To date, the majority of research on emotional labor has focused on outcomes that occur in the workplace. However, research has yet to consider the possibility that the daily effects of emotional labor spill over to life outside of work, even though a large body of literature examining the spillover from work life to home life indicates that work experiences influence employees after they leave the workplace. Accordingly, we examined the influence of day-to-day surface acting on 3 types of theoretically derived stress outcomes experienced at home: emotional exhaustion, work-to-family conflict, and insomnia. In an experience sampling field study of 78 bus drivers, we found that daily surface acting was connected to increases in each of the outcomes noted above. Moreover, surface acting had an indirect effect on emotional exhaustion and insomnia via state anxiety.

Employee affective states vary over time (Weiss & Cropanzano, 1996). However, many service-oriented jobs require employees to follow integrative display rules mandating the display of positive affect and the suppression of negative affect (Brotheridge & Grandey, 2002; Groth, Hennig-Thurau, & Walsh, 2009; Van Maanen & Kunda, 1989), in a process referred to as emotional labor (Hochschild, 1979, 1983). The literature on emotional labor has distinguished between two primary ways in which employees may conform to display rules: deep acting and surface acting. Deep acting involves attempting to change actual feelings to match required displays. In contrast, surface acting involves attempting to change affective displays without altering underlying feelings (Grandey, 2000;
see also Gross, 1998b). Although research indicates that deep acting may have both advantages and disadvantages, surface acting has consistently been shown to be detrimental to employees, inducing psychological strain (Hülsheger & Schewe, 2011).

The majority of studies on emotional labor have been cross-sectional, focusing on differences in employees’ typical levels of surface acting and deep acting. However, recent longitudinal investigations have uncovered the dynamic effects of emotional labor, revealing that employees differ in their day-to-day use of surface acting and deep acting, with these daily fluctuations influencing important work outcomes such as day-to-day job satisfaction and work withdrawal (Judge, Woolf, & Hurst, 2009; Scott & Barnes, 2011). These recent investigations have advanced research on emotional labor by illustrating that an employee’s day-to-day engagement in surface acting is associated with important consequences. However, these specific examinations of the dynamic nature of emotional labor, as well as theories of emotional labor in general (e.g., Grandey, 2000), have focused almost exclusively on outcomes observed in the workplace. A large body of literature examining spillover effects from work to home indicates that work experiences influence employees even after they leave the workplace (Eby, Maher, & Butts, 2010; Greenhaus & Beutell, 1985; Ilies et al., 2007; Ilies, Wilson, & Wagner, 2009; Kossek & Ozeki, 1998), suggesting that the daily effects of emotional labor might not be restricted to the workplace but may also spill into other domains.

Accordingly, the purpose of this paper is to extend theory and research on emotional labor by examining the extent to which the daily effects of emotional labor transcend the work boundary and are thus evident in the home domain. To do so, we integrated Grandey’s (2000) model of emotional labor with Lazarus and Folkman’s (1984) framework of stress reactions. These reactions include three specific dimensions of individual outcomes: emotion (morale), social functioning, and somatic health. Given both theoretical (Grandey, 2000) and empirical (Judge et al., 2009; Scott & Barnes, 2011) indications that daily well-being is affected more by surface acting than deep acting, we focus our investigation on surface acting. Specifically, we hypothesize that surface acting—a workplace stressor—on a given work day creates anxiety, which in turn influences outcomes that are experienced later in the day in the form of emotional exhaustion, work-to-family conflict, and insomnia. Overall, this integration extends Grandey’s model beyond strictly workplace-relevant outcomes to also include outcomes that bridge work and other domains, and does so at the daily level.

In addition to the theoretical reasons for our choice of outcomes, there are also good practical reasons for focusing on these outcomes. First, stress outcomes, including emotional exhaustion, work-to-family conflict, and
insomnia, have been linked to employee well-being and quality of life (Fritz, Yankelevich, Zarubin, & Barger, 2010; Kossek & Ozeki, 1998; Silva et al., 2010). Given that employees spend more time outside of work than they do working (Barnes, Wagner, & Ghumman, 2012), general health and well-being is a meaningful consideration for managers and scholars. Second, these outcomes have been linked to a number of important attitudes and behaviors at work. For instance, emotional exhaustion is not simply an unpleasant state for an employee to deal with after work, but it also has been linked to important work outcomes such as in-role performance, organization-directed citizenship behaviors, voluntary turnover, organizational commitment, and job satisfaction (Halbesleben & Bowler, 2007; Lee & Ashforth, 1996; Wright & Cropanzano, 1998). Likewise, research has found that work–family conflict not only harms the family domain, but it also increases job stress (Hammer, Saksvik, Nytro, Torvatn, & Bayazit, 2004) and turnover intentions (Kossek & Ozeki, 1999). Finally, insomnia, or lost sleep, has been linked to many work-relevant outcomes such as injuries (Barnes & Wagner, 2009), unethical behavior (Barnes, Schaubroeck, Huth, & Ghumman, 2011; Christian & Ellis, 2011), cyberloafing at work (Wagner, Barnes, Lim, & Ferris, 2012), and job dissatisfaction (Scott & Judge, 2006). In short, the stress outcomes examined in this study are both theoretically relevant (Lazarus & Folkman, 1984) and relate to a number of important attitudes and behaviors at work, thus holding dual importance for employees. In the sections below, we first describe the construct of emotional labor and then we provide the conceptual justification for each of our hypotheses.

**Emotional Labor**

Research indicates that employee affective displays have important effects on organizational outcomes, such as customer service ratings (Grandey, Fisk, Mattila, Jansen, & Sideman, 2005; Groth et al., 2009; Sharma & Levy, 2003; Tsai & Huang, 2002; Wagner & Ilies, 2008). Recognizing this, many organizations encourage front-line employees to “put on a happy face,” regardless of their actual underlying feelings (e.g., Brotheridge & Grandey, 2002; Hochschild, 1983; Van Maanen & Kunda, 1989). Employees are recruited, selected, and retained in part on the basis of how well they conform to these “display rules” (Rafaeli & Sutton, 1987). However, as noted at the outset, affective states experienced by employees vary over the course of short periods of time (Weiss & Cropanzano, 1996). Thus, there will be instances when a given employee experiences affect that is inconsistent with organizational display rules. When a mismatch between experienced emotion and organizational display
rules occurs, employees can attempt to comply with display rules by engaging in one of two forms of emotional labor: surface acting or deep acting.

