface acting. NA refers to negative affect.

Figures 1, 2, and 3 display each individual's patterns of emotional labor and the relationships with health behaviors. Although participants were subjected to experience sampling for 21 days, the sample size varies for each participant based on the number of days for which both independent measures and criterion measures were reported. Interpretation of the graphs must be based on matching independent measures from the current day with that day's health behaviors reported on the next day. For example, surface acting measured on a Tuesday had to be matched with exercise on Tuesday as reported on Wednesday before analyses could be conducted. In terms of the graphs (Figures 1-3) below, measures (reported in z-score units) were matched accordingly, so the rise and fall in patterns and relationships are represented properly. The patterns and relationships are very different for each case study. Lines that parallel each other and are *not* horizontal reflect the correlations presented in Table 2.

Figure 1

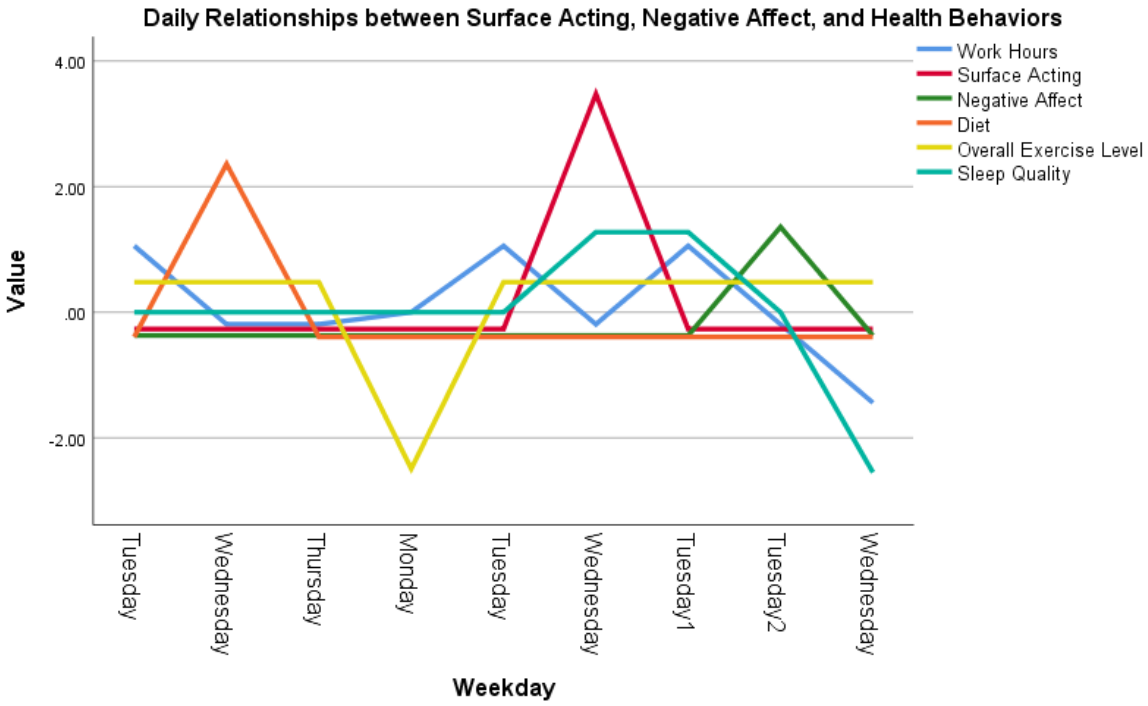
Daily Patterns and Relationships for Participant 423



Note. Lines are represented by z-scores and demonstrate the relationships between pairs of variables.

Figure 2

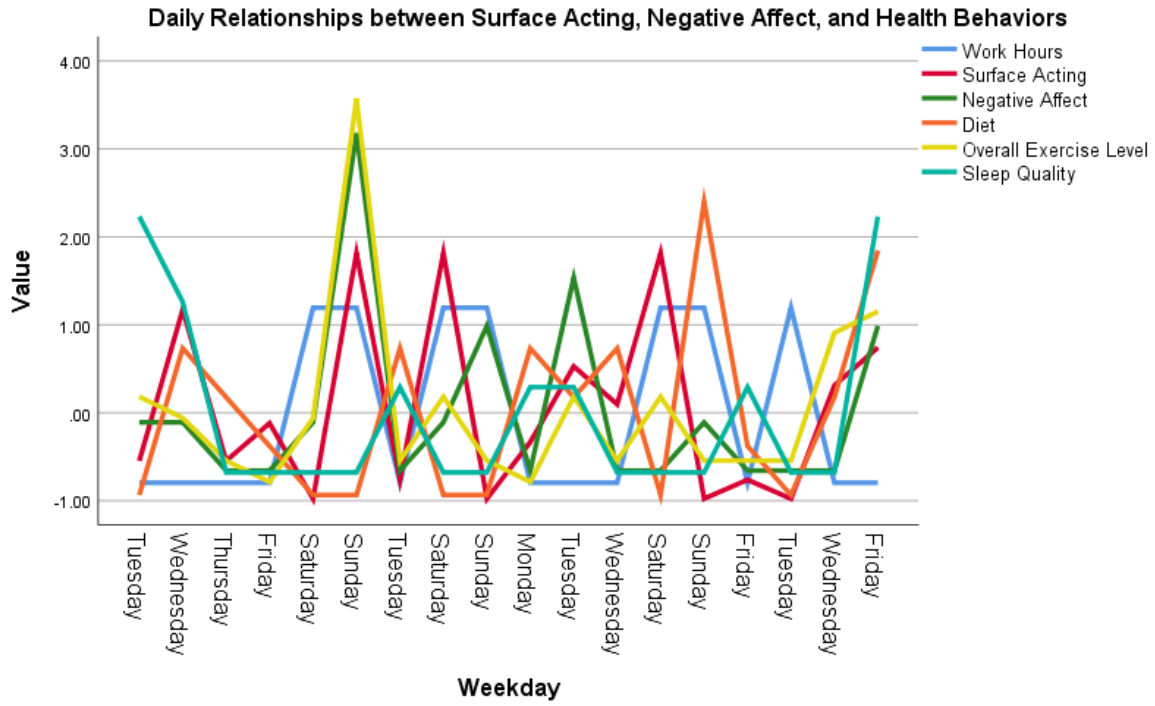
Daily Patterns and Relationships for Participant 678



