

## Abstract

This research examines how the implications of emotional labor can transfer from customer encounters to coworker interactions using temporally lagged data from a sample of frontline service employees. The results show that surface acting in customer service encounters is positively, and deep acting is negatively, related to ego depletion. Employees' ego depletion, in turn, is positively associated with their interpersonally harmful behavior toward coworkers. Hence, ego depletion appears as a mediating variable that translates the implications of distinct emotional labor strategies into coworker harming. Moreover, emotion regulation self-efficacy moderates the role of surface acting. The positive indirect relationship between surface acting and coworker harming, via ego depletion, is buffered among employees with higher emotion regulation self-efficacy. These findings shed new light on the complex and far-reaching consequences of emotional labor. We demonstrate the relevance of emotional labor to third parties not directly involved in customer service encounters and highlight important mediators and boundary conditions of these indirect relations.

*Key words:* emotional labor, interpersonal harming, emotion regulation self-efficacy, ego depletion, customer service

Spillover Effects of Emotional Labor in Customer Service Encounters toward  
Coworker Harming: A Resource Depletion Perspective

Given service organizations' vital role in today's economies, research on service employees' thoughts, feelings, and behaviors has grown exponentially (Grandey, 2008). A unique feature of service occupations is that employees frequently need to regulate their feelings and emotional expressions during customer service encounters to meet job requirements and accomplish organizational goals (i.e., emotional labor; Ashforth & Humphrey, 1993). Research on emotional labor has demonstrated its pronounced impacts both on employees themselves (e.g., in terms of well-being, job attitudes, and performance; Brotheridge & Lee, 2002; Glomb, Kammeyer-Mueller, & Rotundo, 2004) and on customers (e.g., in terms of customer satisfaction and loyalty; Groth, Hennig-Thurau, & Walsh, 2009; Hennig-Thurau, Groth, Paul, & Gremler, 2006).

Importantly, recent theory further suggests that the implications of service employees' emotional labor may extend beyond the individuals directly involved in a customer service encounter to affect third parties (Côté, Van Kleef, & Sy, 2013). In fact, research has shown workplace emotional labor to relate with employees' social and personal functioning at home (Wagner, Barnes, & Scott, 2014) and with their deviant behavior toward the organization (Bechtoldt, Welk, Zapf, & Hartig, 2007). Additionally, however, service employees occupy distinct work-related roles both as external service providers (interacting with customers) and as internal organizational members (interacting with coworkers; Côté et al., 2013). As such, it seems possible that the impacts of emotional labor in service encounters may "leak" into employees' coworker interactions. To date, little is known about this potential transfer of emotional labor between employees' external and internal work roles. This is an important omission, because coworker interactions can define employees' work lives and influence key organizational outcomes (Chiaburu & Harrison, 2008; Simon, Judge, & Halvorsen-Ganepola,

2010). Hence, the consequences of emotional labor may be even more pronounced than the existing research suggests.

The present study addresses this issue. Drawing on theories of self-regulatory resources (Baumeister, Bratslavsky, Muraven, & Tice, 1998), we argue that emotional labor is associated with employees' ego depletion (i.e., the extent to which employees have sufficient internal resources "to inhibit, override, or alter responses that may arise as a result of physiological processes, habit, learning, or the press of the situation"; Schmeichel & Baumeister, 2004, p. 86). Further, experimental research has demonstrated that ego depletion impairs individuals' ability to effectively regulate subsequent impulses and maintain proper social functioning (DeWall, Baumeister, Stillman, & Gailliot, 2007). Ego depletion originating from an array of stressors that involve effortful self-control has been shown, accordingly, to trigger individuals' harmful acts toward readily available targets (DeWall et al., 2007; Stucke & Baumeister, 2006). Against this backdrop, we propose ego depletion as a key mediator that can transfer the consequences of emotional labor in customer service encounters onto an employee's interpersonal harming toward his or her coworkers (i.e., "behaviors that go against the legitimate interests of another individual in the organization;" Venkataramani & Dalal, 2007, p. 952). Examples of such harmful behavior include treating coworkers with disrespect, gossiping about others behind their backs, and getting into arguments (Cohen-Charash & Mueller, 2007; Lam, Van der Vegt, Walter, & Huang, 2011).<sup>1</sup>

More specifically, we follow previous research in distinguishing surface acting (adapting one's outward emotional expressions) and deep acting (adapting one's inner feelings) as distinct strategies of emotional labor (Ashforth & Humphrey, 1993). The psychological processes associated with these strategies may differ markedly (Fujita, 2011).

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<sup>1</sup> Similar behaviors have been subsumed under alternative labels such as interpersonal deviance (Aquino, Lewis, & Bradfield, 1999), interpersonal aggression (Glomb & Liao, 2003), undermining behavior (Duffy, Ganster, Shaw, Johnson, & Pagon, 2006), and workplace incivility (Lim, Cortina, & Magley, 2008).

Surface acting is considered to be particularly depleting because it requires individuals to cope with emotional dissonance (i.e., inconsistency between felt and expressed emotions; Abraham, 1998). Deep acting, on the other hand, brings employees' actual feelings in line with organizational requirements and, thus, avoids such dissonance (Hülshager & Schewe, 2011). In fact, deep acting has been suggested to promote a sense of control, accomplishment, and positive affect that might even replenish employees' self-regulatory resources (e.g., Brotheridge & Lee, 2002; Scott & Barnes, 2011). Accordingly, we expect that surface and deep acting in customer service encounters will be differentially associated with ego depletion and, consequently, with employees' harmful behavior toward coworkers.

Another important insight from research on self-regulatory resources is that individuals differ in their susceptibility to ego depletion (Hagger, Wood, Stiff, & Chatzisarantis, 2010). Experimental studies have shown, in particular, that individuals' beliefs about their self-regulatory capacities are a key boundary condition in this regard (Job, Dweck, & Walton, 2010; Schmeichel & Vohs, 2009). Accordingly, we suggest that employees' self-perceived competence in emotion regulation (i.e., emotion regulation self-efficacy; Kirk, Schutte, & Hine, 2008; Wang, Liao, Zhan, & Shi, 2011) will moderate the relationships of both surface and deep acting with ego depletion. Taken together, we propose an integrative conceptual model in which emotion regulation self-efficacy moderates the indirect relationships between surface and deep acting in customer service encounters and coworker harming, as transferred through ego depletion (see Figure 1).

