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FAKE A SMILE, DRINK A WHILE? EXAMINING TWO THEORETICAL MECHANISMS LINKING EMOTIONAL LABOR TO ALCOHOL USE

A Thesis in
Psychology
by
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Abstract

While many researchers studying emotional labor (managing one's emotions to meet work requirements; Hochschild, 1983) have focused on job-related outcomes, we know significantly less about how emotional labor affects employees after work hours (Grandey & Gabriel, 2015). Employee alcohol use is one domain that may be influenced by emotional labor, given that much of the research on alcohol use has examined work stressors as a predictor of drinking (Cooper, Russell, & Frone, 1990; Frone, 2008). I conducted both a cross-sectional and time-separated test of the between-person relationship between emotional labor and alcohol, as well as a two-week daily diary study to examine the within-person relationship. Results revealed mixed support for a between-person relationship, but more consistent support for a within-person relationship, albeit in an unexpected direction. Furthermore, I tested the roles of two theoretically derived mediators—tension and depletion—at the within-person level. Results revealed that tension and depletion did not mediate the effect of emotional labor on alcohol use. Taken as a whole, these results indicate a need for further examination of alcohol use at the within-person level, and a possible need to expand beyond these two theoretical paradigms, both of which received little support. Implications and future directions are discussed.
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Chapter 1
Introduction

Emotional labor refers to managing one’s emotions as part of one’s job requirements (Grandey & Gabriel, 2015; Hochschild, 1983). Specific strategies to engage in emotional labor have been repeatedly shown to be associated with detrimental job attitudes, including burnout, job satisfaction, and task performance (Hülsheger & Schewe, 2011). While there has been steady growth in service-industry jobs that require emotional labor (Bureau of Labor Statistics, 2014) and a rapid increase in the number of research articles on emotional labor in the last two decades (Grandey & Melloy, 2017), the primary focus of this research has been on work-related outcomes (Grandey & Gabriel, 2015). Emotional labor, however, was originally proposed to affect the whole person and not just the work self (Hochschild, 1983). This proposition remains largely untested.

Researchers are now beginning to explore outcomes beyond the workplace, including work-family conflict (Wagner, Barnes, & Scott, 2014; Yanchus, Eby, Lance, & Drollinger, 2010), marital partner discontent (Krannitz, Grandey, Liu, & Almeida, 2015), and sleep quality (Wagner et al., 2014). Despite this trend, more research is necessary to understand the full extent to which emotional labor impacts employees’ non-work lives. The work that has been done in this domain has largely focused on attitudinal consequences of emotional labor (e.g., marital satisfaction, work-family conflict), with less attention being paid to behavioral outcomes. In particular, does engaging in emotional labor while working carry over into the home domain, such that employees engage in unhealthy behavior?

One behavioral outcome relevant to both individuals and organizations that warrants further examination is alcohol use. Organizations face high costs from employee alcohol use and
abuse, including absenteeism (Bacharach, Bamberger, & Biron, 2010) decreased productivity (Ames, Grube, & Moore, 1997), and workplace accidents (Dawson, 1994; Frone, 1998) (see Frone, 2013; Martin, Kraft, & Roman, 1994 for reviews). Employees also face both short and long-term health consequences, including decreased sleep quality (Roehrs & Roth, 2001), increased risk of stroke (Reynolds et al., 2003), as well as cancer, cardiovascular disease, and liver cirrhosis (Rehm et al., 2009). Additionally, the service industry (where emotional labor is a common part of the job) has high rates of alcohol abuse (Frone, 2006; Frone, 2013), suggesting a potential link between emotional labor and drinking. Whether this link is specific to emotional labor or other aspects of service work, however, is unknown.

In addition to expanding the criteria of emotional labor to drinking behavior, the current study contributes to the alcohol literature by using a unique predictor (emotional labor) to provide insight into the theoretical mechanisms linking characteristics of the job to alcohol use. One theoretical explanation is that employees’ willpower is drained from their shift, leaving them unable to resist the temptation to drink (Friese, Hofmann, & Wänke, 2008; Hagger, Wood, Stiff, & Chatzisarantis, 2009; Muraven, Collins, & Neinhaus, 2002; Muraven, Collins, Shiffman, & Paty, 2005). Alternatively, a second explanation argues that employees may deliberately use alcohol as a way of reducing tension or stress from their shift (Butler, Dodge, & Faurote, 2010; Frone, 2003; Frone, 2008). While both explanations arrive at the same prediction (more emotional labor will lead to greater alcohol use), the mechanisms they propose (depletion and tension) are distinct. Emotional labor is well suited for untangling these two explanations because it has been shown to lead to both depletion (Hülsheger & Schewe, 2011; Zyphur, Warren, Landis, & Thoresen, 2007) and tension (Ashforth & Humphrey, 1993; Deng, Walter, Lam, & Zhao, 2016; Grandey, 2003). As such, it is likely that both explanations for the link
between emotional labor and alcohol use are possible, and we can thus focus on understanding which explanation(s) are empirically supported. I examine both of these potential mediators, answering a call in the alcohol literature to understand how different perspectives on workplace alcohol use might inform one another (Bacharach, Bamberger, & Sonnenstuhl, 2002; Trice & Sonnenstuhl, 1988).

Thus, I contribute to both the emotional labor and alcohol literature in three important ways. A theoretical contribution is made by offering tests of two distinct but equally likely explanations for why stress on the job may lead to subsequent alcohol use, both of which have received independent support but have not been tested in conjunction with one another. Specifically, I examine two mediators that may explain a relationship between emotional labor and alcohol use—drinking from a *loss* of self-control capacity, or drinking as a *means* of regulating one’s emotions and stress. In doing so, I take the first step towards untangling these two mechanisms and understanding whether one, both, or neither receive support. I also consider how the relationship between emotional labor and alcohol use may differ, depending on the strategy one uses (i.e., surface and deep acting; Hochschild, 1983). Doing so provides more insight into the independent effects of both of these strategies, and allows for more targeted interventions to reduce alcohol use in the future.

Second, a unique empirical contribution is made by investigating alcohol use utilizing cross-sectional, time-separated, and daily diary approaches. These three distinct methods allow us to understand how a relationship between emotional labor and alcohol use might change, depending on how it is measured. More specifically, by testing the relationship between emotional labor and alcohol use both between *and* within persons, we can see whether the relationship holds across levels, where aggregation and cross-level bias may have confounded
past results (Firebaugh, 1978). While there has been some initial support for a between-person relationship between emotional labor and alcohol use (Grandey, Frone, Melloy, & Sayre, 2016), the theoretical mechanisms linking emotional labor to alcohol use are more variable and momentary. Thus, the daily diary approach provides a more theoretically grounded test of the mechanisms proposed, and also allows for stronger claims of causality and the ruling out of individual difference variables that may be impacting the results of the between-person tests.

Third, by attempting to understand the mechanisms underlying this relationship, I make a practical contribution by providing managers with the information they need to be able to change their organization in ways that may mitigate the potential risk factors for alcohol use. By changing the work environment, managers may be able to reduce the amount of alcohol consumed by employees, ultimately reducing the short and long-term detrimental effects of alcohol use. How managers should go about changing the work environment, however, depends on the theoretical paradigms that receive or do not receive support. For example, if emotional labor is linked to alcohol use through a failure of self-control, managers can attempt to provide employees with more recovery breaks to ensure they do not become depleted. If emotional labor is linked to alcohol use through tension, managers could attempt to train employees to use emotional labor strategies that result in less tension (deep acting). If neither mediator receives support, more work will be needed to understand the mechanisms at play.

**Emotional Labor**

Conceptualized in Hochschild’s (1983) seminal work, emotional labor refers to the regulation of one’s emotions as part of a job requirement (Diefendorff, Richard, & Croyle, 2006). This can be accomplished through several different strategies, with the most commonly studied being surface and deep acting (Hochschild, 1983). Surface acting is defined as modifying
outward displays of emotions without changing inner feelings (Hochschild, 1983). It may involve faking displays of emotions one does not actually feel, or suppressing emotions that are not desirable to express in a given situation (Grandey, 2003). For example, a waiter might smile and joke with customers at a table, despite feeling overwhelmed or stressed about the tasks they need to complete. Deep acting, in contrast, is defined as modifying one’s inner feelings in order to bring them in line with the emotions deemed appropriate by organizations (Hochschild, 1983). A waiter engaging in deep acting might take a few minutes before a shift to imagine positive aspects about their day, or the things they like about their job, in order to put themselves in a positive mood to then interact with customers.

Traditionally, research has examined how these two strategies affect on-the-job attitudes and behaviors. Surface acting has been found to be positively related to job burnout (Brotheridge & Grandey, 2002; Goldberg & Grandey, 2007; Grandey, Kern, & Frone, 2007; Grandey, 2003; Yanchus et al., 2010), strain (Hülsheger, Langa, & Maier, 2010; Hülsheger & Schewe, 2011), and job dissatisfaction (Bhave & Glomb, 2013; Judge, Woolf, & Hurst, 2009; Kammeyer-Mueller et al., 2013). Deep acting demonstrates far less consistent relationships, with it being related to a combination of positive (personal accomplishment, customer satisfaction, mood) (Hülsheger & Schewe, 2011; Scott & Barnes, 2011) and negative (emotional exhaustion and psychosomatic complaints) (Hülsheger & Schewe, 2011) outcomes. This pattern of results holds in both lab studies (e.g., Goldberg & Grandey, 2007) and field studies (e.g., Chau, Dahling, Levy, & Diefendorff, 2009; Grandey et al., 2007) and has been shown in meta-analyses (e.g., Hülsheger & Schewe, 2011; Kammeyer-Mueller et al., 2013).