Note. Lines are represented by z-scores and demonstrate the relationships between pairs of variables.

Figure 3

Daily Patterns and Relationships for Participant 931



Note. Lines are represented by z-scores and demonstrate the relationships between pairs of variables.

Exploratory Questions

Exploratory Question 1 predicted that the strength of the relationship between surface acting and negative affect would be related to health behaviors, in general. This question was to be analyzed through canonical correlations, but the sample size was too small. *Exploratory Question 2* predicted that diet, exercise, and sleep would be positively related to each other. This question refers to the in-general measures. Table 1 above displays correlations for *Exploratory Question 2*. Healthy diet had a positive relationship with general exercise level ($r(31) = .39$, $p <$

.05), vigorous aerobic activity ($r(31) = .42$, $p < 05$), and muscle-strengthening activity ($r(31) = .43$, $p < .05$). Unhealthy diet had a positive relationship with sleep latency ($r(31) = .42$, $p < .05$). Unhealthy dietary habits had a negative relationship with muscle-strengthening activity ($r(31) = -.41$, $p < .05$). Muscle-strengthening activity had a negative relationship with rising time ($r(31) = -.38$, $p < .05$) and sleep disturbances ($r(31) = 37$, $p < .05$).

Discussion

The present study adds to the body of literature on the consequences of emotional labor by examining a population that is typically neglected. In their study on emotional labor in elementary school teachers, Headrick and Park (2019) stated, "[F]uture studies should confirm whether the results are replicated and test more boundary conditions." The results of the present study respond to this call by assessing health consequences of emotional labor in a different population—debt collectors. Debt collectors, unlike most customer service providers, must engage in emotional labor by conveying neutral or negative emotions. Most previous literature has focused on the consequences of surface acting positive emotions, but the present study wanted to determine whether the same consequences are found in those who surface act neutral or negative emotions. Like the Headrick and Park (2019) study, the present study is based on the conservation of resources theory and finds that surface acting is related to negative affectivity and that both surface acting and negative affectivity have relationships with different dimensions of health behaviors like diet, exercise, and sleep.

First, this study's results add to the literature that defines emotional labor as a dynamic process to be studied "between" and "within" individuals (Scott & Barnes, 2011). "Between" individuals' measures asked about the past 3 weeks in general on a one-time survey. For

"within"-individual measures, the survey asked about daily experiences with emotional labor, affect, and health behaviors. Figures 1, 2, and 3 demonstrate that surface acting, negative affect, and health behaviors vary across time within the same person. These figures also demonstrate that emotional labor and its impact on health behaviors vary between individuals.

General Measures: Between Individuals

As found in previous studies, surface acting had a significant positive relationship with negative affectivity in the present study. Negative affectivity was measured by the following items in the PANAS by Watson, Clark, and Tellegen (1988): irritable, distressed, ashamed, upset, nervous, guilty, scared, hostile jittery, and afraid. Headrick and Park (2019) also found a positive relationship between surface acting and negative affectivity in elementary school teachers in their experience sampling study. Brotheridge and Lee (2003) found similar results in that participants who reported experiencing high levels of general malaise (negative affect) also reported higher levels of surface acting. This is in contrast with their finding that high levels of positive emotions were associated with lower levels of surface acting. The present study adds to this research by showing that even though participants were most likely having to surface act neutral or negative emotions, surface acting still had a positive relationship with negative affectivity. This increases the generalizability of the relationship between surface acting and negative affectivity.

Though it approached significance, the tendency to surface act was a predictor of unhealthy diet. Headrick and Park (2019) found that the direct effect of surface acting on unhealthy eating was nonsignificant and suggested that the relationship between surface acting and unhealthy eating was fully mediated by negative affectivity. Negative affectivity also had a positive relationship with unhealthy dietary habits in the present study. Participants who reported

experiencing more negative affectivity also engaged in more unhealthy dietary habits. Though the present study did not assess emotion regulation self-efficacy, this is similar to the finding that when emotion regulation self-efficacy was low, negative affectivity had a positive relationship with unhealthy eating (Headrick & Park, 2019). Though the relationship may be moderated by emotion regulation self-efficacy, it is still important to note that unhealthy dietary habits are related to the experience of negative emotions. To return to the COR theory, if experiencing negative emotions is depleting, it may be that employees do not have enough resources left to try to engage in healthier diet choices.