Grandey (2000) drew from Gross’s (1998a, 1998b) taxonomy of emotion regulation to highlight surface acting as a form of response-focused emotion regulation in which affective states are manipulated after they have originated. In contrast, deep acting is a form of antecedent-focused emotion regulation, whereby undesired affective states are replaced by emotional states consistent with organizational display rules (Gross & John, 2003). Although both surface and deep acting have the same intended outcome of conformance to display rules, Grandey (2000) noted that with surface acting, individuals attempt to suppress unwanted feelings and simply fake appropriate displays, whereas with deep acting individuals actually generate desired affective states via strategies such as attentional deployment and cognitive reappraisal of the situation (Gross, 1998b). Hence, deep acting aligns experienced affect with display rules, whereas surface acting aligns displayed affect with display rules, even if doing so increases the gap between experienced affect and displayed affect (Gross & John, 2003; Scott & Barnes, 2011). The upshot is that surface acting is associated with a greater number of negative work-related outcomes than is deep acting (Hülsheger & Schewe, 2011; Mesmer-Magnus, DeChurch, & Wax, 2012).

Despite growing evidence that surface acting is bad for employees at work, there has been very little research examining the implications of surface acting for employees’ home lives. The studies that have examined the influence of emotional labor on outcomes that may be experienced in the home domain have taken a between-person approach, examining how surface acting correlates with outcomes such as work-to-family conflict or work–family interference (Cheung & Tang, 2009; Montgomery, Panagopolou, deWildt, & Meenks, 2006; Seery, Corrigall, & Harpel, 2008; Yanchus, Eby, Lance, & Drollinger, 2010). Although these studies have raised the important question of whether surface acting influences stress outcomes experienced in the home domain, they have all taken a between-person, static approach to understanding these relationships, each using a cross-sectional design to address this question. Moreover, the above studies have not uncovered the process by which emotional labor influences these outcomes.

In contrast to these between-person studies, there are yet to be found intra-individual studies connecting variations in daily work behaviors (e.g., surface acting) to theoretically coherent groups of outcomes employees may experience at home. We address this sizable omission in the literature by outlining how emotional labor, a pervasive workplace
stressor, breaches the home domain to influence each of the three dimensions specified by Lazarus and Folkman (1984)—emotional, social, and somatic. Specifically, we examine how surface acting influences (a) emotional exhaustion (emotional), (b) work-to-family conflict (social), and (c) insomnia (somatic), all experienced at home. Moreover, given that Lazarus and Folkman (1984) argue that emotions generally, and anxiety in particular, might mediate the processes leading to these outcomes, we examine state anxiety as a primary causal mechanism for these effects. We develop our hypotheses in the following section.

Hypotheses

Surface Acting and Anxiety

One mechanism through which surface acting can be expected to influence home outcomes is anxiety. Anxiety is a negatively valenced emotion with a high level of activation or arousal (Russell, 1980). As such, anxiety is also situated near other emotions on the affect circumplex, such as fear, with both emotions described as activated displeasure or unpleasant activation (Yik, Russell, & Steiger, 2011). Anxiety is characterized by tension and “physiological hyperarousal” (Watson, 2000, p. 242); tension and hyperarousal are active, unpleasant states (Russell, 1980; Yik et al., 2011) that draw upon an individual’s emotional resources. Research suggests that there are two primary reasons why surface acting could be expected to result in anxiety: emotion suppression and inauthentic emotion expression.

The notion that suppressing or “bottling up” one’s emotions could be psychologically harmful was suggested more than a century ago by Breuer and Freud (1957/1895, cited in Gross & Levenson, 1997). Contemporary empirical research has shown this to be the case, also showing that the suppression of emotion influences physiological outcomes. For example, Gross and Levenson (1997) showed participants either a sad, funny, or neutral video and instructed them either to express no emotions, such that an observer would not be able to discern which type of video the participant was watching, or gave no specific instructions regarding the display of emotions. Their results indicate that participants who suppressed their emotions experienced heightened cardiovascular activity even though they had lower metabolic demands due to their lowered somatic activity. Similar research has shown that individuals in an emotion suppression condition experienced higher levels of sympathetic activation (e.g., increased heart rate, constriction of blood vessels) than participants who were not instructed to suppress their emotions (Gross, 1998a). These
outcomes, Gross observed, are consistent with what Watson (2000) defined as anxiety, which is characterized by tension and hyperarousal.

A second primary reason why surface acting should elicit anxiety is due to the inauthentic expression of emotions. Diefendorff, Croyle, and Gosserand (2005, p. 340) note that “many occupations have the general expectation that positive emotions should be displayed.” Although many employees view this inauthenticity as part of the job, some might construe such behavior as lying. For instance, a participant in Ashforth and Tomiuk’s (2000, p. 193) qualitative study revealed, “you do feel sometimes as a liar. You have to lie sometimes to be able to get a sale,” illustrating how employees might interpret the insincerity associated with surface acting. Research in different fields has illustrated that lying is associated with various psychological and physiological responses. For instance, a study of bilingual speakers found that arousal, measured via skin conductance response, was due to the emotions associated with lying (Caldwell-Harris & Ayçiçeği-Dinn, 2009). Likewise, Tomura (2009) found that stress and anxiety resulted when participants lied. Research in child psychology has shown associations between deception or lying and emulative anxiety (Shi & Su, 2007) and attachment-related anxiety (Ennis, Vrij, & Chance, 2008). Finally, research in the field of counseling has found that guilt and anxiety are the emotions most often associated with defensive lying (Miller, 1992).

Together, the above suggests that when employees surface act, they may experience the anxiety that stems from acting inauthentically. Indeed, Hochschild (1983) notes that an individual might threaten his or her sense of self by acting contrary to what he or she internally experiences at a given moment. This threat to self can generate anxiety (Lazarus, 1991) because viewing the self as coherent is extremely important and personally meaningful (Festinger, 1968; Lazarus & Folkman, 1984; see also Grandey, 2003; Pugh, Groth, & Hennig-Thurau, 2011).

Given the evidence suggesting that both the suppression of felt emotions and the expression of unfelt emotions result in anxiety, we hypothesize the following:

**Hypothesis 1**: Daily surface acting is positively related to anxiety.

**Surface Acting and the Persistence of Emotional Exhaustion at Home**

Grandey’s (2000) model of emotional labor proposed burnout as an outcome of surface acting; emotional exhaustion is the key component of burnout and is described as a state of depletion in which an individual is not able to fully exert him or herself psychologically or emotionally. Maslach and Jackson (1981, p. 99; italics added) noted that as employees’ “emotional resources are depleted, workers feel they are no longer able to
give of themselves at a psychological level”. Thus, emotional exhaustion “refers to feelings of being overextended and depleted of one’s emotional and physical resources” (Maslach, Schaufeli, & Leiter, 2001, p. 399; italics added).