More recently, researchers have become interested in outcomes of emotional labor outside the workplace. While it has long been thought that emotional labor impacts the
individual beyond the walls of their workplace (Hochschild, 1983), it is only in recent years that scholars have begun to examine this possibility. Existing research has examined a variety of outcomes, including work-family conflict (Krannitz et al., 2015; Wagner et al., 2014; Yanchus et al., 2010), health and strain (Diestel, Rivkin, & Schmidt, 2015), sleep quality (Wagner et al., 2014) and life satisfaction (Yanchus et al., 2010). While these studies do well in answering recent calls to expand the consequences of emotional labor beyond the work domain (Grandey & Gabriel, 2015), these outcomes primarily involve attitudes or feelings (e.g., satisfaction, perceptions of health, conflict, exhaustion, etc.). The question of what people do after engaging in emotional labor—that is, the behaviors they engage in—remains largely unanswered. One potential behavior that employees may engage in after work is alcohol use.

**Emotional Labor and Alcohol Use: Theoretical Explanations**

Two potential explanations exist that would predict a link between emotional labor and alcohol use, but for different reasons. From a self-control perspective, one might argue that exercising self-control through the constant monitoring and manipulating of one’s emotions will leave one less able to control their behavior in other domains, such as alcohol consumption (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Hagger et al., 2009; Kotabe & Hofmann, 2015; Van Damme, Crombez, Goubert, & Eccleston, 2009). The tension-reduction hypothesis, however, proposes that individuals will drink in response to the stress caused by emotional labor if they believe alcohol to be an effective means of coping with that stress (Conger, 1956; Frone, 2008; Sayette, 1999). These two approaches will be explored in more detail in subsequent sections.

The two theoretical mechanisms detailed above are momentary and require a within-person methodological approach. Specifically, both theories propose that more alcohol will be
consumed on days where employees engage in more emotional labor. The two theories and their predictions will be explained in greater detail below, but it is important to note that both of these approaches predict that surface acting, a behavior that requires self-control (Deng et al., 2016; Diestel et al., 2015; Goldberg & Grandey, 2007; Kim, Bhave, & Glomb, 2013; Zyphur et al., 2007) and creates tension (Hülsheger & Schewe, 2011; Kammeyer-Mueller et al., 2013; Wagner et al., 2014), should be positively related to alcohol use regardless of the mediating mechanism, whereas deep acting should not have a direct effect because of its null relationships with self-control and tension (Wagner et al., 2014). Additionally, deep acting has been compared to the broader concept of reappraisal (Grandey, 2015), which has been linked to numerous positive outcomes including decreased emotional responding and increased positive affect and interpersonal functioning (Gross & John, 2003; Gross, 1998, 2002).

**Hypothesis 1:** Surface acting (1A) but not deep acting (1B) will be positively related to alcohol consumption.

In summary, a self-control approach argues that individuals will drink as a *failure* to regulate, while the tension-reduction hypothesis proposes that individuals will drink as a *means* of regulation. These two equally plausible theories have been used in much of the alcohol literature, and yet no study has simultaneously considered both. Most work in the alcohol literature is grounded in one of these explanations or the other, with little acknowledgement of the other perspective. I hope to address this by examining both mechanisms in the same study, to understand whether one receives more support, or if both or neither seem to explain my findings. Regardless of the findings, both the emotional labor and alcohol literatures will be advanced.
**Self-control**

Several theories exist that attempt to explain the process and outcomes of exercising self-control, defined as a conflict between one’s desires and higher-order goals (Kotabe & Hofmann, 2015). Early theories such as ego-depletion have taken a resource-based approach, arguing that we have a limited pool of regulatory resources, such that engaging in self-control for one task leaves one with less resources for self-control in future tasks (Baumeister, Vohs, & Tice, 2007; Muraven, Tice, & Baumeister, 1998). Aside from traditional lab-based outcomes, depletion has also been shown to predict self-control failures outside the lab, including a lack of physical activity (Hagger, Chatzisarantis, & Biddle, 2002; Oaten & Cheng, 2005), unhealthy eating habits (Hagger, Chatzisarantis, & Harris, 2006; Hofmann, Rauch, & Gawronski, 2007; Vohs & Heatherton, 2000; Zyphur et al., 2007), and failure to adhere to medication and treatment regimens (Horne, 1998). These resource-based theories have come under scrutiny in recent years, with questions raised about the replicability of their findings (Carter, Kofler, Forster, & McCullough, 2015; Carter & McCullough, 2014).

In acknowledging these controversies and the evidence on both sides, the current study utilizes a broader, integrative model of self-control that incorporates the idea of regulatory depletion as one of many components in its model (Kotabe & Hofmann, 2015). The model describes the processes and inputs that ultimately determine whether self-control is exerted or not. Importantly, this integrated model of self-control incorporates past theories such as ego-depletion into the model, while also acknowledging other factors beyond resources that are likely to play a role in self-control exertion (Kotabe & Hofmann, 2015). This broad lens and synthesis of multiple perspectives means that the integrative model of self-control can provide a solid
foundation to ground my predictions, while also incorporating a number of theoretical perspectives that might be relevant to consider (e.g., ego-depletion).

The integrative model of self-control contains three basic components—the activation cluster, exertion cluster, and the behavior. The first part of the model is the “activation cluster”, where incongruence between one’s desire and one’s higher order goal creates a desire-goal conflict and thus a need for self-control. The authors define a desire as a driving force that is rooted in innate needs such as food, sex, rest, social connection, or similar other drives (Kotabe & Hofmann, 2015). A desire is not necessarily something harmful or something that needs to be avoided—a desire to rest after a long day is a healthy desire that should be indulged. A higher order goal is some end that is pursued intentionally, usually with long-term benefits. When this desire conflicts with a higher order goal, a desire-goal conflict arises and self-control is necessary. For example, the desire to rest after a long day may be in conflict with a looming deadline that must be met to keep one’s job. Thus, self-control is necessary to resist this desire and pursue the higher order goal of maintaining employment.

The amount of self-control that is exercised is determined in the “exertion cluster”, where self-control motivation and self-control capacity determine the amount of control exercised. The authors define this control capacity as the cognitive resources possessed to control the desire. While this differs somewhat from the regulatory resources of ego-depletion, which are thought to be more biologically based (Gailliot et al., 2007; Gailliot, Peruche, Plant, & Baumeister, 2009; Gailliot, Plant, Butz, & Baumeister, 2007), the premise remains the same—exerting resources may make it more difficult to control oneself later on. In fact, the authors of the integrative model acknowledge the importance and relevance of depletion despite recent controversies (Kotabe & Hofmann, 2016). Based on this similarity between self-control capacity and existing
depletion work, we draw on many findings in the regulatory depletion literature in making our arguments. Finally, the ultimate behavior one engages in depends on both the relative strength of one’s self-control versus one’s desire and the presence of any enactment constraints—defined as environmental factors outside a person’s control that constrain behavioral options (e.g., time, money, physical or social barriers) (Kotabe & Hofmann, 2015).

In the current study, I focus on alcohol use as the “desired” behavior. Alcohol is often seen as a tempting, short-term solution to more serious underlying problems, making it especially dangerous for individuals with difficulty controlling their behavior. While some individuals may find it easier to resist consuming alcohol than others, the act of abstaining or limiting one’s consumption requires some level of self-control, whether it is turning down an invitation to drink with colleagues, or saying “no” to a bartender’s offer for another round. In fact, there is both lab (Muraven et al., 2002) and field (Muraven et al., 2005) evidence that suggests that limiting one’s alcohol consumption does require self-control. Thus, in terms of the integrative model of self-control we conceptualize drinking alcohol as the desire, and staying in control (i.e., limiting one’s alcohol use) as the higher order goal.

According to the integrative model of self-control, the amount of self-control that is ultimately exerted will depend on one’s control capacity and motivation. Here I draw on regulatory depletion literature to suggest that both surface and deep acting require regulatory resources, and engaging in these strategies will reduce one’s control capacity. Within the emotion regulation domain—a broader term that encompasses managing emotions more generally, as opposed to just at work—there is evidence that regulating one’s emotions leaves one depleted and less able to exercise self-control in a subsequent task (Muraven & Baumeister, 2000; Muraven et al., 1998). More specific to emotional labor, interacting with a negative
customer, which requires more emotional labor to maintain a positive emotional display, has also been found to lead to depletion (Zyphur et al., 2007). Regulatory depletion has also been theoretically and empirically shown to be a mechanism linking emotional labor to detrimental outcomes such as strain, job satisfaction, and task performance (Deng et al., 2016; Diestel et al., 2015; Goldberg & Grandey, 2007; Kim et al., 2013; Wagner et al., 2014; Zyphur et al., 2007).

In light of these findings, I expect that individuals engaging in more surface or deep acting should experience a reduction in self-control capacity. Both strategies, by their very nature, require regulation. For surface acting, this involves regulating the outward display of emotions, whereas for deep acting it involves regulating one’s inner emotions to bring them in line with the desired emotions (Grandey, 2000; Hochschild, 1983). In addition, both strategies are related to outcomes that suggest regulation is occurring, such as decreased task performance (Goldberg & Grandey, 2007) and increased emotional exhaustion (Hülsheger & Schewe, 2011).

According to the integrative model of self-control this means that both strategies should reduce one’s control capacity to some extent. The integrative model of self-control is not specific in how it defines this control capacity, however evidence suggests that perceptions of depletion are an important driver of self-control failure (Job, Dweck, & Walton, 2010). In acknowledging this finding and also in keeping with other work on self-control (Johnson, Lanaj, & Barnes, 2014; Lanaj, Johnson, & Barnes, 2014; Twenge, Muraven, & Tice, 2004), I conceptualize self-control capacity as perceived regulatory depletion. As such, I predict that both surface and deep acting will be positive related to feelings of depletion.

**Hypothesis 2**: Both surface acting (1A) and deep acting (1B) with customers will be positively related to feelings of depletion.
The integrated model of self-control (Kotabe & Hofmann, 2015) argues that the ultimate behavior one enacts will depend on the relative strength of self-control and desire. According to this model, lower self-control capacity will result in less self-control being exerted, which, in turn, increases the chances that the desire will be enacted over the higher order goal. Applied to the current context, this would suggest that surface and deep acting will reduce one’s control capacity, which in turn will result in increased alcohol consumption. In summary, I predict that depletion will mediate the effect of surface and deep acting on alcohol consumption, such that both strategies will be positively related to depletion, which will then be related to increased alcohol consumption.