By empirically testing this model, our research contributes to the literature on both emotional labor and interpersonal harming. First, this study advances emotional labor theory by examining spillover effects from one work context to another. It illustrates that the consequences of service employees' emotional labor may extend beyond external customer interactions to affect coworkers as third parties not directly involved in the service encounter.

Second, the present research investigates the mediating role of self-regulatory resource depletion in processes of emotional labor. In doing so, we extend our theoretical understanding of *how* and *why* different emotional labor strategies are associated with coworker harming. Third, this study investigates emotion regulation self-efficacy as a boundary condition that can moderate the psychological and behavioral consequences of surface and deep acting, potentially illustrating new, healthy and productive approaches toward dealing with emotional labor demands. And finally, the present investigation generates new insights into the origins of interpersonal harming in the workplace. Research has identified harmful coworker behavior as an impediment to employee wellbeing and productivity (e.g., Bowling & Beehr, 2006; Lam et al., 2011). We highlight emotional labor and ego depletion as key risk factors in this regard, originating from service employees' basic work situation.

### **Theoretical Background and Hypotheses Development**

#### **Emotional Labor and Ego Depletion**

Organizational display rules typically require service employees to express positive emotions and withhold expressions of negative affect toward customers through processes of emotional labor (Groth et al., 2009; Lam, Walter, & Ouyang, 2014). We draw from theories of self-regulatory resource depletion to understand such processes. These theoretical perspectives suggest that individuals can employ distinct self-regulation strategies that differ markedly in their psychological implications (Fujita, 2011).

Response-focused forms of affective self-regulation (e.g., suppression) rely on the inhibition of emotional action tendencies after external circumstances or events have triggered such impulses (Fujita, 2011; Gross, 1998a). These strategies are believed to be particularly depleting as they require the continuous investment of cognitive and motivational resources (e.g., attention, willpower, and stamina; Baumeister et al., 1998; Hagger et al.,

2010). Antecedent-focused self-regulation, in contrast, takes a more proactive approach, for example by cognitively reconstruing undesirable emotional impulses before they are fully activated (i.e., reappraisal; Gross, 1998a). Such strategies are suggested to be less depleting because they “alter fundamentally the experience of the event,” such that there is no need for effortful impulse inhibition (Fujita, 2011, p. 357). In fact, some studies even show that reappraisal is positively associated with individuals’ psychological wellbeing and social outcomes (Gross & John, 2003; John & Gross, 2004). With surface acting representing a response-focused and deep acting an antecedent-focused form of emotion regulation (Grandey, 2000), we expect these emotional labor strategies to be distinctly associated with service employees’ ego depletion.

Surface acting in customer interactions entails suppressing displays of one’s actual feelings and/or faking emotional expressions that are not genuinely felt (Grandey, 2000; Gross, 1998b). It occurs after environmental stimuli have created an emotional impulse and, as such, is a prime example of a self-regulatory strategy that draws on reactive and effortful impulse inhibition (Fujita, 2011). Scholars have, in particular, linked surface acting with emotional dissonance because surface acting involves outward emotional displays that are inconsistent with an individual’s inner feelings (Ashforth & Humphrey, 1993). Such dissonance can challenge a person’s sense of self and authenticity (Hochschild, 1983), draining his or her self-regulatory resources in a continued effort to cope with this challenge while maintaining the required expressions. Research has identified emotional dissonance as a major source of ego depletion (Baumeister & Vohs, 2007), demonstrating that suppressing and faking emotions is stressful and requires considerable self-regulatory resource expenditure (Robinson & Demaree, 2007; Schmeichel, Demaree, Robinson, & Pu, 2006).

Beyond emotional dissonance, surface acting may trigger negative social consequences that further diminish employees’ self-regulatory resources. Interaction partners

(e.g., customers) often detect the inauthentic emotional expressions that characterize surface acting (Groth et al., 2009). People typically interpret such inauthenticity as revealing an actor's dishonesty and lack of interest and react with adverse behavior (Côté, 2005). Indeed, empirical studies have found surface acting to be negatively associated with employees' service delivery and relationship quality with customers (Grandey, 2003; Hülshager & Schewe, 2011). These negative interpersonal relations and associated behaviors (e.g., customers' unfriendly and contentious acts) can contribute to an employee's work strain (Côté, 2005; see also Spector & Jex, 1998) and, consequently, ego depletion.

In summary, employees' surface acting in service encounters has the potential to create emotional dissonance and stressful customer interactions. Consistent with research that links surface acting with other syndromes of resource depletion (e.g., burnout and emotional exhaustion; Grandey, 2003; Pugh, Groth, & Hennig-Thura, 2011), we therefore hypothesize:

*Hypothesis 1a:* Surface acting in customer service encounters is positively related to employees' ego depletion.

Deep acting entails cognitively construing emotion-eliciting situations (e.g., customer interactions) in a way that changes their emotional impact (e.g., through reappraisal; Gross, 1998a, 1998b). Rather than merely altering one's outward expressions, this emotional labor strategy occurs before external stimuli have triggered an emotional reaction and, as such, it enables employees to align their actual feelings with organizationally desired emotions (Grandey, 2000). Hence, deep acting is less likely than surface acting to trigger emotional dissonance because employees experience little discrepancy between felt and displayed emotions (Brotheridge & Lee, 2002). Consistent with this rationale, experimental research has found deep acting to require less effort than surface acting (Gross, 1998a; Gross & John, 2003), and meta-analyses have shown nonsignificant relationships between deep acting and emotional exhaustion (Hülshager & Schewe, 2011; Kammeyer-Mueller et al., 2013). It

therefore seems clear that deep acting is not as depleting as surface acting. Additionally, however, recent theory and research offer a number of arguments that suggest deep acting may actually have replenishing qualities.