By contrast, anxiety—which we have argued is a likely emotional response to surface acting—is defined as tension and hyperarousal, representing an active and unpleasant state (Russell, 1980; Watson, 2000). When an individual reacts to emotional labor by experiencing anxiety, the individual will draw upon emotional resources. As the individual continues to experience anxiety over a given day, thereby continuing to draw upon his or her emotional resources, those resources become depleted, eventually resulting in a state of emotional exhaustion. This illustrates that anxiety, a tense and emotionally aroused state, is distinct from emotional exhaustion, a state of emotional and psychological depletion, and that the former can lead to the latter (Boyd, Lewin, & Sager, 2009). Likewise, accumulating evidence suggests that surface acting can result in employee emotional exhaustion (Hülsheger & Schewe, 2011; Mesmer-Magnus et al., 2012). However, a complete understanding of emotional exhaustion would not only address stable, between-individual differences that are associated with emotional exhaustion at work but would also examine: (a) how fluctuations in day-to-day behaviors (e.g., daily surface acting) connect to day-to-day fluctuations in outcomes such as emotional exhaustion and (b) how these effects persist into other domains.

Although depleted employees are likely to arrive at emotional exhaustion in the work domain, cross-domain research illustrates that attitudes, emotions, and other states can spillover from work to home (e.g., Eby et al., 2010; Ilies et al., 2009). Thus, it is likely that emotional exhaustion attained at work will persist into the evening at home unless steps are taken to replenish the depleted emotional resources (e.g., Sonnentag & Fritz, 2010). Thus, we would expect that employees who become emotionally exhausted at work due to their surface acting are likely to continue experiencing emotional exhaustion into the evening at home.

In addition to the anxiety evoked by surface acting, there are other possible reasons why surface acting might result in emotional exhaustion. For instance, the modulation of emotional expressions in a way that allows the employee to satisfy organizational emotional display rules requires the use of the employee’s self-regulatory resources. When an individual draws upon these resources, he or she becomes depleted and subsequently unable to exercise self-regulation in work or home domains (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Schmeichel, Vohs, & Baumeister, 2003). This presents a problem because, despite the apparent costs of inauthenticity and emotional labor, some have argued that there is social value to following norms and meeting expectations for social behavior,
even when doing so is not completely genuine (Waskul, 2009). Thus, employees who have depleted their self-regulatory reserves at the workplace are less likely to function appropriately at home, in part because they will not be able to give of themselves emotionally or psychologically.

Taken together, these arguments suggest that surface acting should lead to emotional exhaustion and that at least part of this effect will be mediated by anxiety. We therefore hypothesize the following:

**Hypothesis 2:** Daily surface acting conducted at work is positively associated with daily emotional exhaustion experienced at home.

**Hypothesis 3:** State anxiety partially mediates the relationship between daily surface acting and daily emotional exhaustion experienced at home.

**Surface Acting and Work-to-Family Conflict**

Lazarus and Folkman’s (1984, p. 183) second dimension of stress outcomes deals with the “manner in which the individual fulfills his or her various roles.” Although fulfilling these roles might be hindered by time constraints imposed by one domain on the other, or by the spillover of behaviors that are not effective in the subsequent domain (Greenhaus & Beutell, 1985), research suggests that conflict arising from workplace stressors can make it difficult for an employee to be fully engaged in home life and family roles. This could include an employee arriving home from work feeling frazzled, making it difficult to engage in family activities. For example, when the employee’s child asks for help on trigonometry homework, the employee may have insufficient energy or focus to effectively help. Or an employee may arrive home from work on a given day feeling frustrated and irritated, leaving him or her less able or less motivated to engage in family activities that the employee would typically enjoy that evening (Carlson, Kacmar, & Williams, 2000). Such instances are illustrations of strain-based work-family conflict, which “exists when strain in one role affects one’s performance in another role” (Greenhaus & Beutell, 1985, p. 80). Research reveals that there are both between-individual and within-individual differences in this type of conflict (e.g., Scott & Barnes, 2011; Scott, Barnes, & Wagner, 2012), suggesting that strain-based conflict is a particularly well-matched outcome to the demands imposed by day-to-day emotional labor.

Given the permeability of many employees’ boundaries between work and home domains (Ashforth, Kreiner, & Fugate, 2000; Bulger, Matthews, & Hoffman, 2007; Desrochers, Hilton, & Larwood, 2005; Matthews & Barnes-Farrell, 2010; Matthews, Barnes-Farrell, & Bulger, 2010; Nippert-Eng, 1996), it is quite possible that the strain at work generated
from surface acting is likely to persist, such that employees experience strain at home. This suggests that employees who experience strain at work due to emotional labor on a particular day are likely to carry the strain home with them, which in turn affects employees’ behaviors at home that evening. Empirical evidence indicates this is the case, with high task demands at work leading to negative emotions, such as distress, that bridge the work–home divide (Ilies et al., 2007; Williams & Alliger, 1994). Such a spillover process is consistent with models of work–family conflict (Eby et al., 2010; Edwards & Rothbard, 2000) and with research showing that negative work emotions mediate the influence of work demands on home emotions and work-to-family conflict (Ilies et al., 2007). This supports the notion that the demands present in emotional labor could influence work-to-family conflict via discrete emotions such as anxiety.

Thus, in summary, we contend that on days in which employees engage in high levels of surface acting at work they are more likely to arrive home filled with anxiety and are likely to experience work-to-family conflict, as the negative emotion contributes to a sense of feeling frazzled, making it difficult to turn off work and turn on the family self. Likewise, employees engaged in a day full of surface acting are also likely to harbor a sense of strain, which increases the likelihood of strain-based work-to-family conflict and can also make them less likely to engage in family social interactions (Ilies et al., 2007). Based on these theoretical and empirical arguments, we hypothesize that surface acting will influence strain-based work-to-family conflict, and that state anxiety will mediate part of this effect.

**Hypothesis 4**: Daily surface acting conducted at work is positively associated with daily strain-based work-to-family conflict experienced at home.

**Hypothesis 5**: State anxiety partially mediates the relationship between daily surface acting and daily strain-based work-to-family conflict experienced at home.

**Surface Acting and Insomnia**

Lazarus and Folkman’s (1984) third dimension of stress outcomes is somatic health. A large body of research indicates that a crucial means of preserving one’s health is to get adequate sleep. In addition to the wide variety of health problems stemming from insufficient sleep, our introduction highlighted several organizational maladies that arise from inadequate employee sleep (see also Barnes & Hollenbeck, 2009; Harrison & Horne, 2000; Sonnentag, Binnewies, & Mojza, 2008). Hence, employee sleep is essential for both somatic and organizational health. In contrast to the organizational consequences of poor sleep, research also reveals a reversed
causal order, with work experiences influencing sleep. For example, injustice and bullying in the workplace have both been linked to difficulties sleeping (Greenberg, 2006; Niedhammer, David, Degioanni, Drummond, & Phillip, 2009). Similarly, research clearly indicates that various types of work demands undercut sleep quality and lead to difficulties sleeping (Akerstedt, Fredlund, Gillberg, & Jansson, 2002; Akerstedt et al., 2002; Kalimo, Tenkanen, Harma, Poppius, & Heinsalmi, 2000).