**Hypothesis 3**: Depletion will mediate the effect of surface acting (2A) and deep acting (2B) on alcohol consumption.

**Tension-reduction**

The tension-reduction paradigm refers to an individual consuming alcohol in an attempt to relieve stress (Conger, 1956). The paradigm centers around the idea that alcohol can have stress-reducing effects (Levenson, Sher, Grossman, Newman, & Newlin, 1980; Sayette, 1999) and that individuals will actively seek out alcohol as a way to reduce the stress they feel (Frone, 1999; Frone, 2008). Work stressors (e.g., incivility, time pressure, mistreatment) can be one source of this stress, creating feelings of tension that are unpleasant to experience (Cortina, Magley, Williams, & Langhout, 2001; Lim, Cortina, & Magley, 2008). The basic idea, then, is that individuals will consume alcohol as a means of reducing feelings of tension.

While several studies have found support for the idea of stressors leading to alcohol use (Bacharach et al., 2002; Crum, Muntaner, Eaton, & Anthony, 1995; Frone, 2008; Martin,
Roman, & Blum, 1996; Vasse, Nijhuis, & Kok, 1998), other results show no direct effects of stress on alcohol use or abuse (Cooper et al., 1990; Wiesner, Windle, & Freeman, 2005). One reason for this mixed evidence may be a difference in the temporal specificity of alcohol measures. Recent work has argued that alcohol use needs to be measured with specific, clearly defined time spans in mind (e.g., “how much did you drink yesterday?”) and not overall assessments of alcohol use (e.g., “how much do you drink in general?”) (Frone, 2008). To address this issue we examine alcohol over clearly defined temporal spans in both the between and within person analyses.

For service workers, emotional labor may be a significant source of tension. From its very conception, it was thought that emotional labor creates a feeling of tension because of the misalignment between what one feels and what one must display (Ashforth & Humphrey, 1993; Hochschild, 1983). There has been general support for this proposition¹, particularly for surface acting, which involves faking and suppressing emotional expressions directed at others (Erickson & Wharton, 1997; Hülsheger & Schewe, 2011; Kammeyer-Mueller et al., 2013). Furthermore, this relationship appears to hold at the daily level, where surface acting was positively related to tension (Judge et al., 2009; Wagner et al., 2014). Finally, evidence suggests that tension partially mediates the effect of surface acting on detrimental outcomes such as emotional exhaustion (Van Dijk & Brown, 2006). Individuals engaging in deep acting, however, modify their inner feelings so that they are no longer in conflict with the emotions they are expected to show. As a result, less tension is likely to occur because felt emotions are already aligned with the emotions one is expected to display (Brotheridge & Lee, 2002; Deng et al., 2016).

¹ The emotional labor literature has studied a variety of outcomes including dissonance, anxiety, and tension. While I recognize the distinctions and subtleties among these constructs, they can all be viewed as indicators of tension, broadly speaking. For the sake of parsimony, then, I do not distinguish among them for the purposes of this review.
These feelings of tension brought about by surface acting will lead to alcohol consumption in an attempt to reduce such feelings, according to the tension-reduction paradigm (Frone, 1999; Frone, 2008). In summary, individuals engaging in surface acting (but not deep acting) will experience tension as a result of the incongruity between the emotions they feel and the emotions they must display. Due to the perceived tension-reducing properties of alcohol, individuals will then turn to alcohol as a means of alleviating this tension. As such, we expect that any effect of surface acting on alcohol consumption should occur through this feeling of tension.

**Hypothesis 4**: Surface acting (3A) but not deep acting (3B) will be positively related to tension.

**Hypothesis 5**: Tension will mediate the effect of surface acting (4A) but not deep acting (4B) on alcohol consumption.

### Chapter 2
### Methods
### Participants

Eligible participants were recruited through two different subject pools. First, undergraduate students from a large northeastern university were recruited through either the psychology department participant pool in exchange for course credit or through e-mails sent out to two courses taught online in exchange for extra credit. Second, participants were recruited online through Amazon’s Mechanical Turk (MTurk). MTurk has become widely accepted as an inexpensive means of collecting data from a more diverse sample than undergraduates, with quality equivalent to traditional methods (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). I compare these two subsamples on key variables and discuss

In order to be eligible to complete the study, participants had to be 18 years of age or older, employed full-time (35+ hours per week), have daily contact with individuals outside their organization (e.g., customers, patients, students, clients), and could not abstain from alcohol use for medical, religious, or personal reasons. This last eligibility criteria was important in maximizing variability in alcohol consumption, while also focusing on a population that has at least the potential to engage in problematic drinking behavior (Bacharach et al., 2002). Eligibility criteria were explained before the start of the study, and questions at the beginning of the survey ensured participants met those criteria (those that failed were prevented from completing the survey). Additionally, attention-check questions were embedded in the survey to ensure participants were answering the questions properly, which also improves the quality of data (Peer, Vosgerau, & Acquisti, 2014).

**Procedure**

The current study was administered completely online, from recruitment to completion of all surveys. After participants signed-up for the study, they received a link to complete a baseline survey that gathered person-level variables. After giving their informed consent and answering several questions to ensure participants met eligibility requirements, participants completed measures of demographics (age, race, gender, tenure), work characteristics (industry, job title, amount of customer contact, time of shift), stressors (emotional labor, customer incivility), typical alcohol use, and trait negative and positive affectivity.

After five to seven days, participants began the daily diary portion of the study. Participants were sent a survey link via e-mail twice a day for fourteen days. The afternoon
survey, administered between 1-5 p.m., contained measures about emotional labor during that workday, as well as the amount of alcohol consumed the previous day. The evening survey, administered between 5-9 p.m., contain measures of depletion and tension. Thus, I could test daily surface and deep acting gathered that afternoon predicting alcohol use that same day, as reported the next day. This mitigates common method variance by separately measuring each variable in the model. Following the fourteen-day daily portion of the study, the participants were sent one final survey, which gathered between-person measures about emotional labor and alcohol consumption over the two-week study period.

Undergraduate participants were compensated with course credit or extra credit, and were compensated the full amount as long as they participated in the baseline survey. Participants from MTurk were compensated for each survey completed. The baseline and final survey were worth $0.50, and each daily survey was worth $0.20. Additionally, MTurk participants received a $1.00 bonus if they completed 80% or more of the daily surveys.

Baseline Measures

Emotional labor

Both surface and deep acting were measured using scales developed by Brotheridge and Lee (2003). I asked participants to indicate how often, in general, they engage in the following behaviors while interacting with customers or clients. All responses ranged from 1 = “Never” to 5 = “Always”. Surface acting was measured with a three-item scale ($\alpha = .83$), with a sample item being, “I just pretend to have the emotions I display.” Deep acting was measured with a three-item scale ($\alpha = .77$), with a sample item being, “I try to actually experience the emotions that I must show”.

---

2 See Appendix for a full list of all items used
**Trait positive and negative affect**

Trait positive and negative affectivity was measured using a slightly modified 21-item version of the Positive and Negative Affectivity Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The original 20 items were included, along with the addition of “tense”, given the importance of tension as a mediator at the daily level. Participants were asked to indicate the extent to which they felt specific emotions in general. Examples of positive affect emotions include “interested” and “excited”, while examples of negative affect emotions include “irritable” and “ashamed”. Ten items measured positive affect ($\alpha = .92$) and 11 items measured negative affect ($\alpha = .91$). Responses ranged from 1 = “Very slightly or not at all” to 5 = “Extremely”.

**Heavy alcohol consumption over the past six months**

Heavy alcohol consumption was measured using Frone’s (2016) three-item scale. Participants were asked how often, during the past 6 months, did they, “drink 5 or more [if male] or 4 or more [if female] drinks within two hours”, “drink to intoxication” and, “drink enough to experience a hangover.” Responses ranged from 1 = “Never” to 6 = “6 to 7 days per week” ($\alpha = .89$).

**Daily Measures**

**Emotional labor**

Emotional labor was measured in the afternoon survey using the same Brotheridge and Lee (2003) scales as the baseline survey. Importantly, emotional labor was only measured on days when the participant worked, because emotional labor is a behavior specific to the work domain (Grandey & Gabriel, 2015). As such, all daily observations used in the daily analysis
represent workdays for the participants. Averaging across days, both surface acting ($\alpha = .90$) and deep acting ($\alpha = .88$) showed high reliabilities.

**Depletion**

Depletion was measured in the evening survey using a five-item scale utilized in Johnson, Lanaj, and Barnes (2014) as well as Lanaj, Johnson, and Barnes (2014), based on work done by Twenge, Muraven, and Tice’s (2004). Participants were asked the extent to which they agreed or disagreed with statements. A sample item includes, “I feel like my willpower is gone. Responses ranged from 1 = “Strongly disagree” to 5 = “Strongly agree”. The internal consistency of this measure, averaged across days, was $\alpha = .94$.

**Tension**

Tension was measured in the evening survey using a 7-item modified version of the PANAS, which was used in Krannitz, Grandey, Liu, and Almeida (2015). Sample items include “irritable”, “jittery”, “tense” (see Appendix for all items). Responses ranged from 1 = “Very slightly or not at all” to “Extremely”. The internal consistency of this measure, averaged across days, was $\alpha = .95$.

**Alcohol consumption**

Alcohol consumption was measured in the afternoon survey using a single-item, which asked participants to type in how many standard alcoholic drinks (12 oz. of beer, 4 oz. of wine, 1 oz. of liquor) they consumed yesterday. I chose to have participants reflect back on the amount of alcohol they consumed yesterday, instead of asking them to report their alcohol use that evening, for three reasons. First, it possible that participants might continue drinking after an evening report of alcohol consumption, meaning the report of drinking I would receive would be incomplete. Second, participants who consumed alcohol would not be reliable raters of how
much they consumed or other important constructs measured in the evening (e.g. how much tension they felt). Relatedly, missing data would not be missing at random—participants who consumed alcohol would be more likely to not complete that evening’s survey. Finally, doing so provides clear temporal separation between my independent variables, mediators, and dependent variables. For these reasons, and in keeping in line with past work (Helzer, Badger, Searles, Rose, & Mongeon, 2006; Liu, Wang, Zhan, & Shi, 2009; O’Hara, Armeli, & Tennen, 2014; Park, 2004), I measure alcohol use the following day.