Studies have illustrated, in particular, that deep acting is positively related to several dimensions of individual wellbeing (e.g., job satisfaction, sense of autonomy and accomplishment; Gabriel, Daniels, Diefendorff, & Greguras, in press; Hülshager & Schewe, 2011; Kammeyer-Mueller et al., 2013). As such, it seems possible that deep acting may reverse self-regulatory resource depletion by strengthening an individual's respective resource base (Tice, Baumeister, Shmueli, & Muraven, 2007). In fact, initial evidence suggests that deep acting may be negatively associated with ego depletion under some circumstances (McKibben, 2010; Yao, 2005). We believe two mechanisms can account for these potentially salutary effects.

First, as noted before, emotional labor in customer service encounters typically requires an emphasis on positive emotionality, and service employees' deep acting therefore entails the construal of positive emotional experiences (Grandey, 2000; Gross & John, 2003). Scott and Barnes (2011), for example, found that "deep acting is associated with a change in affect for the better, in that negative affect decreases and positive affect increases" (p. 130). As Fredrickson's (2001) broaden-and-build theory suggests, positive emotions play an important role in creating resources for individuals (e.g., by broadening their scope of cognition and action), thus enabling individuals to overcome negative and stressful events (see also Fredrickson & Joiner, 2002; Tugade & Fredrickson, 2004). Hence, service employees who draw on deep acting may build positive emotionality as a key intrapersonal resource that can alleviate their ego depletion.

Second, theorists have noted that interaction partners typically perceive deep acting as authentic and honest because it is based on the modification of one's actual feelings



(Ashforth & Humphrey, 1993). Hence, deep acting may promote favorable reactions in others (e.g., customers' friendly and supportive acts), reducing an actor's work strain as a result (Côté, 2005). Empirical research has, accordingly, linked deep acting with positive evaluations of service relationships (Grandey, 2003; Groth et al., 2009), potentially enabling employees to build social resources from rewarding customer interactions that may reduce ego depletion (Brotheridge & Lee, 2000).

In summary, this literature depicts deep acting as an emotional labor process that (beyond being less emotionally demanding than surface acting) may alleviate ego depletion by contributing to employees' intrapersonal and social resources. Interestingly, this perspective is consistent with research on reappraisal, a fundamental strategy of deep acting. This body of work demonstrates that reappraisal is negatively associated with depression and anxiety (Aldao & Nolen-Hoeksema, 2012; Aldao, Nolen-Hoeksema, & Schweizer, 2010), while it is positively associated with favorable hedonic shifts (Augustine & Hemenover, 2009) and subjective wellbeing (Brooks, 2014). Accordingly, a comprehensive meta-analysis of the experimental research on this issue has concluded that "reappraisal had reliable positive effects on emotional outcomes" (Webb, Miles, & Sheeran, 2012, p. 793). All in all, we believe this theorizing and evidence justify the assumption that deep acting may have replenishing qualities for self-regulatory resources. Therefore, we hypothesize:

*Hypothesis 1b:* Deep acting in customer service encounters is negatively related to employees' ego depletion.

### **Ego Depletion and Interpersonal Harming toward Coworkers**

A central argument within theories of self-regulatory resource depletion is that resource depletion reduces individuals' capacity for further self-regulation, even when subsequent situations are different from the context initially causing the resource shortage (Baumeister et al., 1998). In support of this notion, research has demonstrated that individuals

with depleted self-regulatory capacity perform worse in further, unrelated self-regulatory tasks (Hagger et al., 2010). Such individuals find it more difficult, for example, to follow rules (Vohs & Heatherton, 2000) and maintain normative behavior (Thau & Mitchell, 2010).

It is clear that interpersonal harming is counternormative in most organizations (Bennett & Robinson, 2000). Hence, although many factors can give rise to hostile action tendencies at work (e.g., provocations, frustrations, stressors, etc.; Spector & Fox, 2005), employees' internal self-control should typically stifle these impulses and keep them from developing into harmful behavior (Thau & Mitchell, 2010; Marcus & Schuler, 2004). Importantly, however, self-control requires effort, and individuals who experience a shortage of self-regulatory resources may lack the capacity to restrain themselves from aggressive acts (Stucke & Baumeister, 2006). Accordingly, scholars have cast self-regulatory failure as being among the most proximal causes of interpersonally harmful behavior, and a considerable body of evidence has linked self-regulatory impairment with interpersonal aggression and harming in both social psychology (e.g., DeWall et al., 2007; Tangney, Baumeister, & Boone, 2004) and organizational research (e.g., Christian & Ellis, 2011; Thau & Mitchell, 2010).

Among service employees without supervisory responsibilities, we anticipate that individuals are particularly likely to target their aggressive impulses toward coworkers. Supporting this notion, research on displaced aggression has shown that individuals often direct aggressive behavior toward readily available and safe targets (rather than the original source of provocation; Barling, Dupré, & Kelloway, 2009; Marcus-Newhall, Pedersen, Carlson, & Miller, 2000). It is important to note that interactions with coworkers are generally less strongly regulated and sanctioned than customer service encounters (Diefendorff, Richard, & Croyle, 2006). As such, coworkers may be viable victims for the hostile behaviors triggered by service employees' ego depletion, even if such depletion

originated from a different context (e.g., customer interactions). We therefore argue that service employees are more likely to lash out at coworkers if they suffer from ego depletion.

*Hypothesis 2:* Ego depletion is positively related to employees' interpersonal harming toward coworkers.

### **The Mediating Role of Ego Depletion**

The above considerations suggest that surface and deep acting are related to service employees' ego depletion (Hypotheses 1a and 1b), which in turn is positively associated with coworker harming (Hypothesis 2). Taken together, this pattern of relationships illustrates the potentially far-reaching consequences of emotional labor, such that surface and deep acting in customer service encounters may indirectly (through reduced self-regulatory resources) permeate employees' coworker interactions. This notion is consistent both with the finding that the behavioral implications of ego depletion can translate into unrelated aspects of self-regulatory functioning (Baumeister et al., 1998; Hagger et al., 2010) and with research on displaced aggression that has shown aggressive impulses to transfer across distinct domains (Barling et al., 2009; Marcus-Newhall et al., 2010).