Insomnia, which is defined as difficulty falling and staying asleep, is common among a wide range of employees and can vary within individuals on a nightly basis (Scott & Judge, 2006). Consistent with the theoretical argument that the psychosocial environment influences biological outcomes via anxiety—a “mediator of somatic illness” (Lazarus & Folkman, 1984, p. 211)—research indicates that stress and anxiety share part of the blame for sleep problems as they involve physiological arousal and sympathetic nervous system activation, which oppose the physiological processes involved in falling asleep (LeBlanc et al., 2009; LeDuc, Caldwell, & Ruyac, 2000; Vahtera et al., 2007). Given that the suppression of emotions results in heightened cardiovascular activation (Gross & Levenson, 1997; Richards & Gross, 1999) and anxiety, and that individuals in an activated state are less prepared to sleep, we expect surface acting to influence insomnia through these means as well as through anxiety. We therefore hypothesize the following:

**Hypothesis 6**: Daily surface acting conducted at work is positively associated with insomnia experienced that night.

**Hypothesis 7**: State anxiety partially mediates the relationship between daily surface acting and insomnia experienced that night.

**Method**

**Sample**

Our sample consisted of bus drivers working for a single transit company in the northwestern United States. All of the participants were full-time employees of the organization. A manager at the organization served as liaison between researchers and participants. The manager placed a letter in each bus driver’s mail slot, inviting him or her to participate in the study. Approximately 100 employees were invited to participate, and a total of 81 signed up for the study by completing an online survey capturing demographic data and various individual differences. Of these 81 employees, 78 completed sufficient daily reports to be included
in our analyses. The average age of participants was 52 years and 44 were male. The sample of participants was largely Caucasian (61.5%) but also included African-American (23.1%), Hispanic/Latino (3.9%), Asian/Pacific Islander (2.6%), and American Indian or Alaskan Native (2.6%) employees, with 6.8% of employees indicating “other” or not reporting ethnicity.

Bus drivers frequently interact with customers as each passenger who boards the bus passes by the driver. The nature of the bus driver’s job presents many opportunities for interactions with customers, and thus opportunities to express or not express positive emotions toward the passengers. Of course, the interactions a bus driver has with passengers are limited, particularly in comparison to other customer service occupations where lengthy customer-employee interactions occur. Nonetheless, as Ashforth and Tomiuk (2000) argue, employees identify to varying extents with the emotional display requirements of their role. Thus, even though bus drivers may engage in lower mean levels of surface acting than other occupations, these workers are nonetheless accustomed to these levels of emotional display rules, and day-to-day fluctuations in their emotional labor may take them out of their “comfort zone” on a given day. As such, bus drivers are well suited for participation in a study of emotional labor. From a practical perspective, bus drivers also hold a critical job, as their performance determines the safety of passengers, other drivers, and pedestrians. Given that one of our criteria in this study deals with sleep, the findings of our study should provide important insights for an industry concerned with customer and employee safety.

Procedure

As noted above, to initiate their participation in the study, employees completed a one-time survey capturing measures of various constructs, including trait emotional stability, and demographics such as age and ethnicity. Two weeks following the enrollment survey, we began the daily portion of the study. A computer terminal was set up at the transit company headquarters, near the bus driver lounge. Prior to beginning their work shifts for the day, bus drivers each filled out a survey assessing how many hours they had slept the prior evening and the extent to which they had experienced symptoms of insomnia. Following their work shift, drivers used the computer terminal to fill out another online survey, this time assessing the extent to which they engaged in emotional labor during their shift and the level of their anxiety at the moment they completed the survey. Finally, each evening of the 2-week study, participants were instructed to complete a paper-based survey just prior to retiring to bed.
The nighttime survey assessed the participant’s emotional exhaustion at the present moment and the extent to which the individual experienced work-to-family conflict that evening. Participants were compensated for their participation via a random drawing of monetary awards.

Measures

**Surface acting.** Daily surface acting was measured immediately after each work shift with the five items developed by Brotheridge and Lee (2003) and Grandey (2003). Instructions for the measure asked participants to indicate the extent to which each of the five statements described their work that day, with sample items including “Today, I put on an act in order to deal with customers in an appropriate way” and “Today, I just pretended to have the emotions I needed to display on the job.” Responses were rated from 1 = *very slightly or not at all* to 5 = *very much*. The reliability of this measure, averaged across days, was $\alpha = .94$.

**State anxiety.** We measured state anxiety by asking respondents to indicate the extent to which they felt each of four adjectives at the moment they were completing the afternoon survey (nervous, distressed, scared, and afraid; Mackinnon et al., 1999; Watson, Clark, & Tellegen, 1988). These adjectives represent activated, negatively valenced emotion (Russell, 1980) or activated displeasure (Yik et al., 2011), which is consistent with the conceptualization of anxiety. Responses to these items were given on a scale from 1 = *very slightly or not at all* to 5 = *very much*, and the internal consistency reliability of this measure, averaged across days, was $\alpha = .73$.

**Work-to-family conflict.** Each evening participants responded to the three-item measure of strain-based work interference with family (Carlson et al., 2000). The questionnaire prompted them to indicate the extent to which each of the statements described them that evening. An example item was “When I got home from work I was too frazzled to participate in family activities/responsibilities,” with items rated from 1 = *very slightly or not at all* to 5 = *very much*. The internal consistency reliability of this measure, averaged across days, was $\alpha = .89$.

**Emotional exhaustion.** During the evening survey, participants also responded to four items from the emotional exhaustion scale (Maslach & Jackson, 1981), asking them to report the extent to which they felt each of the statements at that moment. Example items include “Right now, I feel used up” and “Right now, I feel like I’m at the end of my rope,” and were rated on a scale from 1 = *very slightly or not at all* to 5 = *very much*. The internal consistency reliability of this measure, averaged across days, was $\alpha = .88$. 
Insomnia. Each morning participants completed an online survey prior to starting their shift. On this survey, they reported the nature of their sleep the prior evening with the four-item measure developed by Jenkins and colleagues (Jenkins, Jono, & Stanton, 1996; Jenkins, Stanton, Niemcryk, & Rose, 1988). This scale asks participants to report the extent to which they experienced various symptoms the prior night and includes statements such as “Woke up after your usual amount of sleep feeling tired and worn out” and “Woke up several times during the night.” Items were rated on a scale from 1 = very slightly or not at all to 5 = very much. The internal consistency reliability of this measure, averaged across days, was $\alpha = .79$.