**Final Survey Measures**

*Heavy drinking*

Heavy drinking was measured using the same 3-item scale used in the baseline, except the stem of the question asked about heavy drinking behaviors “over the past two weeks”.

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**Chapter 3**

**Results Analysis**

I test my hypotheses in several distinct ways. I test the direct effects of surface and deep acting on alcohol use (Hypothesis 1A and 1B) using both between and within-person analyses. I first test this hypothesis using cross-sectional data collected entirely by the baseline survey. To rule out consistency effects and recall bias, I then test this same hypothesis using a time-separated approach where emotional labor is measured during the baseline survey and alcohol use is measured two weeks later during the final survey. Finally, I test for these direct effects at the within-person level using daily diary data and hierarchical linear modeling (HLM) to account for both between and within-person variation. I test the hypotheses involving mediators (Hypotheses 2-5) using only the within-person data.
Before analyzing the between-person data, I first examined whether the source of participants (student sample vs. MTurk) was related to any other variables of interest. As can be seen in Table 3-1, source of participants showed a significant correlation with negative affectivity (a control variable) and a modest but significant correlation with deep acting. Given its lack of significant correlation with most variables in the analysis, particularly the alcohol variables, I did not include source as a control variable. I controlled for trait positive and negative affectivity, gender, and customer incivility, as these variables have been repeatedly shown to be related to both emotional labor (Johnson & Spector, 2007; Kammeyer-Mueller et al., 2013; Sliter, Jex, Wolford, & McInnerney, 2010) and alcohol use (Cooper, Frone, Russell, & Mudar, 1995; Frone, 2013). Thus, the effects of surface and deep acting represent the unique effect of each, above and beyond any shared variance between the two or with control variables. Outliers in the between-person analysis were identified using residual analysis, and were flagged if they violated acceptable rules of thumb for studentized deleted residuals, Cook’s D, or leverage values. Analyses were re-run with identified outliers excluded, but their exclusion did not affect the significance or interpretation of the results. As such, the results reported below represent the analysis conducted with the full sample, including outliers.

In the within-person analyses, I tested for the effects of surface and deep acting on the mediator variables (Hypotheses 2 and 4) and the mediating effect of surface and deep acting on alcohol through the mediators (Hypotheses 3 and 5). The theoretical paradigms used to formulate these hypotheses are momentary in nature (e.g., individuals will drink when they lack self-control or when they feel tense), but the cross-sectional and time-separated data are unable to

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3 These control variables (positive and negative affectivity, gender) did not need to be included in the within-person analysis because they represent between-person differences. As such, any variance in alcohol use attributed to affectivity or gender would be removed from the within-person results reported below.
pick up these daily fluctuations in self-control and tension. I follow steps previously outlined for testing mediation in multi-level analyses (Krull & MacKinnon, 2001; Tofghi & Thoemmes, 2014; Zhang, Zyphur, & Preacher, 2009). Because my outcome was a count variable (number of alcoholic drinks consumed) I ran the multilevel analysis with a Poisson distribution and log-link function (Raudenbush, Bryk, & Congdon, 2002). Additionally, I controlled for day of the week trends by including six dummy-coded day variables in the analyses. I tested the mediating effect of emotional labor on alcohol through tension and depletion by using a Monte Carlo simulation with 20,000 repetitions to generate a 95% confidence interval around the indirect effect.

In both the between and within person samples, I compared mean levels of surface and deep acting obtained from my study with past published works. For the between-person analysis, the mean levels of surface and deep acting obtained in my study ($M_{\text{surface acting}} = 2.85; M_{\text{deep acting}} = 2.86$) were similar but slightly below what are observed in the published literature (e.g., Chi, Grandey, Diamond, & Krimmel, 2011; Diefendorff, Croyle, & Gosserand, 2005; Diefendorff, Erickson, Grandey, & Dahling, 2011; Grandey, 2003). For the within-person analysis, the mean levels of surface and deep acting obtained in my study ($M_{\text{surface acting}} = 2.25; M_{\text{deep acting}} = 2.28$) were similar but slightly higher than those found in previous daily diary designs (e.g., Sanz-Vergel, Rodríguez-Muñoz, Bakker, & Demerouti, 2012; Scott, Barnes, & Wagner, 2012; Wagner et al., 2014). As such, my sample experienced similar levels of emotional labor as past work.

**Comparison of Between and Within Person Samples**

Prior to hypothesis testing, I also compared how variables reported at the baseline and final survey related to similar variables reported during the two-week daily diary portion of the study. As can be seen in Table 3-1, general levels of surface and deep acting reported at the baseline were strongly correlated with average surface and deep acting across the two-weeks of
daily studies (r = .57 and r = .50, respectively). This demonstrates strong construct validity, in that general emotional labor was strongly related to average emotional labor across a two-week timespan. Additionally, heavy drinking reported at the final survey was strongly related to average alcohol use over the two-week daily study (r = .51). Again, this demonstrates strong construct validity and shows that individuals who reported more heavy drinking over the two weeks of the study (measured at final survey) also reported higher average levels of drinking across those same two weeks (average of daily surveys).

**Cross-sectional**

A total of 292 participants completed the baseline survey (64 students, 228 MTurk). After eliminating participants who did not complete a majority of the survey (11; all students), failed one or more eligibility questions (59; 14 students, 45 MTurk), or failed the attention check (3; all MTurk), I was left with 219 participants (39 students, 180 MTurk), which represents 75% of my original sample. Participants in the baseline survey were 58% female, an average of 34.82 years old, worked at their current organization for an average of 5.78 years for an average of 42.40 hours per week (range = 35-80). Participants were allowed to select as many racial categories as applied to them, as such the percentages listed add to more than 100%. Of the 219 participants, 5.48% selected Asian, 7.3% selected Black, 7.3% selected Hispanic, 1.83% selected Hawaiian or Pacific Islander, 1.83% selected Native American, and 81.28% selected White. In terms of industry, 16.4% indicated being employed in sales, 8.7% in food service, 15.1% in education, 16% in healthcare, 27.4% in professional services (financial services, managerial, lawyers), 1.8% in hotel and hospitality, and 14.6% in other services (e.g., hair/beauty, housekeeping, etc.). Table 3-1 shows the means, standard deviations, and bivariate correlations among the study variables.

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4 According to the 2010 U.S. Census, this sample over-represents White, Asian, Native American, and Hawaiian/Pacific islanders individuals and underrepresents Black and Hispanic individuals (Humes, Jones, & Ramirez, 2011).
Table 3-1: Means, standard deviations, and correlations between baseline and final variables

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
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<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Source</td>
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<tr>
<td>2. Positive affectivity (B)</td>
<td>3.31</td>
<td>.79</td>
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<td>3. Negative affectivity (B)</td>
<td>1.64</td>
<td>.65</td>
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<td>4. Gender (B)</td>
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<tr>
<td>5. Customer incivility (B)</td>
<td>2.26</td>
<td>1.00</td>
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<tr>
<td>6. Surface acting (B)</td>
<td>2.85</td>
<td>.92</td>
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<td>7. Deep acting (B)</td>
<td>2.86</td>
<td>.86</td>
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<td>8. Surface acting (D)</td>
<td>2.28</td>
<td>.97</td>
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<tr>
<td>9. Deep acting (D)</td>
<td>2.31</td>
<td>.97</td>
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<tr>
<td>10. Heavy drinking (B)</td>
<td>2.09</td>
<td>1.05</td>
<td>—</td>
<td>—</td>
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<tr>
<td>Past six months</td>
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<tr>
<td>11. Heavy drinking (F)</td>
<td>1.81</td>
<td>.97</td>
<td>—</td>
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<tr>
<td>Past two weeks</td>
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<td>—</td>
</tr>
<tr>
<td>12. Alcohol consumption (D)</td>
<td>.92</td>
<td>1.24</td>
<td>—</td>
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</tr>
</tbody>
</table>

Note. All correlations are between-persons. Variables measured at the daily level were averaged across days and then correlated. (B) = Measured at baseline; (D) = Measured in daily surveys; (F) = Measured at final survey; Source coded as 0=Student, 1=MTurk; Gender coded as 1=Male, 2=Female, * p < .05, ** p < .01, *** p < .001
To understand whether those who dropped out of the study differed in key respects to participants who completed the full study, I compared participants who completed the baseline survey but not the final survey to participants who completed both the baseline and final survey. Independent samples t-tests revealed no significant difference in levels of surface acting, deep acting, or heavy alcohol consumption between these two groups. This suggests that those who left the study early did not differ in any key respects from participants who completed the full study. As such, we analyze our cross-sectional results using the full baseline sample.

**Surface acting**

It was hypothesized that individuals who report engaging in more surface acting will also report engaging in more heavy alcohol consumption (Hypothesis 1A). After controlling for trait positive and negative affectivity, gender, customer incivility, and deep acting, surface acting was positively related to heavy alcohol consumption over the past six months, $b = .18$, $t(211) = 2.03$, $p = .04$, $\eta^2 = .02$, 95% CI [.01, .36], supporting Hypothesis 1A. See Table 3-2 for details.