Surface acting had a positive relationship with rising time that approaches significance. This suggests that the more one engages in surface acting, the later in the morning one would wake up. Though this is not an indicator of how long one actually slept, it could mean that the more one surface acts, the more depleted they are, and the later a person rises in the morning due to depletion from surface acting the day before. Another finding from the present study is that the tendency to surface act was a predictor of sleep latency that was approaching significance. As mentioned before, sleep latency is defined as the amount of time it took for participants to fall asleep. This finding suggests that those who tend to surface act are more likely to take longer to fall asleep at night. These findings are related to research that suggests sleep as a buffer for surface acting, which will be discussed more later in this section. Diestel, Rivkin, and Schmidt (2014) found day-specific sleep quality to be a protective factor that buffers the effects of emotional dissonance on psychological well-being. In their study, emotional dissonance was measured as frequency of experienced discrepancies between genuinely felt emotions and those required by participants' job role. This is similar to the idea of surface acting and how one's inner emotions differ from those they must display for the organization. Specifically, they found

that poor sleep quality in combination with high emotional dissonance resulted in disproportionally poor well-being. To further demonstrate the link between sleep quality and emotional labor, Y Gu, You, and Wang (2020) explained that engaging in surface acting is typically costly to the self through exhaustion, anxiety, and psychosomatic complaints. Their study explored the link between surface acting and employee insomnia (an indicator of sleep quality). Specifically, they found that suppressing negative emotions and faking positive emotions were both significantly and positively correlated with insomnia, and that suppressing negative emotions predicted insomnia over time. Taken together, these two studies may suggest that sleep could be used as a buffer for surface acting, but the depletion, anxiety, and other consequences of surface acting may make it hard to get the sleep one needs to use as a buffer. To relate that to the present findings, it may be that the more one engages in surface acting, the more sleep is needed, but the consequences experienced with surface acting make it hard to get that sleep. Though no causal relationship can be concluded, this may be why the time it took to fall asleep was greater and rising time was later in the morning.

Surface acting had a negative relationship with the second daytime dysfunction question about keeping enough enthusiasm to get things done. This was a question specifically used by Diestel et al. (2014) to assess sleep quality. In their study, there was a negative relationship between emotional dissonance and sleep quality. This question also seems related to the idea of emotional exhaustion, and Kong and Jeon (2018) found that surface acting was positively correlated with emotional exhaustion. If surface acting influences emotional exhaustion and sleep quality, and a person wakes up the next day still emotionally exhausted from little sleep to recover, it may keep them from having the enthusiasm it takes to get certain things done.

Future research should better explore if negative affectivity has a positive relationship with sleep medication use and a negative relationship with daytime dysfunction. This would indicate that the more negative emotions one experienced, the higher the need was for sleep medication use, the more issues one had with daytime activities, and the less enthusiasm one had to get things done. In the study by Diestel et al. (2014), negative affect had a negative relationship with sleep quality as partially assessed by the second daytime dysfunction question of the PSQI scale. This result suggests that experience of these negative emotions is depleting, and the more negative emotions one experiences, the harder it is for one to keep enough enthusiasm to get things done. Latif et al. (2019) also found that negative affect and expressive suppression were positively correlated with overall PSQI score suggesting that as negative affect and expressive suppression increased, sleep quality decreased. These findings support the idea that negative affectivity has a potentially harmful relationship with sleep quality.

Experience-Sampling

Correlations were performed for the daily measures, and there were very few significant correlations. This could be partially due to low participation as only three people completed the full 21-day part of the study. For the most part, as predicted, surface acting had a positive relationship with negative affectivity within individuals. This finding is supported by previous studies (Barnes & Scott, 2011; Kong & Jeon, 2018). Other relationships were harder to discern as data points were scarce for certain variables even among the three case study participants. Within individual participants, there were sometimes no datapoints for certain measures. The relationships specified in the results are the only ones that were approaching significance. Though the rest of the correlations did not reach significance, most relationships between surface acting, negative affectivity, and the health behaviors were in the negative direction as predicted.

This demonstrates that within individuals over time, surface acting and negative affect can potentially have detrimental relationships with health behaviors like diet, exercise, and sleep.

Figures 1-3 attempt to capture the patterns and relationships between surface acting, negative affect, and health behaviors for each participant. These changes are mapped across days with both independent measures and criterion measures. For example, in Figure 3, as the amount of surface acting increases between Saturday and Sunday, overall exercise level increases. The lines almost map onto each other indicating the strong positive relationship between surface acting and exercise for Participant 931. Though these graphs may not be particularly helpful in terms of a general picture of these patterns and relationships, they still allow for a visual snapshot of each case study participant.

Exploratory Questions

We were unable to test for *Exploratory Question 1*. The initial plan was to have enough data to form a canonical variate of surface acting and negative affectivity and a canonical variate of the three health behaviors and test the correlation between these groupings. With such poor participation, we were unable to conduct these tests.

However, we were able to test *Exploratory Question 2*. Healthy diet was positively related to general exercise level. It could be that those who are health conscious are more likely to engage in both healthy diet and have higher exercise levels, specifically, vigorous aerobic activity or muscle-strengthening activity. Those who had an unhealthy diet had longer sleep latency. This means that those who practiced an unhealthy diet were likely to take longer to fall asleep. These two could be related, and unhealthy diet could be a confounding variable between surface acting/negative affectivity and sleep dimensions. Likewise, unhealthy dietary habits had a negative relationship with muscle-strengthening activity. Those who may be less health

conscious who perform unhealthy dietary habits may just be less likely to also engage in muscle-strengthening activity for exercise regularly. Lastly, muscle-strengthening activity had a negative relationship with rising time and sleep disturbances. These relationships raise questions like does something about that particular type of exercise lower sleep quality? These kinds of connections and questions relate to the idea behind *Exploratory Question 1*. If there is a strong relationship between surface acting and negative affect, it could be predicted that a person is less likely to engage in health behaviors. Surface acting and negative affect have been shown to be depleting, and if the relationship between these two forms of depletion is strong, it would be fair to predict that health behaviors would take a backseat. A person may be more likely to engage in anything else that is less depleting instead.