We therefore propose that emotional labor in customer service encounters may be indirectly associated with employees' interpersonal harming toward coworkers. With surface (deep) acting relating positively (negatively) to ego depletion, in particular, we would expect the following indirect consequences of these emotional labor strategies:

*Hypothesis 3a:* Employees' surface acting in customer service encounters is positively and indirectly related to their interpersonal harming toward coworkers, through ego depletion.

*Hypothesis 3b:* Employees' deep acting in customer service encounters is negatively and indirectly related to their interpersonal harming toward coworkers, through ego depletion.

### **The Moderating Role of Emotion Regulation Self-Efficacy**

So far, we have argued that emotional labor in customer service encounters relates to ego depletion and, by extension, is indirectly associated with employees' coworker harming. Importantly, however, theorists have further suggested that the implications of self-regulatory acts (e.g., emotional labor) are contingent on critical boundary conditions (Baumeister & Vohs, 2007). Research has shown, in particular, that individuals can avoid ego depletion if they can draw from a sufficient base of internal compensatory resources (Hagger et al. 2010). Individuals' motivation for continued self-regulation, for example, plays an important role in this regard (Baumeister & Vohs, 2007). Similarly, recent studies have demonstrated that personal beliefs moderate the role of self-regulation, such that individuals who view their willpower as unlimited experience less ego depletion after effortful self-control tasks (Job et al., 2010). Based on these insights, we focus on a personal belief particularly relevant to emotional labor, namely emotion regulation self-efficacy (i.e., the self-perceived capacity to regulate one's own emotions; Kirk et al., 2008; Wang et al., 2011). We expect such self-efficacy to moderate the linkages of surface and deep acting with ego depletion and, by consequence, the indirect relationships between these emotional labor strategies and interpersonal harming.

In general, self-efficacy is seen as an important resource that enables employees to meet job demands and cope with stressors (Bandura, 2001). Individuals who do not believe they are capable of accomplishing a specific task (i.e., low self-efficacy) have little incentive to persevere in the presence of difficulties (Bandura, 2001). Individuals with stronger self-efficacy, in contrast, consider themselves to have higher prospects of successful task mastery and, thus, can draw on important internal resources for the task at hand (e.g., a sense of optimism and control; Bandura & Locke, 2003). Accordingly, scholars have cast self-efficacy

as an important self-motivating mechanism that drives people to move forward (Bandura, 2001).

**The moderating role of emotion regulation self-efficacy for surface acting.** In the current research, we propose that employees' emotion regulation self-efficacy mitigates the consequences of surface acting for ego depletion. Employees with high emotion regulation self-efficacy view themselves as capable of successfully displaying organizationally desired emotions (Wang et al., 2011). As such, they are likely to perceive demands to emphasize positive and suppress negative emotions in customer service encounters as less challenging, stressful, and depleting (Wilk & Moynihan, 2005). Extrapolating from this, employees with pronounced emotion regulation self-efficacy may view deliberate expressions of emotionality as an important part of their personal skill repertoire (Wilk & Moynihan, 2005). Hence, surface acting may represent less of an identity threat (cf. Hochschild, 1983), and such individuals may find it easier to cope with the associated emotional dissonance. Additionally, employees with high emotion regulation self-efficacy are likely to strongly believe in their ability to convincingly depict required emotions toward customers. Thus, they should be less concerned about the detrimental social consequences of inauthentic surface acting (Côté, 2005). All in all, emotion regulation self-efficacy may function as a compensatory resource that buffers surface acting's otherwise depleting role.

Employees with low emotion regulation self-efficacy, on the other hand, view themselves as unable to successfully display required emotions (Kirk et al., 2008). As such, they are likely to experience demands to suppress and/or fake emotions as particularly taxing (Wilk & Moynihan, 2005), and the emotional dissonance arising from surface acting may drain their self-regulatory resources to a greater extent. Moreover, these employees may anticipate more negative reactions toward the perceived inauthenticity of their surface acting (Côté, 2005), and they may consequently experience this emotional labor strategy as highly

stressful. Hence, we expect the consequences of surface acting for ego depletion to be particularly pronounced among employees with low emotion regulation self-efficacy. Some empirical studies provide initial support for this reasoning. Heuven, Bakker, Schaufeli, and Huisman (2006), for example, found that emotion work self-efficacy buffers the link between job demands and emotional dissonance, and Pugh et al. (2011) found that employees' self-efficacy for faking emotions diminishes the relationship between surface acting and emotional exhaustion.

In conjunction with Hypothesis 3a, this reasoning suggests that (a) service employees' ego depletion mediates the positive and indirect relationship between surface acting in customer service encounters and coworker harming, and (b) emotion regulation self-efficacy moderates the relationship between surface acting and ego depletion (see Figure 1). Consequently, it is likely that emotion regulation self-efficacy will also moderate the indirect association between surface acting and coworker harming, via ego depletion. With self-efficacy suggested to buffer the consequences of surface acting, we therefore propose:

*Hypothesis 4a:* Emotion regulation self-efficacy moderates the positive and indirect relationship between surface acting in customer service encounters and interpersonal harming toward coworkers, through ego depletion. This indirect relationship is weaker when emotion regulation self-efficacy is higher rather than lower.

**The moderating role of emotion regulation self-efficacy for deep acting.**

Additionally, we expect emotion regulation self-efficacy to moderate the relationship between deep acting and ego depletion. As discussed above, deep acting may be negatively associated with ego depletion because it does not induce emotional dissonance and provides compensatory self-regulatory resources (i.e., positive emotionality and favorable social interactions; Côté, 2005; Scott & Barnes, 2011). Importantly, however, research also suggests that deep acting requires considerable motivation, as employees need to internalize

organizational display rules and apply sophisticated emotion regulation techniques (e.g., attention deployment, cognitive reappraisal; Grandey, 2000). As such, the self-motivational resources derived from emotion regulation self-efficacy may promote the benefits of deep acting.