Daily controls. To enable us to examine how surface acting on a given day is related to increases in the criteria from one day to the next, we controlled for the prior day’s report of each respective outcome measure (e.g., when examining the effect of surface acting on work-to-family conflict, we controlled for the prior evening’s work-to-family conflict). Given that most examinations of emotional labor examine both surface acting and deep acting, we also included a common three-item measure of deep acting in our analyses (Brotheridge & Lee, 2003; $\alpha = .93$). Finally, because the number of hours of sleep obtained on one night will have an influence on sleep (and insomnia) the next night, during the morning survey we asked participants to report the number of hours they had slept the prior night (the night before the night of interest), utilizing the Pittsburgh Sleep Diary (Monk et al., 1994).

Trait emotional stability. Past research on stressors and strains has dubbed trait negative affectivity and neuroticism as “nuisance factors” (e.g., Burke, Brief, & George, 1993; Watson & Pennebaker, 1989). Moreover, recent research has linked emotional stability to both emotional exhaustion and insomnia (Perry, Witt, Penney, & Atwater, 2010; Ramsawh, Ancoli-Israel, Sullivan, Hitchcock, & Stein, 2011). Thus, prior to the diary portion of the study, we assessed trait emotional stability with the measure validated by Saucier (1994). Respondents indicated how accurately each of eight adjectives describes them; the measure included adjectives such as “fretful,” “relaxed,” and “moody” with responses given on a scale from 1 = extremely inaccurate to 5 = extremely accurate. Reliability for the measure was $\alpha = .77$.\(^1\)

\(^1\)Individual-mean centering effectively controls for between-person differences that may confound results; nevertheless, we controlled for emotional stability at Level 2 given that it has been shown to be related to our predictors and outcomes; results of our hypothesis tests remained the same with or without this control.
Analyses

The hypotheses and measures in this paper focus on 2 weeks of daily experiences for each employee, meaning that the daily data are nested within individuals. The nested nature of the data violates the independence assumption in OLS regression; thus, we utilized a hierarchical linear modeling (HLM) framework to examine our data. This approach allows us to examine day-to-day fluctuations in employee work behavior and home outcomes while removing between-person variance in these constructs. When testing our hypotheses, we included surface acting that work day as a substantive predictor; we also included the prior day’s outcome variable as a control in the regression, allowing us to demonstrate how surface acting on a given day is associated with an increase or decrease in the criterion from one day to another; all Level-1 predictors were individual-mean centered. At Level 2 of the model, we included direct effects of emotional stability on each criterion (intercept-as-outcome model). In order to test the mediating role of anxiety, we followed the guidelines offered by Krull and MacKinnon (1999) for computing indirect effects in multilevel models.²

Results

Daily (within-individual) correlations among the focal variables, shown in Table 1, indicate that surface acting was positively related to evening emotional exhaustion ($r = .24, p < .05$), evening work-to-family conflict ($r = .23, p < .05$), and nighttime insomnia ($r = .19, p < .05$), providing initial support for our hypotheses. Table 1 also indicates that state anxiety was related to the evening and nighttime outcome measures.

Hypothesis 1 predicted that daily surface acting is positively related to state anxiety experienced at the end of an employee’s shift. The results of the HLM regression testing this hypothesis, presented in Table 2, indicate that the two were positively related ($B_{10} = .16, p < .01$), supporting Hypothesis 1. Our second hypothesis predicted that daily surface acting at work is positively related to evening emotional

²An anonymous reviewer suggested that in the presence of stable emotional display rules, our analyses may reveal the effect of emotions on our specified outcomes rather than the effect of surface acting on these outcomes. To test this possibility, we also conducted analyses that included a measure of state positive and state negative affect assessed prior to the employee’s work shift along with the measures of emotional labor just specified. The results of these analyses showed no substantive differences from the analyses reported below on our variables of interest, suggesting that it is surface acting that drives the effects. Therefore, we report our findings with surface acting as the primary predictor as described in this section.
### TABLE 1

**Descriptive Statistics and Correlations**

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<th>Variables</th>
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<th>3</th>
<th>4</th>
<th>5</th>
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<td>1.71</td>
<td>.86</td>
<td>.24</td>
<td>-.01</td>
<td>.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Evening strain-based work-to-family conflict</td>
<td>1.71</td>
<td>.89</td>
<td>.23</td>
<td>-.03</td>
<td>.14</td>
<td>.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Nighttime insomnia</td>
<td>1.77</td>
<td>.79</td>
<td>.19</td>
<td>-.01</td>
<td>.31</td>
<td>.10</td>
<td>.04</td>
<td></td>
</tr>
<tr>
<td>7. Trait emotional stability</td>
<td>3.74</td>
<td>.68</td>
<td>-.22</td>
<td>-.04</td>
<td>-.28</td>
<td>-.34</td>
<td>-.20</td>
<td>-.28</td>
</tr>
</tbody>
</table>

*Note.* Variables 1 through 6 were assessed daily and the means and standard deviations reported in the table are based on the day-level responses; correlations among these variables are within-individual correlations; trait emotional stability was measured once at the beginning of the study; correlations with emotional stability were at the between-individual level (Level 1, \( n = 425 \) to 644; Level 2, \( n = 78 \)). All daily correlations greater than .11, and between-individual correlations (with trait emotional stability) above .25, are significant at \( p < .05 \).

### TABLE 2

**Effects of Daily Surface Acting on Afternoon Anxiety**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Afternoon anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ( (B_{00}) )</td>
<td>1.15</td>
</tr>
<tr>
<td>Level-2 predictors</td>
<td></td>
</tr>
<tr>
<td>Emotional stability ( (B_{01}) )</td>
<td>-.16</td>
</tr>
<tr>
<td><strong>Level-1 predictors</strong></td>
<td></td>
</tr>
<tr>
<td>Daily surface acting ( (B_{10}) )</td>
<td>.16</td>
</tr>
<tr>
<td>Daily deep acting ( (B_{20}) )</td>
<td>.00</td>
</tr>
</tbody>
</table>

*Note.* All Level-1 predictors were centered at individuals’ means. All Level-2 predictors were grand-mean centered. \( B = \) unstandardized regression coefficient obtained in HLM (Level 1, \( n = 644 \); Level 2, \( n = 78 \)).

*\( p < .05 \). **\( p < .01 \).
TABLE 3
Effects of Daily Surface Acting and Afternoon Anxiety on Evening Emotional Exhaustion

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>T-value</th>
<th>B</th>
<th>SE</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ((B_{00}))</td>
<td>1.73</td>
<td>.09</td>
<td>19.59**</td>
<td>1.73</td>
<td>.09</td>
<td>19.30**</td>
</tr>
<tr>
<td>Level-2 predictors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional stability ((B_{01}))</td>
<td>-.35</td>
<td>.14</td>
<td>-2.57*</td>
<td>-.39</td>
<td>.14</td>
<td>-2.82**</td>
</tr>
<tr>
<td>Level-1 predictors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional exhaustion prior evening ((B_{10}))</td>
<td>.09</td>
<td>.07</td>
<td>1.26</td>
<td>.01</td>
<td>.07</td>
<td>.08</td>
</tr>
<tr>
<td>Daily surface acting ((B_{20}))</td>
<td>.23</td>
<td>.09</td>
<td>2.64**</td>
<td>.25</td>
<td>.09</td>
<td>2.74**</td>
</tr>
<tr>
<td>Daily deep acting ((B_{30}))</td>
<td>-.01</td>
<td>.05</td>
<td>-.16</td>
<td>.03</td>
<td>.05</td>
<td>.57</td>
</tr>
<tr>
<td>Afternoon anxiety ((B_{40}))</td>
<td>.77</td>
<td>.26</td>
<td>3.04**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. All Level-1 predictors were centered at individuals’ means. All Level-2 predictors were grand-mean centered. \(B = \) unstandardized regression coefficient obtained in HLM (Level 1, \(n = 356\); Level 2, \(n = 78\)).