To give a bit of reference for comparison, one can compare the means for surface acting, deep acting, positive affect, and negative affect from other studies that use the same measurements as the present study. In the present study, the means and standard deviations are as follows: surface acting (SA) (*M* = 3.73, *SD* = 1.51), deep acting (DA) (*M* = 3.48, *SD* = 1.37), positive affect (PA) (*M* = 3.15, *SD* = .88), and negative affect (NA) (*M* = 1.53, *SD* = .44). Those in Brotheridge and Lee (2003) are as follows: SA (*M* = 2.89, *SD* = .83), DA (*M* = 2.81, *SD* = .88), PA (*M* = 3.48, *SD* = .61), and NA (*M* = 1.81, *SD* = .61). Means and standard deviations in Scott and Barnes (2011) are start of work PA (*M* = 2.95, *SD* = .88), and start of work NA (*M* = 1.17, *SD* = .24),), state positive affect (*M* = 2.80, *SD* = .91), state negative affect (*M* = 1.24, *SD* = .34). Although they incorporated Grandey (2003) into their SA and DA measures, Kong and Jeon (2018) reported the following: Daily SA (*M* = 2.96, *SD* = .97), Daily DA (*M* = 3.33, *SD* = .69), PA state before work (*M* = 3.31, *SD* = .70), NA state before work (*M* = 1.70, *SD* = .65), and daily negative affect state (*M* = 1.35, *SD* = .43). Overall, when comparing these means and

standard deviations, the present averages seemed to fall slightly higher than the levels of other previous studies, but the sample size was too small to justify a meaningful test.

Study Limitations

This study was conducted during the COVID-19 pandemic, and it may have accounted for a variety of limitations, including low participation. With so much changing about work during the pandemic, employees may have been less likely to want to participate in a study that lasted 21 days, much less any kind of survey. Likewise, the stresses of the pandemic (losing loved ones, businesses shutting down, being quarantined with loved ones or entirely alone, working from home, etc.) may have also put participants through a lot of emotional changes. This may have heightened or lowered one's engagement in emotional labor. In turn, the negative emotions experienced may have been from surface acting or possibly just from the stresses of the pandemic. In addition, the changes in daily life influenced by the pandemic may have affected health behaviors like diet, exercise, and sleep. For quite some time, people were unable to eat at public places, and this could have taken a toll on their dietary habits for better or worse. Similarly, exercise may have been more or less accessible for some, due to working remotely or being quarantined, during the pandemic. Access to gyms was removed for some time, and if some depended on going, it could have hindered their exercise routines. Lastly, sleep could have been greatly affected by the aforementioned stresses of the pandemic.

As stated before, within individual participants, there were no datapoints for certain measures. Because these measures were taken outside of work time or at the end of each workday, it can be speculated that these surveys were conducted while participants were also completing other nonwork/evening tasks. This may mean participants were not paying as much

attention to questions as they would have if in a lab setting. Consequently, the low sample size may limit generalizability to other populations that surface act neutral or negative emotions.

As was just stated, the study was conducted through self-report surveys. Specifically, signal-contingent experience sampling was used. “Aggregating ESM [experience-sampling method] data is advantageous over the use of a single summary statement (‘How fatigued are you on a typical working day?’) that may suffer from retrospection bias” (Sonnentag et al., 2012). Although ESMs help to combat retrospection bias, it is still self-report. This means that there could have been some level of dishonesty from participants. Some questions could have presented social desirability bias, demand characteristics, or other properties that would influence participant self-reporting. The ability to test participants in a lab with more hands-on measures may have captured a better picture of the relationships between variables. Also, being able to control temporal precedence would have yielded stronger results.

Practical Implications

This study shows that emotional labor varies over time and between individuals. The results should make employees more aware of the kind of emotional labor they use as well as what the consequences are. Though it was not proposed in the hypotheses, deep acting had a significant positive relationship with healthy diet. It also had a positive relationship with positive affect that approached significance. It also had small nonsignificant relationships with the other health behaviors possibly indicating that those are not highly influenced by deep acting. As Brotheridge and Lee (2003) indicated, deep acting seems to be the less harmful form of emotion regulation used in emotional labor. It is important for employees who are expected to engage in emotional labor to understand the relationship between surface acting and health behaviors and that trying to deep act instead may be healthier in the long run. In addition, employees can be

more aware and make better decisions about their health behaviors during a time when they know they have had to do a great deal of surface acting.

An interesting point to consider within the present study is that habits can be learned. Habits have been defined as actions that are automatically triggered in response to contextual cues that have been associated with their performance (Gardner et al., 2012). In other words, repeating the same action in the same context over time forms a habit. It is possible that certain emotional labor techniques become habitual over time for more experienced collectors. If this is true, these habits themselves could become coping mechanisms, or senior collectors may have developed their own coping mechanisms to deal with the consequences of surface acting. It would be interesting to take it further and ask what are some coping mechanisms that more experienced collectors practice during and after a day of difficult debtor interactions. This could give insight as to why they may not experience as many negative consequences of surface acting—they may already have their own successful recovery processes in place. A study by Welle and Graf (2011) illustrated how coping mechanisms form within health behaviors as a response to stressors. In a population of freshman college students dealing with transition stressors, it was found that protective factors were related to high stress tolerance. Their findings support a link between stress response and physical health (like having a balanced diet, maintaining regular exercise, and getting adequate sleep). Could taking care of one's physical health become a habit in response to depletion from emotional labor? To refer back to the present findings, there was a significant positive correlation between tenure and positive affectivity ($r(31) = .42$, $p < .05$), and there was a significant negative correlation between tenure and negative affectivity ($r(31) = -.54$, $p < .01$). This may mean that the longer a person has worked in debt collection, the less negative consequences are experienced because of learned habits and

coping mechanisms. Some collectors may have even learned how to use certain health behaviors as coping mechanisms. Some of the case study data may reflect this process as there were many significant positive correlations between surface acting, negative affect, and all exercise measures for Participant 931. This may mean that on days Participant 931 performs more surface acting and experiences more negative affect, they cope by using exercise. This could also apply to other professions that have engaged in emotional labor for many years.