In particular, service employees with high emotion regulation self-efficacy should view themselves as capable of effectively performing the required emotion regulation (Kirk et al., 2008; Wang et al., 2011). Hence, they are likely to approach emotionally laden customer service encounters with a sense of optimism and competence and to persevere even in difficult situations (Wilk & Moynihan, 2005). Deep acting is particularly likely, then, to imprint on an employee's actual feelings (i.e., elevating positive emotions) and to enable the outward expression of authentic, positive emotionality. Consequently, deep acting may create a strong basis of both intrapersonal (from greater positive affect; Fredrickson, 2001) and interpersonal resources (from customers' favorable reactions; Côté, 2005) among employees with high emotion regulation self-efficacy.

With lower self-efficacy, in contrast, employees doubt their capacity for successful emotion regulation (Kirk et al., 2008). Hence, they are likely to approach situations that call for deep acting with a sense of insecurity and incompetence (cf. Bandura & Locke, 2003), mitigating the potentially beneficial role of deep acting for employees' positive emotional experiences. Similarly, employees with limited emotion regulation self-efficacy are less likely to persist in deep acting as problems arise (e.g., in difficult customer encounters; cf. Bandura, 2001). The potential social benefits of deep acting should therefore be less pronounced for these employees. All in all, this reasoning suggests that high emotion regulation self-efficacy will increase, and low self-efficacy will weaken, the inverse relationship between deep acting and ego depletion.

Together with Hypothesis 3b, this argumentation suggests that (a) ego depletion mediates the negative and indirect relationship between service employees' deep acting and coworker harming, and (b) emotion regulation self-efficacy moderates the relationship between deep acting and ego depletion. Emotion regulation self-efficacy is therefore also likely to moderate deep acting's indirect association with coworker harming, as transferred through ego depletion. With self-efficacy strengthening the consequences of deep acting, we propose:

*Hypothesis 4b:* Emotion regulation self-efficacy moderates the negative and indirect relationship between deep acting in customer service encounters and interpersonal harming toward coworkers, through ego depletion. This indirect relationship is stronger when emotion regulation self-efficacy is higher rather than lower.

## **Method**

### **Sample and Procedures**

We tested the hypotheses using a sample of frontline service employees and their immediate supervisors in a four-star hotel in China. These employees were appropriate participants because they (a) had frequent and direct service interactions with customers and (b) were required to cooperate with coworkers for effective service delivery. To minimize common source/common method concerns, we administered separate paper-and-pencil surveys to employees and their direct supervisors; moreover, the employee survey was split into two parts with a two-month gap between them (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). One of the authors was onsite with a number of research assistants at both data collection points. Participation was voluntary and confidentiality assured.

At Time 1, the first employee survey, including measures of surface and deep acting, was distributed to all 220 frontline service employees with direct customer contact, of whom



204 returned the questionnaire. Two months later (Time 2),<sup>2</sup> we distributed the second survey that measured ego depletion and emotion regulation self-efficacy, which was completed by 155 employees (responses from 5 employees were deleted due to a large amount of missing data). Finally, 52 direct supervisors assessed the individual employees' interpersonal harming toward coworkers at Time 2. These supervisors worked closely with focal employees during daily service delivery, held regular meetings to coordinate tasks, and were in direct contact with employees to facilitate and monitor their task accomplishment. As such, supervisors were in a good position to observe employees' behavior toward each other and assess their coworker harming (for similar approaches toward measuring harmful work behavior, see Holtz & Harold, 2013; Thau, Aquino, & Poortvliet, 2007).

In total, we obtained 150 sets of usable and matched questionnaires, for a final response rate of 68%. Among the 150 employees in our sample, 63% were female, 97% had received a high school education or above, 75% were aged 20-39 years, and 70% had an organizational tenure of less than 3 years.

## Measures

All items were originally developed in English. We employed translation and back-translation procedures (Brislin, 1980) to translate the items into Chinese.

**Surface and deep acting (Time 1).** We used three items from Pugh et al. (2011) to measure surface acting in customer service encounters in the Time 1 employee survey. These items were introduced as follows: "When providing service, how often do you exhibit the following behaviors?" Sample items included "I put on an act in order to deal with customers

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<sup>2</sup> As is common in social science research, the theoretical perspectives used to justify our hypotheses do not specify an appropriate time interval for the proposed relations (cf. Harter, Schmidt, Asplund, Killham, & Agrawal, 2010). Hence, although prior research has used similar time lags when examining the consequences of emotional labor (e.g., four weeks; Bechtoldt et al., 2011), one may wonder whether the interval used here is adequate. Importantly, we had conducted a preliminary, cross-sectional pilot study of the role of emotional labor. As described in the Appendix, this pilot study corroborates the conclusions reached in the main study about the relationships of surface and deep acting with ego depletion. This may alleviate concerns about possible biases originating from the main study's time-lagged design.

in an appropriate way” and “I fake a good mood when interacting with customers.” To assess deep acting, we employed Diefendorff, Croyle, and Gosserand’s (2005) four-item measure, using the same introductory sentence. Sample items were “I try to actually experience the emotions that I must show to customers” and “I work at developing the feelings inside of me that I need to show to customers.” Both measures were assessed on a six-point scale ranging from 1 (never) to 6 (always). Cronbach’s alpha was .86 for surface acting and .81 for deep acting.

**Ego depletion (Time 2).** Ego depletion was assessed in the Time 2 employee survey using 18 items from Twenge, Muraven, and Tice (2004; see also Ciarocco, Twenge, Muraven, & Tice, 2007). This measure has shown good reliability and construct validity in recent studies (e.g., Christian & Ellis, 2011; DeWall et al., 2007; Gailliot, Gitter, Baker, & Baumeister, 2012; Lian, Brown, Ferris, Liang, Keeping, & Morrison, 2014; Thau & Mitchell, 2010). Following prior research that also studied ego depletion at the interindividual level (e.g., Lian et al., 2014; Thau & Mitchell, 2010, Study 2), we asked employees how frequently they generally experienced a lack of self-regulatory capacity at work. Sample items were “I feel like my willpower is gone” and “I feel drained.” Responses were captured on a scale ranging from 1 (never) to 6 (always). Cronbach’s alpha was .92.