**Deep acting**

It was hypothesized that the amount of deep acting an individual reports will be unrelated to the amount of heavy alcohol consumption they report (Hypothesis 1B). After controlling for trait positive and negative affectivity, gender, customer incivility, and surface acting, deep acting was not significantly related to heavy alcohol consumption over the past six months, $b = -.07$, $t(211) = -.78$, $p = .44$, $\eta^2 = .00$, 95% CI [-.23, .10], supporting Hypothesis 1B. See Table 3-2 for details.
Table 3-2: Surface and deep acting predicting heavy alcohol use

<table>
<thead>
<tr>
<th>Predictor</th>
<th></th>
<th>B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td></td>
<td>1.66***</td>
<td>1.35*</td>
</tr>
<tr>
<td>Covariates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive affectivity</td>
<td></td>
<td>-.07</td>
<td>-.02</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td></td>
<td>.26**</td>
<td>.22†</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>-.03</td>
<td>-.05</td>
</tr>
<tr>
<td>Customer incivility</td>
<td></td>
<td>.13†</td>
<td>.08</td>
</tr>
<tr>
<td>Surface acting</td>
<td></td>
<td></td>
<td>.18*</td>
</tr>
<tr>
<td>Deep acting</td>
<td></td>
<td></td>
<td>-.07</td>
</tr>
<tr>
<td>$R^2$</td>
<td></td>
<td>.06</td>
<td>.08</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td></td>
<td>—</td>
<td>.02**</td>
</tr>
</tbody>
</table>

Note. B represents unstandardized regression coefficient. * $p < .05$; ** $p < .01$; *** $p < .001$

**Time-separated**

A total of 110 participants completed the final survey. After removing all participants who failed the attention check (2) (1 student, 1 MTurk), I was left with 108 participants (24 students, 84 MTurk). Because some participants who completed the final survey had their baseline survey removed for some reason or another, I was left with 102 participants who
completed both the baseline and final survey. This sample was 60% female, had an average age of 35 years old, worked 42.54 hours per week (range = 35-80), and worked at their current job for an average of 5.62 years. Again, participants were able to select more than one race, so the percentages do not add to 100%. A total of 3% of this sample selected Asian, 5% selected Black or African-American, 6% selected Hispanic, 0% selected Native Hawaiian or Pacific Islander, 3% selected Native American, 84% selected White, and 2% selected other. In terms of industry, 13.7% indicated being employed in sales, 8.8% in food service, 15.7% in education, 15.7% in healthcare, 27.5% in professional services (financial services, managerial, lawyers), 2% in hotel and hospitality, and 16.7% in other services (e.g., hair/beauty, housekeeping, etc.). Table 3-1 shows the means, standard deviations, and bivariate correlations among the study variables.

**Surface acting**

It was hypothesized that individuals who report engaging in more surface acting will also report engaging in more heavy alcohol consumption (Hypothesis 1A). After controlling for positive and negative affectivity, gender, customer incivility, and deep acting, surface acting was not significantly related to heavy alcohol consumption over the past two weeks, \( b = .08, t (94) = .64, p = .53, \eta^2 = .00, 95\% CI [-.18, .34], \) thus Hypothesis 1A was not supported. See Table 3-3 for details. Additionally, results from the within-person analysis (see below for more details) show that there was not a significant between-person effect of surface acting on alcohol use across the two-week daily diary period, \( \gamma_{01} = .21, Z (95) = .96, p = .34. \) In other words, between-

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5 As mentioned previously, these participants did not differ significantly key variables from participants who attrited prior to completing the final survey.

6 Outlier analysis showed the presence of three outliers. When the analysis was re-run with the outliers removed, surface acting went from not significant (\( p = .13 \)) to marginally significant (\( p = .09 \)). Given that the outliers shaped the interpretation of these results to some extent, they were excluded from the analysis reported.
person differences in surface acting across the two-week daily study did not predict between-person variation in alcohol use.

**Deep acting**

It was hypothesized that the amount of deep acting an individual reports will be unrelated to the amount of heavy alcohol consumption they report (Hypothesis 1B). After controlling for positive and negative affectivity, gender, customer incivility, and surface acting, deep acting was not significantly related to heavy alcohol consumption over the past two weeks, $b = .09, t (94) = .75, p = .46, \eta^2 = .01, 95\% \text{ CI} [-.15, .34]$, thus Hypothesis 1B was supported. See Table 3-3 for details. Results from the within-person analysis (see below for more details) show that there was not a significant between-person effect for deep acting on alcohol use across the two-week daily diary period, $\gamma_{02} = -.21, Z (95) = -.99, p = .32$. In other words, between-person variation in deep acting did not predict between-person variation in alcohol use.
Table 3-3: Surface and deep acting predicting heavy alcohol use over two-week study period

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$B$</th>
<th>$B$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.16*</td>
<td>.86</td>
</tr>
<tr>
<td><strong>Covariates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive affectivity</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>.28**</td>
<td>.23</td>
</tr>
<tr>
<td>Gender</td>
<td>-.17</td>
<td>-.17</td>
</tr>
<tr>
<td>Customer incivility</td>
<td>.18</td>
<td>.13</td>
</tr>
<tr>
<td>Surface acting</td>
<td></td>
<td>.08</td>
</tr>
<tr>
<td>Deep acting</td>
<td></td>
<td>.09</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.10</td>
<td>.11</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>—</td>
<td>.01†</td>
</tr>
</tbody>
</table>

*Note. $B$ represents unstandardized regression coefficient. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

**Daily Diary**

The daily diary portion of the study measured the independent variable, mediators, and dependent variable all at separate time points (see Figure 3-1 for measurement model). As such, participants needed to complete at least two surveys in a row to be included in the test of the effect of emotional labor on the mediators, and three surveys in a row to be included in the test of the full meditational model. After eliminating a total of 147 afternoon surveys and 130 evening surveys for missing data and failed attention checks, I was left with a total of 118 participants.
who completed at least two consecutive surveys (afternoon day “t” and evening day “t”), for 582
days worth of observations for this test. A total of 98 participants completed surveys for at least
one complete day (afternoon day “t”, evening day “t”, afternoon day “t+1”), with a total of 430
complete days.

In terms of response rate, each participant could have completed a total of 13 days worth
of surveys. The current analysis, however, was only focused on workdays because emotional
labor is a work-specific construct (Grandey & Gabriel, 2015; Hochschild, 1983). Given an
average of five workdays per week, participants could have completed an estimated total of 980
days. Thus, this sample represents 44% of total possible days (430/980=.44). It is important to

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7 The daily diary survey was a total of 14 days, but because participants could not report their
alcohol use on day 14 (because there was no afternoon survey on day 15), the maximum number
of complete days of data was 13.
note that this is not the response rate for any given survey, but rather the percentage of workdays with complete data, compared to the estimated total number of work days.

To test the effect of daily emotional labor on daily alcohol consumption, and the mediating mechanisms underlying this effect, hierarchical linear modeling (HLM) was used. This technique is necessary given that each participant provided multiple responses, meaning that responses provided by the same person are likely to be more related than are responses provided by two different people, violating the independence of error assumption in OLS regression. Additionally, the intra-class correlation (ICC(1)) was calculated for both the mediators and outcomes variables (see Table 3-4 for details). The intra-class correlations show that a large proportion of the variance resides between people, which confirms the data violate the independence of error assumption, meaning HLM must be used. HLM allows for the examination of relationships at the daily level, while separating out between-person variance in these constructs.

Table 3-4: Hierarchical linear modeling estimates of null models

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Pooled intercept ($Y_{00}$)</th>
<th>Within-person variance ($\sigma^2$)</th>
<th>Between-person variance ($\tau_{00}$)</th>
<th>% Total variance between people (ICC(1))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depletion</td>
<td>2.46</td>
<td>.498</td>
<td>.835</td>
<td>62.61%</td>
</tr>
<tr>
<td>Tension</td>
<td>1.58</td>
<td>.20</td>
<td>.568</td>
<td>73.99%</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>.92</td>
<td>1.175</td>
<td>1.167</td>
<td>49.83%</td>
</tr>
</tbody>
</table>

*Note.* Percentage of total variance between units was computed with the formula $\tau_{00}/(\sigma^2 + \tau_{00})$. $Y_{00}$ is the average value of the dependent variable across all days and individuals.
Prior to hypothesis testing, I first examined the data for any day-of-the-week trends by including six dummy-coded variables in the analysis, with Sunday as the reference group. Results showed significantly more drinking on Saturday, and significantly less drinking on Tuesday and Wednesday, compared to Sunday. Given these findings and a precedent in the literature to control for day of the week (Butler et al., 2010; Mohr et al., 2001; Park, 2004), I included these six dummy code variables in all models as fixed effects (see Bryk & Raudenbush, 1992, p. 151). Additionally, prior to hypothesis testing I person-mean centered all predictor variables with the person means reintroduced, in order to separate out between and within person effects (Hofmann & Gavin, 1998; Zhang et al., 2009). See Table 3-5 for pooled within-person correlations, which were calculated by correlating the person-mean centered study variables.

Table 3-5: Means, standard deviations, and pooled within-person correlations among the daily variables over two weeks

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between Person</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Source</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. Heavy Alcohol Use</td>
<td>1.81</td>
<td>.97</td>
<td>.09</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><em>Reported at final survey</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within Person</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Surface Acting</td>
<td>2.25</td>
<td>1.10</td>
<td>-.11</td>
<td>.17</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Deep Acting</td>
<td>2.28</td>
<td>1.12</td>
<td>-.22*</td>
<td>.09</td>
<td>.26***</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Depletion</td>
<td>2.39</td>
<td>1.16</td>
<td>-.20†</td>
<td>.23*</td>
<td>.16***</td>
<td>.10*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Tension</td>
<td>1.57</td>
<td>.87</td>
<td>-.10</td>
<td>.25*</td>
<td>.16***</td>
<td>.13**</td>
<td>.43***</td>
<td>—</td>
</tr>
<tr>
<td>7. Daily Alcohol Consumption</td>
<td>.92</td>
<td>1.24</td>
<td>.22†</td>
<td>.42***</td>
<td>-.05</td>
<td>-.01</td>
<td>-.03</td>
<td>.00</td>
</tr>
</tbody>
</table>

**Note.** Means and standard deviations are reported prior to person-mean centering. Correlations with “Source” and “Heavy Alcohol Use” are between-person, meaning daily measures were averaged across days and then correlated. Source coded as 0=Student, 1=MTurk. All other correlations are pooled within-person correlations, meaning all variables were first person-mean centered and then correlated with one another. †p < .10, *p < .05, **p < .01, ***p < .001.
Due to their high pooled within-person correlation, I included both surface and deep acting as predictors in each model to ensure the effects reported represented the unique effect of surface or deep acting. Separate models were run for each of the two mediating variables. In all models, I allowed intercepts to vary for each person, and estimated fixed effects for day and the predictor variables (see Appendix B for full equations). As such, the models represent a test of whether, across individuals, there was a significant linear effect of emotional labor (surface or deep acting) on the mediators (tension and depletion) and dependent variable (alcohol consumption). As mentioned previously, the hypotheses were tested using the steps outlined in Baron and Kenny (1986) and adapted to multilevel mediation (Krull & MacKinnon, 2001; Tofghi & Thoemmes, 2014; Zhang et al., 2009), with a Monte Carlo simulation used to create a confidence interval around the indirect effect (Selig & Preacher, 2008).