Future Research Directions

Future research could examine other employee populations that surface act neutral or negative emotions and make sure to assess the kind of emotional labor being performed. In the present study, we did not assess what kind of emotional labor (positive, neutral, or negative) was performed. Instead, we used the organizational norms for debt collectors found in previous literature. Likewise, the results of the present study are not very generalizable as they are based on a low sample size. A different population may offer a greater sample size depending on the circumstances of the occupation.

Another future direction could involve testing consequences of emotional labor through more than the dichotomy of surface acting and deep acting and how it has been modelled in previous literature. The current literature suggests that the existing model of emotional labor may need reworking. Initially, deep acting was identified as the antecedent-focused form of emotional labor and surface acting as the response-focused form (Gross, 1998). This temporal order may only be applicable to lab settings where these previous models were tested. Experience-sampling methods have highlighted the dynamic and transient nature of emotion regulation, but have not been able to establish this temporal order proposed by Gross (1998) (Scott & Barnes, 2011; Scott et al., 2012; Uy et al., 2016 online; cited by Grandey & Melloy, 2017). This could be due to how

moods and pre-existing emotions come into play. Certain moods experienced may influence use of either surface or deep acting, or it may be that surface and deep acting affect certain moods. This should be taken into account when designing future studies and analyzing results. Some other emotion regulation options specifically not included in the current model are situation selection (avoiding a difficult customer/interaction) or attentional deployment (refocusing after supervisor abuse) (Grandey & Melloy, 2017). This could further inform the kind of emotional labor an employee chooses.

As found in the present study, health behaviors are related to emotional labor. It could also be conceived that one's health behavior choices impact overall health, and overall health could be a predictor of life satisfaction. A future research question could examine whether emotional labor, through its potentially negative influence on health behaviors, indirectly affects life satisfaction overall. The depletion of resources through surface acting and the experience of negative emotions (negative affect) alone may lower life satisfaction over time. However, this could be exacerbated by the fact that surface acting relates to negative affect, and together these negatively influence the health behaviors that could have been employed to improve life satisfaction outside of work. Of course, there are more individual factors to be considered in this equation, like one's motivation.

Motivation is typically lowered when one is emotionally depleted, and this loss could feed into having less motivation to maintain health behaviors. This kind of loss goes back to the "loss spiral" proposed by Hobfoll (1989) in his COR theory. This low motivation can then bleed into other areas of organizational/employee outcomes. Work engagement, productivity, safety behaviors, and more could be affected by loss of motivation from emotional labor. Future studies could address how this loss spiral might function after one has to perform emotional labor. It

could start at the employee level with emotional labor, examine consequences to health behaviors over time, and measure relationships between these losses and organization outcomes in that employee's work. The model on motivation may also go in the opposite direction. In a study by Tore (2020), results suggested that intrinsic motivation has a negative impact on surface acting and has a positive impact on natural behaviors (genuine emotions). Results also suggest that intrinsic motivation has a positive impact on genuine emotions, but affective commitment does not mediate this impact. Affective commitment was defined in the study as the emotional affinity of the employee and his identification with an organization.

In terms of commitment, future studies could examine organizational commitment in employees that must surface act. Is there less organizational commitment in those who have to perform surface acting as their health may begin to decline? Employees may become resentful toward their job as they feel their health declining and feel less organizational commitment. Recent literature seems to suggest that surface acting has a small, nonsignificant relationship with organizational commitment, and deep acting has a significant positive relationship with organizational commitment (Deliveli & Kiral, 2020). Could this mean that those who engage in deep acting more frequently feel more committed to their organization? Further research could address these relationships and how they hold for different populations of employees (i.e., surface acting positive or negative emotions).

Another organizational/employee outcome that could be related to emotional labor includes unethical behaviors. Those who are already depleted through surface acting (emotional inauthenticity) may not have enough self-restraint left to avoid unethical behaviors (Hong et al., 2017). This may be especially important to a population that is already having to surface act neutral or negative emotions. Where is the line drawn between surface acting negative emotions

like anger and acting on that through unethical behaviors? It may be harder for populations who surface act negative emotions to have the self-control to know where to draw the line after being depleted through the very surface acting they are doing.