**Emotion regulation self-efficacy (Time 2).** Following Wang et al. (2011), we adapted a four-item measure developed by Wong and Law (2002) to capture emotion regulation self-efficacy in the Time 2 employee survey. Sample items included “I am able to control my temper and handle difficulties rationally” and “I can always calm down quickly when I am very angry” (1 = strongly disagree, 6 = strongly agree). Cronbach’s alpha was .87. Although this instrument was initially developed to capture an element of emotional intelligence (Wong & Law, 2002), recent theory and research have illustrated that self-report measures better tap into an individual’s beliefs rather than his or her actual emotional abilities

(e.g., Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006). Specifically, scholars have argued that “a person’s self-perceptions of his/her emotional abilities should be viewed as a specific form of self-efficacy” (Choi, Kluemper, & Sauley, 2013, p. 98; see also Kirk et al., 2008; Wang et al., 2011). Moreover, with emotional labor representing a highly salient work characteristic for service employees (e.g., because service organizations emphasize and enforce emotional display rules; Ashforth & Humphrey, 1993; Diefendorff et al., 2006), it is plausible that our study participants had formed clear opinions of their respective capabilities and, thus, could meaningfully assess their emotion regulation self-efficacy.

**Interpersonal harming toward coworkers (Time 2).** We assessed individual employees’ interpersonal harming toward coworkers in the Time 2 supervisor survey using a six-item measure adapted from Cohen-Charash and Mueller (2007) and Lam et al. (2011). Sample items were “This employee is nasty to his/her coworkers” and “This employee looks at his/her coworkers with disrespect.” The measure was assessed using a six-point scale ranging from 1 (never) to 6 (always). Cronbach’s alpha was .84.

**Control variables.** Following previous research (e.g., Lam et al., 2011), we captured employees’ gender and age as potential covariates because these demographic factors have been suggested to influence interpersonal harming (e.g., Barling et al., 2009). As shown in Table 1, however, neither of these variables was significantly correlated with coworker harming in the present dataset. Following Becker’s (2005) recommendations, we therefore omitted these variables when testing the hypotheses to avoid biased parameter estimates. Parenthetically, we note that our study results remained virtually identical when controlling for age and gender.

### **Data Analysis**

The present data have a nested structure, such that multiple employees (Level-1) reported to (and were assessed by) the same supervisor (Level-2). Following Preacher,

Zyphur, and Zhang (2010), we therefore utilized integrated multilevel regression procedures using Mplus to examine the hypotheses. A null model with a random intercept only (and no independent variables) yielded an intraclass correlation (ICC1) of .26 for the dependent variable. This indicates that 26% of the variance in coworker harming was attributable to between-supervisor factors, whereas 74% of the variance was attributable to between-employee factors (Bliese & Hanges, 2004). Combined with a significant between-employee variance estimate of .76 ( $p < .05$ ), this illustrates that it was justified to conceptualize and operationalize our model at the individual employees' level of analysis, although multilevel methods were required to account for supervisor-level nesting. To test the (conditional) indirect relationships proposed in Hypotheses 3 and 4, we used Selig and Preacher's (2008) Monte Carlo procedure, as recommended by Preacher et al. (2010) for multilevel analysis. This method is considered superior to more traditional approaches (e.g., the Sobel test) in examining (conditional) indirect associations because it does not make assumptions about the normality of an indirect relationship's sampling distribution. Variables were standardized prior to the analyses (Aiken & West, 1991).

## **Results**

### **Descriptive Statistics and Confirmatory Factor Analyses**

Table 1 presents the means, standard deviations, zero-order correlations, and reliabilities for all variables. As shown, the bivariate correlation between deep acting (but not surface acting) and ego depletion was significant and negative ( $r = -.16, p < .05$ ). Furthermore, ego depletion and coworker harming were positively related ( $r = .20, p < .05$ ). We also note that deep acting was positively associated with emotion regulation self-efficacy ( $r = .25, p < .01$ ), although the strength of this association does not seem to raise concerns about excessive construct overlap.

Before hypotheses testing, we evaluated the factor structure of the measured variables by examining different measurement models using confirmatory factor analyses. The subject-to-item ratio for these analyses (4:1) fell below the commonly accepted lower bounds (Bandalos, 2002). Hence, we randomly formed three-item parcels for ego depletion (the construct comprising the largest number of items among our study variables; Bandalos, 2002). All other variables were non-parceled. As discussed in more detail in the Limitations section, we acknowledge this practice is not ideal for measurement model testing. At the same time, various studies have established the ego depletion measure's unidimensionality (e.g., Christian & Ellis, 2011; DeWall et al., 2007), so the risk of concealing a multidimensional structure and obtaining biased estimates appears limited (Bandalos, 2002). Furthermore, alternative approaches to parceling the ego depletion items (e.g., a different random aggregation strategy and the strategy of successively combining the highest and lowest loading items; Hall, Snell, & Foust, 1999) produced equivalent results. We report below the results based on the first parceling approach.

The hypothesized five-factor model yielded acceptable fit ( $\chi^2 = 280.19, p < .01, df = 160, CFI = .92, TLI = .91, RMSEA = .07$ ), and it fit the data significantly better than a four-factor model combining surface and deep acting ( $\Delta\chi^2 = 153.83, \Delta df = 4, p < .01, CFI = .83, TLI = .80, RMSEA = .11$ ), a four-factor model combining ego depletion and emotion regulation self-efficacy ( $\Delta\chi^2 = 250.69, \Delta df = 4, p < .01, CFI = .76, TLI = .73, RMSEA = .12$ ), and a two-factor model combining the constructs reported by employees and supervisors, respectively ( $\Delta\chi^2 = 673.69, \Delta df = 9, p < .01, CFI = .49, TLI = .43, RMSEA = .18$ ). All standardized factor loadings in the hypothesized model exceeded .60, except for one interpersonal harming item (.38,  $p < .01$ ). Moreover, the average variance extracted (AVE) values for all variables were above the recommended cutoff level of .50 (minimum AVE = .57), and all AVE values were higher than the squared correlation between any two

variables (Fornell & Larcker, 1981). Taken together, these findings support our measures' convergent and discriminant validity.