Given that my dependent variable is the number of alcoholic drinks consumed (a count variable), I carefully examined the distribution. On average, participants reported consuming .92 alcoholic drinks each day, with responses ranging from 0 to 9 ($SD = 1.51$). On average, participants recruited through MTurk reported more alcohol consumption ($M = 1.08$) than undergraduate students ($M = .45$). This is likely due to the eligibility criteria, which required all participants to be employed full-time, meaning that all undergraduate students must also be working 35 or more hours a week, and likely have little free time. Importantly, an examination of the histogram as well as the skewness and kurtosis statistics revealed problematic levels of skewness ($skewness = 2.00; kurtosis = 4.41$). While this level of skew is to be expected with a
count variable, it does violate the normality assumption of regression, thus a Poisson distribution with a log-link function was used (Raudenbush et al., 2002).

**Direct effects**

Hypothesis 1A predicted that surface acting would be positively related to alcohol consumption. As shown in Table 3-6, surface acting did not significantly predict alcohol consumption controlling for day of the week and deep acting, $\gamma_{70} = -.04$, $Z (325) = -.35$, $p = .73$. Thus Hypothesis 1A was not supported. Hypothesis 1B predicted that deep acting would be unrelated to alcohol consumption. Results indicate that deep acting was *negatively* related to alcohol consumption, controlling for day of the study and surface acting, $\gamma_{80} = -.26$, $Z (325) = -2.11$, $p = .04$, thus Hypothesis 1B was not supported. This indicates that for each additional unit increase in deep acting, daily alcohol consumption decreased by a factor of .77 ($e^{-0.26} = .77$).

**Depletion mediator**

Hypothesis 2A predicted that surface acting would be positively related to depletion. Results indicate that surface acting significantly predicted depletion, controlling for day of the week and deep acting, $\gamma_{70} = .15$, $t (456) = 2.98$, $p < .01$, supporting Hypothesis 2A. Hypothesis 2B predicted that deep acting would be positively related to depletion. Results indicate that deep acting did not significantly predict depletion, controlling for day of the week and surface acting, $\gamma_{80} = .03$, $t (456) = .52$, $p = .60$, thus Hypothesis 2B was not supported. See Table 3-6.

In a model with day of the week, surface acting, deep acting, and depletion, surface acting was not significantly related to alcohol consumption, $\gamma_{70} = -.04$, $Z (324) = -.39$, $p = .70$, and deep acting was negatively related to alcohol consumption, $\gamma_{80} = -.26$, $Z (324) = -2.11$, $p = .04$. 

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8 For each model, I also tested a negative binomial regression, given overdispersion in my data. Results for the binomial regression were not substantively different, and did not significantly improve any model. As such, the results from the Poisson distribution are reported.
For each additional unit increase in deep acting, daily alcohol consumption decreased by a factor of .77 ($e^{-0.26} = .77$). Contrary to expectations depletion did not predict alcohol consumption, $\Upsilon_{90} = .00$, $Z (324) = -.05$, $p = .96$. Again, the relationship between the emotional labor variables and alcohol consumption is opposite what was expected. Finally, Hypothesis 3A and 3B predicted that depletion would mediate the effect of surface acting (3A) and deep acting (3B) on alcohol consumption. A Monte Carlo simulation using 20,000 repetitions revealed that both the confidence interval for the indirect effect of surface acting [-.02, .03] and the confidence interval for the indirect effect of deep acting [-.01, .01] contained zero, thus Hypotheses 3A and 3B were not supported.

**Tension mediator**

Hypothesis 4A predicted that surface acting would be positively related to feelings of tension. As shown in Table 3-6, surface acting significantly predicted feelings of tension, controlling for day of the week and deep acting, $\Upsilon_{70} = .07$, $t (456) = 2.26$, $p = .02$, supporting Hypothesis 4A. Hypothesis 4B predicted that deep acting would be unrelated to feelings of tension. Results indicate that deep acting did in fact predict feelings of tension, controlling for day of the week and surface acting, $\Upsilon_{80} = .07$, $t (456) = 2.18$, $p = .03$, thus Hypothesis 4B was not supported.

In a model with day of the week, surface acting, deep acting, and tension, surface acting was not significantly related to alcohol consumption, $\Upsilon_{70} = -.05$, $Z (324) = -.48$, $p = .63$, and deep acting was negatively related to alcohol consumption, $\Upsilon_{80} = -.27$, $Z (324) = -2.16$, $p = .03$. See Table 3-6. For each additional unit increase in deep acting, alcohol use decreased by .76 ($e^{-0.27} = .76$). Contrary to expectations tension did not significantly predict alcohol consumption, $\Upsilon_{90} = .07$, $Z (324) = .42$, $p = .68$. Finally, Hypothesis 5A predicted that tension would mediate the
effect of surface acting on depletion, while Hypothesis 5B predicted that tension would not mediate the effect of deep acting on alcohol consumption. A Monte Carlo simulation using 20,000 repetitions revealed that the confidence interval for both the indirect effect of surface acting [-.02, .03] and deep acting [-.02, .03] on alcohol consumption through tension contained zero. Thus Hypothesis 5A was not supported, and Hypothesis 5B was supported.

Table 3-6: Daily effects for surface and deep acting

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Alcohol Consumption</td>
<td>Mediators</td>
<td>Alcohol Consumption</td>
</tr>
<tr>
<td>Independent Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.05</td>
<td></td>
<td>.38†</td>
</tr>
<tr>
<td>Day of the Week</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Surface Acting</td>
<td>-.04</td>
<td>.15**</td>
<td>.07*</td>
</tr>
<tr>
<td>Deep Acting</td>
<td>-.26*</td>
<td>.03</td>
<td>.07*</td>
</tr>
<tr>
<td>Depletion</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Tension</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. † p < .10; * p < .05; ** p < .01; *** p < .001. Level-1 N= 430-582. All predictors were person-mean centered. Intercepts were allowed to vary for each individual, all other effects were fixed. Day of the week dummy code variables were included in the analyses but they are not reported here for parsimony. No dummy coded day of the week variable had a significant effect on alcohol consumption when other variables (e.g., emotional labor, tension, depletion) were also in the model.
Summary of daily results

Results indicated that surface acting was unrelated to alcohol consumption, while deep acting was unexpectedly negatively related to alcohol consumption (Hypotheses 1A and 1B not supported). Surface acting predicted depletion (Hypothesis 2A supported), but deep acting did not (Hypothesis 2B not supported). The indirect effect of surface or deep acting on alcohol use through depletion was not significant (Hypothesis 3A and 3B not supported). Surface acting predicted tension (Hypothesis 4A supported), as did deep acting (Hypothesis 4B not supported). Finally, the indirect effect of surface or deep acting on alcohol use through tension was not significant (Hypothesis 5A and 5B not supported).

Alternative Explanations

The negative relationship between deep acting and alcohol use was in the opposite direction as hypothesized. There are several potential explanations for this finding. First, it may be that alcohol use the night before makes one more likely to behave in emotionally deviant ways, meaning less deep acting is reported. Alcohol use has been shown to predict negative mood the subsequent week (Hussong, Hicks, Levy, & Curran, 2001), and this negative mood coupled with decreased sleep quality (Roehrs & Roth, 2001) could leave an individual less able to perform their job duties (Diestel et al., 2015), decreasing the odds that they engage in deep acting and instead making it more likely that they display inappropriate emotions. To test this explanation, I again used HLM with person-mean centered predictor variables controlling for day of the study. Again, intercepts were allowed to vary for each person but the slope was fixed across all individuals. I first tested whether alcohol use on day “t” predicted surface or deep acting on the evening of day “t+1”. Results indicate that alcohol consumption did not
significantly predict subsequent surface acting, $\gamma_{70} = -0.04$, $t (465) = -1.27$, $p = .20$ or deep acting, $\gamma_{70} = -0.02$, $t (465) = -0.71$, $p = .48$.

It is also possible that the relationship differs based on the type of drinking. More specifically, the mechanisms I hypothesized are thought to occur at a momentary level, so drinking as a response to tension or depletion might only occur immediately after work, perhaps resulting in more “after work” drinking but less “overall” drinking. In essence, we would expect a positive relationship between emotional labor and alcohol use immediately after work, and a negative relationship with total alcohol use. I tested this possibility using the same within-person analytic approach but with a measure of alcoholic drinks consumed within two hours of leaving work. Results revealed a similar pattern, with surface acting being unrelated to after-work alcohol use, $\gamma_{70} = .12$, $Z (327) = .82$, $p = .41$, and deep acting being negatively related, $\gamma_{45} = -.45$, $Z (327) = -2.26$, $p = .02$. Neither tension nor depletion mediated these effects.

Certain aspects of the sample could also be driving this negative relationship. I first tested the within-person relationship between emotional labor and alcohol use in two-distinct subsamples—individuals indicating they worked in “high skill” industries (education, healthcare, management) and those working in “low skill” industries (sales, food service, hotel and hospitality, other). The nature of this relationship between deep acting and alcohol use may vary based on industry, due to differences in alcohol availability, drinking norms, or the nature of the work performed. For participants in high skill industries, neither surface acting, $\gamma_{10} = .10$, $Z (204) = .71$, $p = .48$, nor deep acting, $\gamma_{30} = -.15$, $Z (204) = -1.05$, $p = .29$, significantly predicted alcohol consumption. For participants in low skill industries, surface acting marginally predicted

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9 Because of the decrease in sample size after dividing the data based on occupation, I no longer had enough degrees of freedom to include the six dummy-coded day of the week variables. Instead, I included one “day of the week” variable coded 0-6 that represents the linear trend of drinking throughout the week, starting on Sunday and ending on Saturday.
alcohol consumption in a negative direction, $\gamma_{20} = -.31$, $Z (119) = -1.78$, $p = .08$, which was opposite what was hypothesized. Deep acting significantly predicted alcohol consumption in a negative direction, as found in the full sample, $\gamma_{30} = -.82$, $Z (119) = -3.21$, $p = .001$. Although these findings shed light on the occupations where this relationship is or is not present, the relationships that did exist were still negative, which does not help explain this unexpected result.