Future research could also further address individual differences and how those relate to emotional labor by assessing personality characteristics. Could certain personality characteristics provide a buffer against some of the negative consequences of emotional labor, specifically surface acting? Surface acting has been linked to better performance when feeling negatively and for extraverts (Beal et al., 2006; Chi et al., 2011). In a study by Judge et al. (2009), it was found that emotional labor is generally more difficult and less rewarding for introverts than for extraverts. This suggests that surface acting was more strongly related to increased emotional exhaustion and negative affect for introverts than extraverts. Further, in Eysenck's (1981) Theory of Extraversion, extraverts are more easily aroused than introverts. In turn, deep acting was more strongly related to negative affect for extraverts than introverts as it was more emotionally arousing. Additionally, the population examined in the present study likely used neutral or negative emotions in their emotional labor. What does this mean for those who are high in need for power? Would being high in need for power moderate the relationship between surface acting and health behaviors? Does being high in need for power actually buffer against the consequences of performing negative emotions? Maybe those high in need for power are not actually having to surface act as much as it may align more with their true inner feelings. In turn, they may experience less adverse consequences as they are not actually surface acting as much. Those high in need for power may incidentally self-select into jobs where this quality about them is actually useful (possibly in a job like debt collection). This again could be a slippery slope for unethical behaviors.

Lastly, future research should examine what other buffers exist against consequences of surface acting. One personal buffer may include level of trait self-control (Grandey et al., 2019). Others might include job-related buffers like healthy organizational climate, work autonomy (Morris & Feldman, 1996; Wharton, 1993), task importance, job security, and good leadership. Some of these could be combined to produce a buffer like trait self-control and work autonomy. If one must frequently surface act in a low-autonomy job, they may feel more controlled, and it may not be pleasant for those who are low in trait self-control (Grandey et al., 2019). Although Grandey et al. (2019) found that the moderating effects of impulsivity (trait self-control) and autonomy are not dependent on each other, it is still worth further investigating these relationships and other combinations to find possible buffers. Non-work buffers might include recovery activities like psychological detachment, relaxation, mastery, and control (Sonnentag & Fritz, 2007; cited by Sonnentag et al., 2017). Those who must frequently perform emotional labor should be informed of which recovery activities work best as buffers against the consequences. Y Gu et al. (2020) began addressing this in their study that found that poor psychological detachment could be an underlying explanatory mechanism (mediator) in understanding why surface acting is related to insomnia symptoms over time. Future work could look for practical ways to increase these helpful recovery activities in those who frequently perform emotional labor.

Conclusion

Emotional labor affects so many aspects of an employee's life, and the present study demonstrates that surface acting can be detrimental to one's health overall. Those who instruct employees to perform emotional labor may want to warn them of the dangers of certain types of

emotional labor (like surface acting versus deep acting). Future research could inform what steps employees need to take in order to decrease the negative consequences of emotional labor, specifically surface acting.

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Appendix A

Table 1

Supplemental t-test calculations to Brotheridge and Lee (2003)

Variable	Surface Acting	Deep Acting	*t*-value
Deep Acting	.27**	--	--
Emotional Suppression	.39**	.25**	-1.93
Emotional Support	.21**	.36**	2.04
Self-monitoring	.21**	.05	-2.08
Exhaustion	.20**	.02	-2.33
Depersonalization	.38**	.00	-5.22
Negative Affectivity	.17*	.04	-1.67
Positive Affectivity	-.22**	.08	3.95

df = 235; critical *t(235) = +/- 1.96; p* < .05 = *, two-tailed; *p* < .01 = **, two-tailed

Note. Zero-order correlations between variables with surface acting and deep acting were extracted from Brotheridge and Lee (2003). The current author calculated the *t*-values that compared these correlations to determine whether surface acting had a stronger relationship with the variables on the left than deep acting.

Appendix B1

Informed Consent – Initial Survey & 21-Day Study

We invite you to participate in a research study on daily emotions and health behaviors. The study is being conducted by Cortney Busick and Dr. Nora Reilly of the Psychology Department of Radford University: cbusick1@radford.edu and nreilly@radford.edu. Although Williams & Fudge forwarded our request to participate to you, the agency has no further involvement in the conduct of the research and will never see individual responses.

The purpose of this study is to examine how your feelings about the events that happen at work affect your diet, exercise, and sleep. Thus, you will be asked about how you feel at the end of a workday and your health behaviors from the day before. You are free to contact the investigator at the above email address to discuss the survey(s).

We request your participation in a three-week study that involves an initial survey, brief daily surveys, and a follow-up survey. The initial survey will ask about demographics, your affect, tendency to express and/or feel emotions at work, and specific health behaviors (exercise, sleep, diet). For each of the 21 days following these initial assessments, you will be contacted through text message with a link to complete a five-minute daily survey assessing your expression and experience of emotions at work and the degree to which you engaged in health behaviors (diet, exercise, and sleep). A post-assessment consisting of the same questions as the initial assessment will be conducted at the end of the 21 days. The first and last days' assessments will last about

15 to 20 minutes. On the final day, you will receive information about entering your name in a lottery to win one of ten $100 awards.

Your participation in this study is voluntary. You may decline to answer any question, and you have the right to withdraw from participation at any time. If you do choose to withdraw, you will forfeit your chance to receive potential compensation. You must participate in the full study to have a chance at winning compensation. If you wish to withdraw from the study or have any questions, contact the investigators listed above. We will never have access to your email address, but we will need your cellphone number to send you links to the daily surveys. This study has no more risk than you may find in daily life. The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual could gain access to your responses because you are responding online. This risk is similar to your everyday use of the internet. Your cellphone numbers will be solicited and kept during the data collection phase for tracking purposes only. Data will not be linked to them, and they will be deleted upon completion of data collection.

You may also request a hard copy of the survey from the contact information above.

If you have questions about your rights as a study participant or are dissatisfied at any time with any aspect of this study, you may contact Dr. Ben Caldwell, Institutional Officer for Research and Dean, Radford University, (540) 831-5723, bcaldwell13@radford.edu.

Click on the arrow following your choice to submit your answer.

If you agree to participate, please click YES. If you do not wish to participate, please click NO.