### **Hypotheses Testing**

To test Hypotheses 1 to 3, ego depletion was regressed on surface and deep acting, and coworker harming was regressed on both ego depletion and the two emotional labor strategies (see Table 2). As predicted in Hypothesis 1a, the relationship between surface acting and ego depletion was positive ( $B = .20, se = .09, p < .05$ )<sup>3</sup>; also, as predicted in Hypothesis 1b, the relationship between deep acting and ego depletion was negative ( $B = -.24, se = .09, p < .01$ ). Furthermore, ego depletion was positively related with interpersonal harming toward coworkers ( $B = .20, se = .09, p < .05$ ), supporting Hypothesis 2. Considering Hypothesis 3, the indirect relationship between surface acting and interpersonal harming (through ego depletion) was significant and positive (estimate = .04), with the respective 95% confidence interval excluding zero (95% CI = [.001, .102]; see Table 3). Also, deep acting was negatively and indirectly related with interpersonal harming (through ego depletion; estimate = -.05; 95% CI = [-.114, -.002]). Thus, Hypotheses 3a and 3b were supported.

In a further step, we added emotion regulation self-efficacy to our model, along with the predicted interaction terms. As shown in Table 2, the results demonstrated a significant interaction between surface acting and emotion regulation self-efficacy on ego depletion ( $B = -.19, se = .09, p < .05$ ). Following Aiken and West (1991), Figure 2 depicts this interaction at conditional values of the moderator (1 *SD* above and below the mean). The relationship between surface acting and ego depletion was significant and positive when emotion

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<sup>3</sup> As an anonymous reviewer noted, the bivariate correlation between surface acting and ego depletion was not significant, although this relationship became significant when controlling for deep acting. Collectively, the pattern of estimates in our study points toward a potential suppression effect. From an empirical perspective, the positive relationship between surface acting and ego depletion (after controlling for deep acting) captures the part of ego depletion that is uncorrelated with deep acting and, as such, denotes the role of surface acting as a distinct strategy of emotion regulation. Shrout and Bolger (2002) as well as Paulhus, Robins, Trzesniewski, and Tracy (2004) provide instructive discussions of similar suppression situations.

regulation self-efficacy was relatively low (simple slope = .40,  $se = .14$ ,  $p < .01$ ). When emotion regulation self-efficacy was higher, however, this relationship was no longer significant (simple slope = .02,  $se = .12$ ,  $ns$ ). Contrary to our expectations, the interactive relationship of deep acting and emotion regulation self-efficacy with ego depletion was not significant ( $B = .06$ ,  $se = .07$ ,  $ns$ ).

To test Hypothesis 4a, we examined the conditional indirect relationship of surface acting with interpersonal harming (through ego depletion) at higher (+ 1  $SD$ ) and lower values (- 1  $SD$ ) of emotion regulation self-efficacy. As shown in Table 3, this conditional indirect relation was significant and positive when emotion regulation self-efficacy was lower (estimate = .08, 95% CI = [.007, .186]) but not significant when it was higher (estimate = .00, 95% CI = [-.048, .059]). Thus, Hypothesis 4a was supported. Hypothesis 4b, in contrast, was not supported because emotion regulation self-efficacy did not moderate the relationship between deep acting and ego depletion (see Table 2).

### **Discussion**

This study has investigated previously unexamined implications of emotional labor in customer service encounters. The findings show that surface acting is positively related to service employees' ego depletion which, in turn, is positively associated with employees' interpersonally harmful behavior toward coworkers. Deep acting in customer interactions, in contrast, is negatively associated with employees' ego depletion and, thus, it indirectly alleviates coworker harming. Moreover, our results highlight emotion regulation self-efficacy as a boundary condition that can buffer the detrimental role of surface acting.

### **Theoretical Implications**

The present results have important theoretical implications. First, they illustrate that the consequences of emotional labor in customer service encounters may extend further than previously thought. As noted before, prior research has associated emotional labor with a

range of employee and customer attitudes (e.g., Groth et al., 2009; Hennig-Thurau et al., 2006; Pugh et al., 2011), and emotional labor at work has been related to home outcomes (Wagner et al., 2014) as well as employee deviance toward the organization as a whole (Bechtoldt et al., 2007). Beyond these important linkages, our study shows that emotional labor in one work domain (i.e., customer service) may have implications for behavioral outcomes in different work domains (i.e., coworker interactions). Furthermore, the specific emotional labor strategy employed can render such transferred associations decisively harmful (for surface acting) or beneficial (for deep acting). Hence, our results provide “a broader view of who is impacted by an employee’s emotional labor” (Wagner et al., 2014, p. 509). They set the stage for a new and more comprehensive understanding of how the social costs and benefits of emotional labor extend beyond the immediate service context in which such processes take place.

Second, this study has uncovered a key mechanism for the interpersonal impacts of emotional labor, demonstrating an indirect linkage between emotional labor and interpersonal harming via ego depletion. These findings are consistent with previous work using a self-regulatory depletion perspective to understand emotional labor (e.g., Grandey, 2003; Grandey, Fisk, & Steiner, 2005). Together with the existing body of research, the present findings suggest that self-regulatory resource losses and gains may be a proximal theoretical mechanism lying at the heart of emotional labor effects across a wide range of outcomes and content domains. We acknowledge that the specific role of deep acting, as compared to surface acting, is more controversial in this regard, with different studies demonstrating that deep acting may have positive (e.g., Blau, Fertig, Tatum, Connaughton, Park, & Marshall, 2010), negative (e.g., Kruml & Geddes, 2000), and nonsignificant (e.g., Grandey, 2003) implications. Our findings add new evidence on this issue, emphasizing the potential benefits of deep acting for employees’ ego depletion and, as a result, their coworker relations.