In addition, I tested this within-person relationship between emotional labor and alcohol excluding undergraduates. For MTurk participants, neither surface acting, $\gamma_{70} = -.01$, $Z (336) = -.10$, $p = .92$ nor deep acting $\gamma_{30} = -.07$, $Z (336) = -.52$, $p < .60$ were significantly related to alcohol consumption. It may also be that abstainers within the sample are driving this negative relationship. To test this explanation, I also tested my hypotheses using the same analysis but only including participants who consumed at least one alcoholic drink over the two-week study period, but surface acting remained not significant, $\gamma_{70} = -.05$, $Z (265) = -.44$, $p = .66$, and deep acting remained negatively related to alcohol consumption, $\gamma_{80} = -.26$, $Z (265) = -2.09$, $p = .04$.

There may also be aspects of measurement that result in these unexpected results. For example, surface acting has long been thought of as containing aspects of faking positive emotions and suppressing negative ones (Grandey, 2000; Hochschild, 1983). The lack of a significant relationship between surface acting and alcohol use may be due to our combining of these two subcomponents into one scale. The results from these analyses, however, did not provide any insight. Similar to surface acting, both faking, $\gamma_{70} = -.04$, $Z (324) = -.04$, $p = .79$, and suppressing, $\gamma_{80} = -.02$, $Z (324) = -.14$, $p = .89$ were not related to alcohol use, while deep acting remained negatively related, $\gamma_{90} = -.25$, $Z (324) = -1.96$, $p = .05$.

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10 I did not have a large enough sample of undergraduates to test the model again excluding MTurk participants.
It is also possible that this negative relationship may be a suppression effect driven by the day of the week dummy codes included in the model. In other words, day of the week may be the main driver behind drinking, and by controlling for it I remove error variance resulting in a significant relationship between deep acting and alcohol use. I ran the same analysis, regressing surface and deep acting and their means onto alcohol use, and did not include any time variable. Results were consistent with the test of the hypotheses, with surface acting being unrelated to alcohol use, $\gamma_{10} = -.06, Z(431) = -.57, p = .57$, and deep acting being negatively related to alcohol use, $\gamma_{20} = -.26, Z(431) = -2.15, p = .03$. Thus, it appears as though this negative relationship is not a suppression effect.

Chapter 4
Discussion

In the current study I answer calls in the emotional labor literature to explore outcomes beyond the workplace (Grandey & Gabriel, 2015) by examining a behavior that is both theoretically relevant and practically important—alcohol use. In doing so, I ground my predictions in self-control and tension-reduction perspectives, which are two prominent theoretical approaches in the alcohol literature. The self-control perspective predicts that individuals will drink in response to emotional labor because they lack the self-control capacity to resist their desire. The tension-reduction perspective argues that individuals will knowingly consume alcohol as a means of reducing feelings of tension or dissonance they feel from emotional labor. These two approaches were simultaneously examined using cross-sectional, time-separated, and daily diary designs.

Results from between-person analysis indicate partial support for Hypothesis 1A and 1B, with surface acting being linked to alcohol consumption when measured at the same point in
time, but not when measured two-weeks apart. Deep acting was unrelated to alcohol consumption when measured at the same point in time and when separated in time. The within-person analyses revealed unexpected relationships, with deep acting being negatively related to alcohol consumption. In other words, greater deep acting on a given day was related to less alcohol consumption later that day (reported the next afternoon). A negative relationship between stress and alcohol consumption at the daily level has been found in previous work (Helzer et al., 2006)\textsuperscript{11}, but it still defies a majority of the findings, which link stress to increased alcohol consumption at the day level (Butler et al., 2010; Liu et al., 2009; Mohr et al., 2005; Muraven, Collins, Morsheimer, Shiffman, & Paty, 2005; Park, 2004)

The mediating mechanisms of depletion and tension were tested in the within-person analysis, given that their respective theoretical paradigms rely on more momentary fluctuations. Results indicated that surface acting predicted depletion (supporting Hypothesis 2A) but deep acting did not (Hypothesis 2B not supported). In both cases, depletion did not mediate the effect of surface or deep acting on alcohol consumption, failing to support Hypothesis 3A and 3B. Surface acting also predicted tension, supporting Hypothesis 3A, as did deep acting, which was unexpected and did not support Hypothesis 3B. Meta-analytic evidence does show a relationship between deep acting and both emotional exhaustion and psychosomatic complaints, suggesting some detrimental effects. It may be that regulating one’s emotions, even if done through changing inner feelings, results in tension. Tension did not mediate the effect of surface acting on alcohol consumption, therefore Hypothesis 4A was not supported but Hypothesis 4B was.

\textsuperscript{11} These authors found that drinking was negatively related to next day stress (inverse effect), and argued that the negative relationship between stress and same-day alcohol consumption was really the result of the stress-dampening effects of alcohol. I did not find this inverse relationship in my data.
There are several post-hoc explanations for why surface and deep acting were negatively related to alcohol use. In the alternative explanations section I ruled out several potential explanations. First, I showed that alcohol (on day “t”) did not predict decreased surface or deep acting (i.e., increased emotional deviance or decreased effort) the subsequent day (day “t+1”). Second, I showed that the results did not differ based on whether the measure of alcohol was total amount of alcohol consumed, or alcohol consumed within two-hours of leaving work. Third, I examined subsamples of the data based on work industry (professional versus unprofessional) and also eliminated individuals who abstained from alcohol over the study period. None of these analyses yielded insight into what is driving this negative effect—deep acting remained significantly negatively related to alcohol consumption in the unprofessional subsample and in the sample excluding abstainers. Finally, I examined the two subcomponents of surface acting—faking and suppressing—in the hopes of understanding the lack of a significant relationship between surface acting and alcohol use. The results did not provide any insight, with both subcomponents being unrelated to alcohol use.

Additional explanations that were not tested include the possibility that this negative relationship between emotional labor and alcohol use is due to the beneficial effects of deep acting on mood (Ashforth & Humphrey, 1993), and not the detrimental effects of emotional labor on stress. Deep acting has been linked to the concept of reappraisal in the emotion regulation literature (Grandey, 2000; Grandey, 2015), which is associated with decreased emotional responding and increased positive affect and interpersonal functioning (Gross & John, 2003; Gross, 1998, 2002). Furthermore, deep acting itself has been positively associated with job satisfaction and unrelated to burnout (Hülsheger & Schewe, 2011; Judge et al., 2009), lending
more credence to the idea that deep acting might be improving mood, which subsequently results in less drinking.

It is also possible that individuals may be too tired or exhausted to drink on days that they engage in high levels of surface or deep acting. Instead, they may drink on their days off, which were not captured in the current analysis that was limited to working days. Finally, it is possible that between-person moderators change the direction of this relationship, such that for some people a positive relationship might exist, while for others a negative relationship might exist. More supplemental analyses need to be conducted to explore these possibilities and others, in order to better understand why this negative relationship exists.

Implications

There are several important implications of the current study. First, I answer calls in the emotional labor literature to expand beyond workplace outcomes (Grandey & Gabriel, 2015), and also contribute to the growing body of work examining after-work consequences of emotional labor by examining a behavior, as opposed to an attitudinal consequence. The current study provides ample evidence for a relationship between emotional labor and alcohol use, although the direction of this relationship differs depending on whether the analyses were conducted between or within individuals. The unexpected negative relationship at the within-person level, coupled with the lack of support for tension or depletion as mediators, also contributes to the alcohol literature by demonstrating that current theoretical paradigms (e.g., self-control and tension reduction) may not be useful in understanding how stress and alcohol use are related at the daily level.

Empirically, the current study demonstrates stark differences in how these variables are related between and within persons, providing support for the idea that relationships can differ
depending on the level of analysis (Firebaugh, 1978). More specifically, the idea that emotional labor is positively related to alcohol use was supported in the between-person cross-sectional test, with more surface acting being related to increased alcohol consumption. This relationship was flipped within-persons, however, where greater deep acting was negatively related to alcohol consumption. Although illustrating this difference in the nature of the relationship across levels creates more questions than answers, it is valuable to the alcohol literature in demonstrating that the paradigms relied on to predict alcohol use between-persons may not apply to predicting daily fluctuations in alcohol use within persons.

In terms of practical implications, the current study suggests that organizations and managers need to be aware of the link between emotional labor and alcohol use. More work needs to be done to understand the exact nature of this relationship before recommendations can be made. It does appear as though deep acting is the less harmful (or more beneficial) form of emotional labor, which is in line with past research findings (Hülsheger & Schewe, 2011). As such, managers and employees alike could strive to implement deep acting strategies when engaging in emotional labor, and avoid the more harmful technique of surface acting.

Limitations and Future Directions

There are several key alternative explanations that may provide insight into the negative relationship between emotional labor and alcohol use that could not be tested in the current study. First, I did not collect a daily measure of mood, so it remains possible that deep acting actually improves mood, which is subsequently related with less drinking. Second, the current study is limited to only working days. As such, some of the nuance of drinking over the course of the week is lost. For example, it may be that the negative relationship between emotional labor and alcohol use at the daily level only exists on workdays. Emotional labor over the course of the
week may in fact positively predict drinking on the weekday or a day off, but this is not captured in the current analysis. Future work should attempt to understand how this relationship might change depending on whether it is a workday or non-workday.

Future research should also examine the possibility of between-person moderators that change the direction of the relationship between emotional labor and alcohol use. For example, the amount of alcohol available to an individual (Ames & Grube, 1999; Ames & Janes, 1992) or their trait self-control may strengthen the extent to which they drink in response to decreased self-control capacity from emotional labor. Similarly, individuals with tension-reduction expectancies (the belief that alcohol helps to reduce stress; Christiansen, Goldman, & Inn, 1982; Goldman, Brown, & Christiansen, 1987; Jones, Corbin, & Fromme, 2001) may demonstrate a positive relationship between emotional labor and alcohol, and individuals who do not hold this expectancy may be less likely to drink when feeling tense or after engaging in emotional labor. These and other moderators should be explored in order to understand if this negative relationship between emotional labor and alcohol use occurs for all, or only some, individuals.