Thank you!

Appendix B2

Informed Consent – Initial Survey (General Measure only)

We invite you to participate in a research study on emotions and health behaviors. The study is being conducted by Cortney Busick and Dr. Nora Reilly of the Psychology Department of Radford University: cbusick1@radford.edu and nreilly@radford.edu. Although a supervisor or co-worker forwarded our request to participate, they have no further involvement in the conduct of the research and will never see individual responses.

We request your participation in a survey study. The purpose of this study is to examine how your feelings about the events that happen at work affect your diet, exercise, and sleep. Thus, you will be asked about your experiences and emotions at work and your health behaviors from the past three weeks. You are free to contact the investigator at the above email address to discuss the survey. The survey will ask about demographics, your affect, tendency to express and/or feel emotions at work, and specific health behaviors (exercise, sleep, diet). This survey should last about 15 to 20 minutes.

Your participation in this survey study is voluntary. You may decline to answer any question, and you have the right to withdraw from participation at any time. If you wish to withdraw from the study or have any questions, contact the investigators listed above. This study has no more risk than you may find in daily life. The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual

could gain access to your responses because you are responding online. This risk is similar to your everyday use of the internet.

If you would like your name included in a drawing to win $25, enter your cellphone number or email address at the end of the survey. We will contact you and let you know if you are the winner.

If you have questions about your rights as a study participant or are dissatisfied at any time with any aspect of this study, you may contact Dr. Ben Caldwell, Institutional Officer for Research and Dean, Radford University, (540) 831-5723, bcaldwell13@radford.edu.
Click on the arrow following your choice to submit your answer.

If you agree to participate, please click YES. If you do not wish to participate, please click NO.
Thank you!

Appendix C1

General Initial Demographic Questions:

1. During the past three weeks, were you working remotely or on-site?

Response options:

Completely remote, Mostly remote, Evenly split, Mostly on-site, Completely on-site

2. For how long have you worked in collections?

Response options: less than a year, 1-5 years, 5-10 years, 10-15 years, 15-20 years, 20+ years

Appendix C2

Daily demographic:

1. Please enter your cellphone number. This is how your answers will be kept together.

2. Did you work today?

Response options: Yes, No

3. If so, how many hours did you work? Round to the nearest hour.

Response options: 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, 6 hours, 7 hours, 8 hours, 9 hours, 10+ hours.

Appendix D1

Initial and Follow-Up Measure of Surface and Deep Acting: (Brotheridge & Lee, 2003)

Duration – Please indicate the number of minutes.

1. A typical interaction I have with a debtor takes about _____ minutes.

Frequency (rate on a scale of 1 = not at all, 2 = seldomly, 3 = a few times a day, 4 = sometimes, 5 = regularly, 6 = more often than not, and 7 = most of the workday). Please use these response options to answer the 15 following questions.

2. How often do you display specific emotions required by your job?
3. How often do you adopt certain emotions required as part of your job?
4. How often do you express particular emotions needed for your job?
5. How often do you express particular emotions needed for your job?

Intensity

6. Do you express intense emotions?
7. Do you show some strong emotions?

Variety

8. Do you display many different kinds of emotions?
9. Do you express many different emotions?
10. Do you display many different emotions when interacting with others?

Surface Acting

11. Do you resist expressing your true feelings?
12. Do you pretend to have emotions that you really don’t have?

13. Do you hide your true feelings about a situation?

Deep Acting

14. Do you make an effort to actually feel the emotions that you need to display to others?
15. Do you try to actually experience the emotions that you must show?
16. Do you really try to feel the emotions that you have to show as part of your job?

Appendix D2

Daily Surface Acting and Deep Acting – Emotional Expression and Experience

Frequency (rate on a scale of 1 = not at all, 2 = seldomly, 3 = a few times a day, 4 = sometimes, 5 = regularly, 6 = more often than not, and 7 = most of the workday). Please use these response options to answer the six following questions **about today**.

Surface Acting

1. Did you resist expressing your true feelings today?
2. Did you pretend to have emotions that you really don't have today?
3. Did you hide your true feelings about a situation today?

Deep Acting

4. Did you make an effort to actually feel the emotions that you need to display to others today?
5. Did you try to actually experience the emotions that you must show today?
6. Did you really try to feel the emotions that you have to show as part of your job today?

Appendix E1

Initial and Follow-Up Measure of Trait Affectivity: The Positive Affectivity and Negative Affectivity Scale (Watson, Clark, & Tellegen 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then select the appropriate response from the options below. Indicate to what extent you have felt this way **over the past three weeks**.

1 = very slightly or not at all

2 = a little

3 = moderately

4 = quite a bit

5 = extremely

_____ interested	_____ irritable
_____ distressed	_____ alert
_____ excited	_____ ashamed
_____ upset	_____ inspired
_____ strong	_____ nervous
_____ guilty	_____ determined
_____ scared	_____ attentive
_____ hostile	_____ jittery
_____ enthusiastic	_____ active
_____ proud	_____ afraid

Appendix E2

Daily Positive and Negative State Affect

This scale consists of a number of words that describe different feelings and emotions. Read each item and then select the appropriate response from the options below. Indicate to what extent you have felt this way at work **today**.