*\(p < .05\). **\(p < .01\).

exhaustion. As shown in Table 3, surface acting was associated with an increase in emotional exhaustion from one day to the next \((B_{20} = .23, p < .01)\), supporting Hypothesis 2. Our next hypothesis predicted that state anxiety mediates the relationship between daily surface acting at work and evening emotional exhaustion. We added state anxiety to the model used to test Hypothesis 2 (Table 3, Model 2), with results indicating that state anxiety predicted evening emotional exhaustion \((B_{40} = .77, p < .01)\). A test of the indirect effect of surface acting on emotional exhaustion via anxiety indicated a significant indirect effect \((b = .12, p < .05)\). Despite this significant indirect effect, a comparison of the main effect of surface acting on emotional exhaustion did not significantly change from Model 1 to Model 2 \((Z = .19, p > .10)\). This suggests that even though surface acting had a significant effect on emotional exhaustion via anxiety, state anxiety did not explain the main effect of surface acting on emotional exhaustion. Thus, we do not have support for mediation, and Hypothesis 3 was not supported. However, we do have support for an indirect effect of surface acting on emotional exhaustion via anxiety, consistent with our arguments.\(^3\)

\(^3\)In addition to the conceptual support for the differentiation between anxiety and emotional exhaustion, we also conducted additional analyses in which we regressed anxiety on the measures of surface acting, deep acting, and emotional exhaustion. The results of these analyses indicate that emotional exhaustion is not a statistically significant predictor of anxiety \((B = .11, p > .10)\); by contrast, when regressing emotional exhaustion on anxiety, surface acting, and deep acting, anxiety does significantly predict emotional exhaustion \((B = .77, p < .05)\), as reported in Table 3. This supports our argument that the causal order is from anxiety to emotional exhaustion.
Hypothesis 4 predicted that daily surface acting is positively related to strain-based work-to-family conflict experienced in the evening. As shown in Table 4, surface acting was associated with an increase in work-to-family conflict from one day to the next ($B_{20} = .33, p < .01$; Model 1), supporting Hypothesis 4. Hypothesis 5 predicted that anxiety mediates the relationship between surface acting and work-to-family conflict. Results indicate that the coefficient for anxiety on work-to-family conflict approached traditional statistical cutoff levels ($B_{40} = .84, p = .057$; Table 4, Model 2). Examination of the regression coefficient for surface acting indicates that the effect was reduced by 18% when including anxiety as a predictor. However, a test of the indirect effect of surface acting on work-to-family conflict via anxiety approached statistical significance ($b = .13, p = .075$) but failed to reach traditional cutoff levels. Thus, Hypothesis 5 was not supported.

Hypothesis 6 predicted that daily surface acting is positively related to insomnia at night. As shown in Table 5, surface acting was positively associated with nighttime insomnia ($B_{30} = .19, p < .05$; Model 1), supporting Hypothesis 6. Hypothesis 7 predicted that the relationship between surface acting and insomnia is partially mediated by employee anxiety. Model 2 (Table 5) indicates that anxiety strongly predicted insomnia ($B_{50} = .48, p < .05$) and that the effect of surface acting on insomnia was reduced by 37%, suggesting that anxiety mediated part of the effect of surface acting on insomnia. Computation of the indirect effect indicated that the effect of surface acting on insomnia via anxiety was significant ($b = .07, p < .05$), providing support for Hypothesis 7.

### Table 4

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$B$</th>
<th>SE</th>
<th>T-value</th>
<th>$B$</th>
<th>SE</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ($B_{00}$)</td>
<td>1.72</td>
<td>.09</td>
<td>18.60**</td>
<td>1.72</td>
<td>.09</td>
<td>18.49**</td>
</tr>
<tr>
<td>Level-2 predictors</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional stability ($B_{01}$)</td>
<td>−.26</td>
<td>.15</td>
<td>−1.70</td>
<td>−.27</td>
<td>.16</td>
<td>−1.72</td>
</tr>
<tr>
<td>Level-1 predictors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-to-family conflict prior evening ($B_{10}$)</td>
<td>.01</td>
<td>.06</td>
<td>.13</td>
<td>.02</td>
<td>.06</td>
<td>.30</td>
</tr>
<tr>
<td>Daily surface acting ($B_{20}$)</td>
<td>.33</td>
<td>.08</td>
<td>4.24**</td>
<td>.27</td>
<td>.08</td>
<td>3.37**</td>
</tr>
<tr>
<td>Daily deep acting ($B_{30}$)</td>
<td>−.04</td>
<td>.04</td>
<td>−1.22</td>
<td>−.06</td>
<td>.04</td>
<td>−1.79</td>
</tr>
<tr>
<td>Afternoon anxiety ($B_{40}$)</td>
<td>.84</td>
<td>.43</td>
<td>1.93</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. All Level-1 predictors were centered at individuals’ means. All Level-2 predictors were grand-mean centered. $B =$ unstandardized regression coefficient obtained in HLM (Level 1, $n = 347$; Level 2, $n = 78$).

**$p < .01$.**
**TABLE 5**

**Effects of Daily Surface Acting and Afternoon Anxiety on Nighttime Insomnia**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>T-value</th>
<th>B</th>
<th>SE</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ($B_{00}$)</td>
<td>1.81</td>
<td>.07</td>
<td>26.38**</td>
<td>1.81</td>
<td>.07</td>
<td>26.32**</td>
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<tr>
<td><strong>Level-2 predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional stability ($B_{01}$)</td>
<td>-.19</td>
<td>.09</td>
<td>-2.00*</td>
<td>-.16</td>
<td>.09</td>
<td>-1.92</td>
</tr>
<tr>
<td><strong>Level-1 predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insomnia prior night ($B_{10}$)</td>
<td>-.05</td>
<td>.05</td>
<td>-1.05</td>
<td>-.03</td>
<td>.05</td>
<td>-.66</td>
</tr>
<tr>
<td>Hours sleep prior night ($B_{20}$)</td>
<td>.06</td>
<td>.03</td>
<td>1.86</td>
<td>.06</td>
<td>.03</td>
<td>1.75</td>
</tr>
<tr>
<td>Daily surface acting ($B_{30}$)</td>
<td>.19</td>
<td>.10</td>
<td>2.03*</td>
<td>.12</td>
<td>.09</td>
<td>1.31</td>
</tr>
<tr>
<td>Daily deep acting ($B_{40}$)</td>
<td>.01</td>
<td>.05</td>
<td>.21</td>
<td>.01</td>
<td>.04</td>
<td>.14</td>
</tr>
<tr>
<td>Afternoon anxiety ($B_{50}$)</td>
<td>.48</td>
<td>.19</td>
<td>2.54*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* All Level-1 predictors were centered at individuals’ means. All Level-2 predictors were grand-mean centered. $B = \text{unstandardized regression coefficient obtained in HLM (Level 1, } n = 448; \text{ Level 2, } n = 78).$