Conclusion

Taken as a whole, it appears as though the relationship between emotional labor and alcohol use operates differently at different levels of analysis. Results from the between-person test were generally in line with my predictions (positive relationship between surface acting and alcohol use), whereas the within-person relationships between emotional labor and alcohol were opposite what was expected (negative relationship between deep acting and alcohol use). This suggests that the alcohol literature might benefit from additional tests of alcohol use at the daily level, as well as more careful theorizing regarding how stressors might affect alcohol use each
day. Overall, it appears that emotional labor and alcohol are interrelated, but the nature and mechanisms underlying these relationships need to be explored in more detail.
Appendix A

Survey Items

Baseline Survey

Surface Acting “The following questions will ask you about your behaviors in general, while at work. In order to do your job effectively, how much do you do the following behaviors?”

1. Just pretended to have the emotions you displayed
2. Hid my true feelings about situations
3. Resisted expressing my true feelings

Deep Acting “The following questions will ask you about your behaviors in general, while at work. In order to do your job effectively, how much do you do the following behaviors?”

1. Tried to actually experience the emotions that I must show
2. Made an effort to actually feel the emotions I need to display towards others
3. Worked hard to feel the emotions that I needed to show to others

Positive Affectivity “Please indicate the extent to which you feel this way in general, across situations.”

1. Interested
2. Excited
3. Strong
4. Proud
5. Alert
6. Inspired
7. Determined
8. Enthusiastic
9. Attentive
10. Active

Negative Affectivity “Please indicate the extent to which you feel this way in general, across situations.”

1. Distressed
2. Tense
3. Upset
4. Guilty
5. Hostile
6. Scared
7. Irritable
8. Ashamed
9. Nervous
10. Jittery
11. Afraid

Customer Incivility “How often do individuals outside of your organization (e.g., customers, clients, students) do the following things at your workplace, in general?”

1. Take their anger out on employees
2. Take out their frustration on employees at my organization
3. Make insulting comments to employees
4. Treat employees as if they are inferior or stupid
5. Show that they are irritated or impatient
6. Do not trust the information that I give them and ask to speak with someone of higher authority
7. Are condescending to me
8. Make comments that question the competence or employees
9. Make comments about my job performance
10. Make personal verbal attacks against me
11. Make unreasonable demands

**Heavy Alcohol Consumption** “How frequently have you engaged in the following behaviors, over the past six months?”
1. Drinking five or more [if male] or four or more [if female] alcoholic drinks within two hours
2. Drinking to intoxication
3. Drinking enough to experience a hangover

**Daily Survey**

**Surface Acting** “How much have you done the following behaviors at work today?”
1. Just pretended to have the emotions you displayed
2. Hid my true feelings about situations
3. Resisted expressing my true feelings

**Deep Acting** “The following questions will ask you about your behaviors in general, while at work. In order to do your job effectively, how much do you do the following behaviors?”
1. Tried to actually experience the emotions that I must show
2. Made an effort to actually feel the emotions I need to display towards others
3. Worked hard to feel the emotions that I needed to show to others

**Depletion** “Please indicate the extent to which you agree or disagree with the following statements.”
1. My mind feels unfocused right now
2. Right now, it would take a lot of effort for me to concentrate on something
3. I feel like my willpower is gone
4. I feel drained
5. My mental energy is running low

**Tension** “Indicate to what extent you feel this way right now”
1. Irritable
2. Nervous
3. Distressed
4. Upset
5. Hostile
6. Jittery
7. Tense

**Alcohol Consumption**
1. How many drinks (12 oz. beer, 4 oz. wine, 1 oz. liquor) did you consume yesterday?
Final Survey

Heavy Alcohol Consumption “How frequently have you engaged in the following behaviors, over the past two weeks?”
  1. Drinking five or more [if male] or four or more [if female] alcoholic drinks within two hours
  4. Drinking to intoxication
  5. Drinking enough to experience a hangover
Appendix B

Multilevel Regression Equations

Step 1:
Alcohol

\[ \text{Alcohol}_{ij} = \beta_{0j} + \beta_{1j}(D_{M_{ij}}) + \beta_{2j}(D_{Tues_{ij}}) + \beta_{3j}(D_{W_{ij}}) + \beta_{4j}(D_{Thur_{ij}}) + \beta_{5j}(D_{Fri_{ij}}) + \beta_{6j}(D_{Sat_{ij}}) + \beta_{7j}(SA_{ij} - \overline{SA}) + \beta_{8j}(DA_{ij} - \overline{DA}) + r_{ij} \]

\[ \beta_{0j} = Y_{00} + Y_{01}(\overline{SA}) + Y_{02}(\overline{DA}) + U_{0j} \]
\[ \beta_{1j} = Y_{10} \]
\[ \beta_{2j} = Y_{20} \]
\[ \beta_{3j} = Y_{30} \]
\[ \beta_{4j} = Y_{40} \]
\[ \beta_{5j} = Y_{50} \]
\[ \beta_{6j} = Y_{60} \]
\[ \beta_{7j} = Y_{70} \]
\[ \beta_{8j} = Y_{80} \]

Step 2A:
Depletion

\[ \text{Depletion}_{ij} = \beta_{0j} + \beta_{1j}(D_{M_{ij}}) + \beta_{2j}(D_{Tues_{ij}}) + \beta_{3j}(D_{W_{ij}}) + \beta_{4j}(D_{Thur_{ij}}) + \beta_{5j}(D_{Fri_{ij}}) + \beta_{6j}(D_{Sat_{ij}}) + \beta_{7j}(SA_{ij} - \overline{SA}) + \beta_{8j}(DA_{ij} - \overline{DA}) + r_{ij} \]

\[ \beta_{0j} = Y_{00} + Y_{01}(\overline{SA}) + Y_{02}(\overline{DA}) + U_{0j} \]
\[ \beta_{1j} = Y_{10} \]
\[ \beta_{2j} = Y_{20} \]
\[ \beta_{3j} = Y_{30} \]
\[ \beta_{4j} = Y_{40} \]
\[ \beta_{5j} = Y_{50} \]
\[ \beta_{6j} = Y_{60} \]
\[ \beta_{7j} = Y_{70} \]
\[ \beta_{8j} = Y_{80} \]
**Step 3A**

Alcohol

\[
\beta_{0j} + \beta_{1j}(D_{M_{ij}}) + \beta_{2j}(D_{Tues_{ij}}) + \beta_{3j}(D_{W_{ij}}) + \beta_{4j}(D_{Thur_{ij}}) + \beta_{5j}(D_{Fri_{ij}}) \\
+ \beta_{6j}(D_{Sat_{ij}}) + \beta_{7j}(SA_{ij} - SA_j) + \beta_{8j}(DA_{ij} - DA_j) + \beta_{9j}(Depletion_{ij} - \overline{Depletion_j}) + r_{ij}
\]

\[
\beta_{0j} = \gamma_{00} + \gamma_{01}(SA_j) + \gamma_{02}(DA_j) + \gamma_{03}(\overline{Depletion_j}) + U_{0j} \\
\beta_{1j} = \gamma_{10} \\
\beta_{2j} = \gamma_{20} \\
\beta_{3j} = \gamma_{30} \\
\beta_{4j} = \gamma_{40} \\
\beta_{5j} = \gamma_{50} \\
\beta_{6j} = \gamma_{60} \\
\beta_{7j} = \gamma_{70} \\
\beta_{8j} = \gamma_{80} \\
\beta_{9j} = \gamma_{90}
\]

**Step 2B**

Tension_{ij}

\[
\beta_{0j} + \beta_{1j}(D_{M_{ij}}) + \beta_{2j}(D_{Tues_{ij}}) + \beta_{3j}(D_{W_{ij}}) + \beta_{4j}(D_{Thur_{ij}}) + \beta_{5j}(D_{Fri_{ij}}) \\
+ \beta_{6j}(D_{Sat_{ij}}) + \beta_{7j}(SA_{ij} - SA_j) + \beta_{8j}(DA_{ij} - DA_j) + r_{ij}
\]

\[
\beta_{0j} = \gamma_{00} + \gamma_{01}(SA_j) + \gamma_{02}(DA_j) + U_{0j} \\
\beta_{1j} = \gamma_{10} \\
\beta_{2j} = \gamma_{20} \\
\beta_{3j} = \gamma_{30} \\
\beta_{4j} = \gamma_{40} \\
\beta_{5j} = \gamma_{50} \\
\beta_{6j} = \gamma_{60} \\
\beta_{7j} = \gamma_{70} \\
\beta_{8j} = \gamma_{80}
Step 3B

Alcohol

\[ \beta_{0j} + \beta_{1j}(D_{Mij}) + \beta_{2j}(D_{Tues}) + \beta_{3j}(D_{Wij}) + \beta_{4j}(D_{Thur}) + \beta_{5j}(D_{Fri}) + \beta_{6j}(D_{Sat}) + \beta_{7j}(SA_{ij} - SA_j) + \beta_{8j}(DA_{ij} - DA_j) + \beta_{9j}(Tension_{ij} - \overline{Tension}) + r_{ij} \]

\[ \beta_{0j} = \gamma_{00} + \gamma_{01}(SA_j) + \gamma_{02}(DA_j) + \gamma_{03}(Tension_j) + U_{0j} \]

\[ \beta_{1j} = \gamma_{10} \]

\[ \beta_{2j} = \gamma_{20} \]

\[ \beta_{3j} = \gamma_{30} \]

\[ \beta_{4j} = \gamma_{40} \]

\[ \beta_{5j} = \gamma_{50} \]

\[ \beta_{6j} = \gamma_{60} \]

\[ \beta_{7j} = \gamma_{70} \]

\[ \beta_{8j} = \gamma_{80} \]

\[ \beta_{9j} = \gamma_{90} \]
References