1 = very slightly or not at all

2 = a little

3 = moderately

4 = quite a bit

5 = extremely

_____ interested	_____ irritable
_____ distressed	_____ alert
_____ excited	_____ ashamed
_____ upset	_____ inspired
_____ strong	_____ nervous
_____ guilty	_____ determined
_____ scared	_____ attentive
_____ hostile	_____ jittery
_____ enthusiastic	_____ active
_____ proud	_____ afraid

Appendix F1

Initial and Follow-Up Diet Assessment: (Liu et al., 2017)

Below are some food items that you may eat throughout the day and after work. Please use the scale provided to indicate whether you typically have had the following foods throughout the workday and afterwork in the **past three weeks**:

1 = not at all 2 = a couple times a week 3 = several times a week 4 = most of the week 5 = daily

Healthy food items

1. Fruits
2. Green vegetables
3. Other types of vegetables such as carrots and cauliflower
4. Whole grain rice
5. Nuts or seeds
6. Low-fat dairy products
7. Tofu or beans
8. Fish (other than fried)

Unhealthy food items

1. Salty snacks such as potato chips
2. Processed meat products (e.g., ham and sausage)
3. American-style hamburger
4. Fried food (e.g., fried chicken, fried fish, and Chinese donuts)
5. Sweet snacks (e.g., chocolate, candy, ice-cream, and pastry)
6. Sodas or sugary drinks (e.g., Coke, Pepsi, and iced tea)

Please think about what you have typically eaten after work in the past three weeks. Indicate your level of agreement or disagreement with each statement by circling one of the five alternatives next to each statement:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

1. Typically, I ate too many junk foods after work.
2. Typically, I had too many unhealthy snacks after work.
3. Typically, I ate and drank excessively after work.
4. Typically, I had too many late-night snacks before going to bed.

Appendix F2

Daily Unhealthy Eating Assessment

Please think about what you ate yesterday throughout the day and after work. Indicate your level of agreement or disagreement with each statement by selecting one of the five alternatives next to each statement:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

1. Yesterday I ate too many junk foods after work.
2. Yesterday I had too many unhealthy snacks after work.
3. Yesterday I ate and drank excessively after work.
4. Yesterday I had too many late-night snacks before going to bed.

Appendix G1

Initial and Follow-up Measure of Concise Physical Activity Questionnaire: (Sliter & Sliter, 2014)

Directions – Please think about the past three weeks. During that time, approximately how many days did you engage in each of the following types of physical activity for at least 20 consecutive minutes? Use the following response options to indicate your answers.

Response Scale (coding in parentheses)

Physically unable/not medically allowed to do this (0)

Chose not to do this (0)

1 = 1-3 day(s)

2 = 4-6 days

3 = 7-9 days

4 = 10-12 days

5 = 13-15 days

6 = 16-18 days

7 = 19-21 days

Example 1. If you walk to work and it takes you 10 minutes each way, that would NOT count because the minutes were not consecutive.

Example 2. If you walk to work and it takes you 20 minutes each way, then that would count as performing light physical activity that day. You walked for at least 20 consecutive minutes that day.

Items

1. Light aerobic activity (Ex: Shopping, housework, leisurely walking)
2. Moderate aerobic activity (Ex: Brisk walking, bicycling, tennis)
3. Vigorous aerobic activity (Ex: Jogging/running, swimming laps, jumping rope)
4. Muscle-strengthening activity (Ex: Lifting weights, pilates, yoga)

Appendix G2

Daily exercise assessment:

Using the following response options, answer this question about the following different physical activities **from yesterday**:

1 = much less than usual

2 = less than usual

3 = the same as usual

4 = more than usual

5 = much more than usual

"**Yesterday**, to what extent did you engage in each of the following activities?"

1. Light aerobic activity (Ex: Shopping, housework, leisurely walking)
2. Moderate aerobic activity (Ex: Brisk walking, bicycling, tennis)
3. Vigorous aerobic activity (Ex: Jogging/running, swimming laps, jumping rope)
4. Muscle-strengthening activity (Ex: Lifting weights, pilates, yoga)

Appendix H1

Initial and Follow-Up Measure of Sleep Adapted from the Pittsburgh Sleep Quality Index (PSQI) (Buysse, Reynolds, Monk, Berman, & Kupfer, 1988)

Instructions: The following questions relate to your usual sleep habits during the past three weeks. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

When did you typically go to bed the past three weeks?

BED TIME _____

How long (in minutes) did it take you to fall asleep typically in the past three weeks?

NUMBER OF MINUTES _____

When did you typically get up each morning in the past three weeks?

GETTING UP TIME _____

How many hours of sleep did you typically get each night the past three weeks? (This may be different from the number of hours you spent in bed.)

HOURS OF SLEEP_____

For each of the remaining questions, check the one best response. Please answer all questions.

In the past three weeks, did you have trouble sleeping because you…

…could not get to sleep within 30 minutes	___yes	___no
…woke up in the middle of the night or early morning	___yes	___no
…had to get up to use the bathroom	___yes	___no
…could not breathe comfortably	___yes	___no
…coughed or snored loudly	___yes	___no
…felt too cold	___yes	___no

…felt too hot ___yes ___no

…had bad dreams ___yes ___no

…had pain ___yes ___no

…other reason(s), please describe:

_____

_____

How would you rate your sleep quality overall for the past three weeks?

1 = Very Good 2 = Fairly Good 3 = Fairly Poor 4 = Very Poor

Did you have to take medicine (prescribed or "over the counter") to help you sleep?

___yes ___no

Did you have trouble staying away today while driving, eating meals, or engaging in social activity?

___yes ___no

Did you have any problem with keeping enough enthusiasm to get things done?

___yes ___no

Appendix H2

Daily Sleep Measure:

Compared to your “usual,” how would you rate your sleep quality for last night?

1 = Very Good

2 = Fairly Good

3 = Same as usual

4 = Fairly Poor

5 = Very Poor