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

**Discussion**

Employees in organizations are often asked to engage in emotional labor in order to conform to organizational display rules. To date, the emotional labor literature has primarily focused on work-based outcomes of emotional labor. A small number of studies have recently made important contributions by raising the question of how emotional labor might influence the home domain. These studies have taken a cross-sectional, between-person approach to this question (Cheung & Tang, 2009; Montgomery et al., 2006; Seery et al., 2008; Yanchus et al., 2010). By integrating Grandey’s (2000) model of emotional labor with Lazarus and Folkman’s (1984) framework of stress outcomes, we were able to show that day-to-day fluctuations in surface acting at work determine the extent to which each of the three dimensions of stress outcomes is evident in the home domain.

Much like recent research examining emotional labor over time within a given employee (Judge et al., 2009; Scott & Barnes, 2011), we also found evidence for daily variation in emotional labor. Our model predicted strain-based outcomes, including emotional exhaustion experienced at home in the evening, work-to-family conflict experienced at home in the evening, and insomnia experienced at night. Not only did we find that surface acting was positively related to these outcomes but also that it explains increases and decreases in the outcomes from one day to the next. Moreover, we also found evidence of an indirect effect of the day’s surface acting on the evening’s emotional exhaustion via anxiety. Although we
did not find evidence for mediation, a special type of indirect effect, we did uncover a significant indirect effect (Mathieu & Taylor, 2006). Thus, our findings indicate that anxiety does connect surface acting to emotional exhaustion and that there is also a persisting main effect attributable to other mechanisms. Our findings also indicate that surface acting conducted during a workday positively influenced insomnia experienced that night, with state anxiety mediating part of the effect. Finally, surface acting conducted during a workday positively influenced strain-based work-to-family conflict experienced at home that evening, although we failed to find support for state anxiety as a mediator of this effect.

Given these findings, this study is important to the broad literature on emotional labor because it (a) theoretically extends the literature to consider discrete mechanisms that connect workplace behaviors to home-based outcomes; (b) presents a dynamic model of employee responses to emotional labor that illustrates how day-to-day variations in behavior predict employee outcomes; (c) employs a rigorous design that allows us to test the dynamic model; and (d) measures constructs in their relevant domains, increasing the validity of the measures and reducing the likelihood that responses could be tainted by item context effects (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Theoretical Implications

Our theoretical extension of Grandey’s (2000) seminal model of emotional labor presents important theoretical implications for the emotional labor literature. One such implication is that the strain-based effects of surface acting spill over to influence employees’ outcomes beyond the workplace. For example, whereas previous research has shown the effect of surface acting on emotional exhaustion experienced at work, our research shows that this effect extends beyond the work domain to include emotional exhaustion and work-to-family constructs at employees’ homes. Thus, our study illustrates that the effects of surface acting persist not only throughout the workday but also throughout the entire subsequent evening as well. Indeed, the effects of surface acting on a given day do not appear to stop even at the end of the evening. As our model and data indicate, employees will have difficulties falling asleep and staying asleep throughout the night following days on which they performed high levels of surface acting.

A second theoretical implication is that surface acting influences the families of employees as well as the employees themselves. Although our study did not measure the outcomes of other family members, our
study showed that, after engaging in high levels of surface acting on a
given day, employees experience strain-based work-to-family conflict that
evening. Given that work-to-family conflict has previously been linked
to how employees interact with their spouses and families (Greenhaus
& Powell, 2003; Ilies et al., 2007; Song, Foo, Uy, & Sun, 2008), our
findings suggest that spouses and families can be negatively impacted by
employees’ surface acting in the workplace.

Third, this study makes a case for examining discrete emotions that
mediate the relationship between work and home domains. Past research
has examined how broad measures of affect link work and home domains
(e.g., Ilies et al., 2007), and our study suggests value in examining discrete
emotions and their role in linking work and nonwork domains.

Overall, our research indicates that a major shortcoming of previous
models of emotional labor is that they have omitted the effects of emotional
labor on a wide range of stress outcomes observed beyond the workplace.
As the spillover literature would suggest (e.g., Eby et al., 2010), the effects
of emotional labor persist after employees leave work; this study serves
to broaden the domain of emotional labor research by considering some
of these outcomes.

Practical Implications

An important practical implication is that after a day of heavy surface
acting, an employee will likely come to work the next day tired, having
had insufficient sleep the prior night. Managers who fail to anticipate
the influence of surface acting on sleep will be less prepared for the prob-
lems (e.g., loafing, injuries, unethical behavior) that plague sleep-deprived
emotional laborers. Although the ideal solution is to help employees get
sufficient sleep, there are tools for mitigating the effects of poor sleep.
Barnes (2011) summarizes many of these strategies, such as assigning
complex, novel, and important tasks to those who are rested and routine,
simple, less critical tasks to those low on sleep. However, for the bus
driver sample studied in this paper, other strategies suggested by Barnes
may be more feasible, including naps, work breaks, caffeine, working in
teams, and job rotation. Each of these strategies takes a different approach
to combating the negative effects of working while sleep deprived. Man-
gers can pick the fatigue countermeasure strategy most suited to their
context. For example, a consultancy firm may provide beds for napping,
and a fast food chain may provide regular breaks and opportunities to
switch tasks.

Another practical implication is that on days in which employees en-
gage in high levels of surface acting, they should engage in recovery
activities after work. Effective recovery activities include relaxation,
psychological detachment, exerting personal control, and engaging in mastery experiences (Sonnentag et al., 2008; Sonnentag & Fritz, 2007). However, it is likely that there are other activities that aid recovery, such as exercise (Erfurt, Foote, & Heirich, 1992). Research indicates that engaging in recovery activities after work results in better sleep for employees and leads them to be more effective and prepared the next morning at work (Sonnentag, Binnewies, & Mojza, 2008, 2010). Moreover, the recovery experience of psychological detachment can help to erase the link between stressors experienced in the workplace and strain experienced by employees (Sonnentag, Kuttler, & Fritz, 2010). Indeed, recovery activities are directly negatively related to the experience of emotional exhaustion (Fritz et al., 2010). Given the findings in this study, one potential reason for this finding could be that recovery activities counteract and minimize the anxiety produced by strainful influences at work, such as surface acting. Thus, on days in which employees engage in high levels of surface acting, they should attempt to mitigate the strain-based outcomes by engaging in recovery activities after work or even during work breaks (e.g., Trougakos, Beal, Green, & Weiss, 2008).

**Strengths and Limitations**

It is important to note the strengths and limitations of this study. One limitation is that all of our data were collected through self-reports. Studies relying upon self-reports are often at risk of being vulnerable to common method variance (e.g., response tendencies, trait affectivity). However, three aspects of our research design minimize such concerns. First, our measures were separated in time. Our independent variable—surface acting—was measured at the end of each day’s work shift. Two of our dependent variables—emotional exhaustion and strain-based work-to-family conflict—were measured before employees went to bed that night. Thus, several hours elapsed between the independent variable and those dependent variables. Our third dependent variable—insomnia—was measured the next morning, prior to an employees’ work shift. Thus, a full evening plus a night of sleep separated the measurement of our independent variable from our measure of insomnia. Second, we utilized a within-participant design. This design allowed us to center the data on each participant’s respective mean, which parses out response tendencies and individual differences such as trait affectivity. Third, we collected and utilized participant responses on the prior day’s outcome variables for use as a control in the respective analyses. This means that our results describe the relationship between surface acting and increases or decreases in the respective outcome variables from one day to the next.
A second limitation is that all of our participants were drawn from a single occupation in a single organization. On one hand, this strategy eliminated noise due to differences between organizations or occupations. On the other hand, it did not provide the opportunity to compare effects across different occupations or across different organizations. Moreover, as evident in our data, bus drivers reported relatively low mean levels of surface acting. Thus, one might suspect that our findings are a conservative test of the effect of surface acting on home outcomes; an examination of these relationships among employees who demonstrate higher levels or greater variability in emotional labor might yield even stronger effects. Future research examining employees in different service-related occupations and/or from different organizations could determine the extent to which our findings generalize and the extent to which effect sizes vary.

A third limitation of our study is that, although we had temporal separation of our independent variable from all of our dependent variables in a manner that establishes temporal precedence and facilitates inferences that can be drawn from our design, our mediator (state anxiety) was measured at the same time as our independent variable. This limits the degree to which we can assert that surface acting causes state anxiety. Nevertheless, recent research has provided some initial evidence that emotional labor may elicit emotional reactions (Scott & Barnes, 2011), providing a conceptual basis for our arguments.

Finally, although we had sound rationale predicting that anxiety would mediate the effects of surface acting on the outcomes studied, the indirect effects were modest. One reason for this may have been that our operationalization of anxiety utilized some words that may have aligned more closely with fear. Consultation with a common thesaurus indicates that anxiety and fear are related emotions; moreover, the two emotions are near one another on the affect circumplex—both exhibit high activation and negative valence (Russell, 1980). However, respondents in our sample may have interpreted the measure as being focused on fear and therefore interpreted the measure differently than we intended. If it is the case that participants were careful enough to distinguish between two negative emotions that are closely aligned on the affect circumplex, then it highlights the value of differentiating between discrete emotions when conducting organizational research rather than merely examining broad measures of positive or negative affect. Researchers would do well to consider the role of discrete emotions in future organizational research and emotional labor research in particular.
Suggestions for Future Research

Our research indicates that there are at least three stress-related outcomes of engaging in surface acting on a given day. These fall within the broad dimensions of outcomes presented by Lazarus and Folkman (1984): emotion (morale), social functioning, and somatic health. We recommend that future research continue to extend models of emotional labor to include other constructs that fall within these three dimensions. Recent research indicates that work experiences can influence health (Carlson et al., 2011) and quality of life (Greenhaus, Collins, & Shaw, 2003). Thus, it is reasonable to expect that surface acting may influence each of these outcomes as well as the outcomes examined in our paper. Future research should also examine a broader view of who is impacted by an employee’s emotional labor on a given day. Research indicates that work experiences can influence spousal stress (Song, Foo, Uy, & Sun, 2011) and decisions to participate in work or family activities (Greenhaus & Powell, 2003; Ilies et al., 2007). Thus, future research should examine specific spouse and family member outcomes of an employee’s day-to-day surface acting.

Another series of research questions relates to the persisting main effects of surface acting on emotional exhaustion and work-to-family conflict. Even when accounting for the indirect effects via anxiety, the remaining main effects on these outcomes suggest that additional mechanisms explain the connections among these constructs. One possibility is that the connection is due to ego depletion; research seems to suggest that engaging in emotional labor consumes the individual’s self-regulatory resources (Grandey, Foo, Groth, & Goodwin, 2012; Muraven & Baumeister, 2000), resulting in what is called ego depletion. Achieving a state of ego depletion means that the individual has utilized all of his or her available self-regulatory resources, which could subsequently make it difficult to defer immediately desirable activities in favor of more valuable activities that might require the employee’s attention at home or which might make it difficult to self-regulate in the face of emotionally challenging stimuli. Another potential research question deals with the possibility that the effect of a predictor on different aspects of the outcome decays differentially over time. For instance, perhaps the portion of emotional exhaustion attributable to anxiety decays at a different rate than the portion of emotional exhaustion attributable to broader ego depletion. Such differential decay models may also be applied to understand how, for example, the spillover of the affective and cognitive components of job satisfaction decay over time. Future research may also find that other variables, such as various forms of fatigue (cf. Barnes & Van Dyne, 2009), link workplace stressors to stress outcomes experienced at home. Finally, the harmful effects of
emotional labor have been traced in part to its generation of dissonance within the employee (Pugh et al., 2011), and thus future research could examine the extent to which this dissonance persists and how it influences employee reactions in the home domain.

In addition to examining the mechanisms connecting work and home domains, there is also room to contribute to our understanding of this interface by examining moderators of these relationships. For instance, it may be that high levels of job control (Karasek, 1979) or adequate social support (Kossek, Pichler, Bodner, & Hammer, 2011) can mitigate the effects of surface acting on the outcomes in our model. Likewise, individuals’ coping styles (Lazarus & Folkman, 1984) may determine the extent to which surface acting drives the outcomes studied herein.

Conclusion

In summary, research on emotional labor has progressed from examining between-individual outcomes to within-individual relationships between emotional labor and work-based outcomes. This study serves to extend research on the processes of emotional labor by showing that surface acting affects employees’ emotional, social, and somatic outcomes, due in part to experienced anxiety. We hope that this study will trigger research on the broader impacts of surface acting and will alert organizations to the far reaching harmful effects of emotional labor at work.

REFERENCES