Third, our study demonstrates emotion regulation self-efficacy as a boundary condition for the adverse role of surface acting. Previous research has illustrated contextual factors as moderators in this regard (e.g., job autonomy; Grandey et al., 2005). Beyond this, our study shows that individual factors can also function as compensatory resources that mitigate self-regulatory resource losses (and subsequent dysfunctional behaviors). Hence, the consequences of surface acting appear more complex than previously believed, with individual employees differing markedly in their susceptibility to the negative side effects of this emotional labor strategy. Unexpectedly, emotion regulation self-efficacy did not moderate the relationship between deep acting and ego depletion. With deep acting circumventing emotional dissonance and potentially building key personal and social resources (Côté, 2005; Grandey, 2000), the benefits of this strategy may be strong enough to apply irrespective of an individual's self-efficacy. Clearly, however, more research is needed to better understand the potential boundary conditions for the impacts of deep acting.

Finally, our study has implications for the literature on counterproductive work behavior. Scholars have identified numerous antecedents in this regard (for reviews and meta-analyses see, e.g., Aquino & Thau, 2009; Barling et al., 2009). Building on this work, our findings highlight the role of emotional labor in customer interactions for service employees' harmful behavior toward coworkers. It is important to note that emotional labor is a common requirement in service professions (Ashforth & Humphrey, 1993) and is not obviously related with interpersonal harming toward uninvolved third parties. By illustrating how standard and everyday work demands may be associated with service employees' self-regulatory functioning and, therefore, with their coworker harming, our results enrich the nomological net surrounding counterproductive work behavior. Expanding on previous research that has illustrated the role of emotional labor for employees' harmful acts directed toward organizations (Bechtoldt et al., 2007), this study offers a new explanation for the

surprising prevalence of interpersonally harmful work behavior in organizations (cf. Barling et al., 2009).

### **Practical Implications**

From a practical perspective, emotion regulation is often explicitly mandated in service employees' job descriptions (Hochschild, 1983). Adequate and salutary regulation strategies therefore appear critical in such positions (Ashforth & Humphrey, 1993). Our results illustrate that surface acting can be highly depleting, whereas deep acting may help employees to conserve self-regulatory resources. Hence, employees are well advised to emphasize deep rather than surface acting in their daily service encounters. While this recommendation is consistent with previous work (e.g., Hülshager & Schewe, 2011), the present study demonstrates that the consequences of emotional labor may extend beyond the parties directly involved in service encounters toward employees' coworker harming (through ego depletion). With research illustrating the detrimental impacts of coworker harming for individual and team outcomes (e.g., Lam et al., 2011; LeBlanc & Kelloway, 2002), the potential costs of surface acting and the benefits of deep acting may be even more pronounced than the existing literature would suggest.

Consequently, organizations should take active steps to encourage deep rather than surface acting among service staff. Targeted training programs, for example, may help employees to develop effective emotion regulation skills (Parker & Axtell, 2001). Moreover, research suggests that organizational norms about emotional expressions can shape employees' choice of emotional labor strategies. To the extent that organizational display rules emphasize the suppression of negative emotions, employees are more likely to utilize surface acting; if display rules emphasize positive expressions, however, employees "focus more on trying to experience a positive emotional state" (i.e., deep acting; Diefendorff et al., 2005, p. 353). Hence, service organizations should place more emphasis on positive rather

than negative emotion norms so as to promote their employees' productive emotion regulation and, in doing so, alleviate employees' ego depletion and reduce coworker harming.

Even to the extent employees draw on surface acting, however, our findings suggest it is possible to cushion its potentially negative consequences by elevating employees' emotion regulation self-efficacy. Research has shown that self-efficacy can benefit from enactive mastery, vicarious experience, and verbal persuasion (Bandura, 2001; Gist & Mitchell, 1992). Accordingly, managers could strengthen employees' emotion regulation self-efficacy by (a) providing opportunities for practice that enable mastery experiences in this regard (e.g., within training programs), (b) acting as role models for effective emotion regulation, and (c) offering positive feedback on employees' emotion regulation skills.

Furthermore, our results show that organizations striving to minimize harmful coworker behavior could take additional measures to alleviate employees' ego depletion. It seems important in this regard to give employees sufficient opportunity for rest and recovery. Research suggests, in particular, that the effective design of work breaks plays an important role in the conservation and replenishment of self-regulatory resources (Troughakos, Beal, & Green, 2008). Moreover, recent evidence points toward the possibility of preventing self-regulatory depletion through targeted interventions (Awa, Plaumann, & Walter, 2010).

Finally, our study may inform personnel selection and recruitment. Employees' personality has been shown to influence their choice of emotional labor strategies, with highly agreeable employees utilizing more deep and less surface acting, whereas extraversion has been negatively, and neuroticism positively, associated with surface acting (Diefendorff et al., 2005). Individuals also differ in their dispositional self-control capability and susceptibility to resource depletion (e.g., employees with greater neuroticism and an external locus of control may be particularly prone to self-regulatory resource losses; Maslach, Schaufeli, & Leiter, 2001). Hence, organizations may promote more effective emotion

regulation and strengthen their service employees' resilience to self-regulatory depletion by incorporating such personality criteria in selection decisions. As illustrated here, this may help to reduce instances of harmful and counterproductive behavior between coworkers.

### **Limitations and Future Directions**

Despite several methodological strengths (e.g., independent data sources), some limitations of this research should be noted. Our data were collected from a single organization within one country (i.e., China). Thus, characteristics of the work environment or national culture may have influenced the results. Cultural values characterized by high collectivism (Hofstede, 2001), for example, may have dampened the relationship between ego depletion and coworker harming or altered the effects of emotional labor. Caution is therefore needed when generalizing our findings, although the hypotheses are predicated on a strong theoretical basis that is not explicitly tied to organizational or cultural factors.

Further, the correlational nature of the present study does not allow causal inference, and there are specific design features that may raise concern. Although it reduces common method problems (Podsakoff et al., 2003), for example, the two-month lag between the emotional labor and ego depletion measures may have influenced the respective relations. Also, as is common in field studies, we cannot rule out potential biases from unmeasured third variables. We believe the pilot study reported in the Appendix alleviates these concerns to some extent, as it corroborates the relationships between surface and deep acting and ego depletion using a cross-sectional design and including dispositional self-control as a covariate. Nevertheless, we acknowledge that more research in other organizations, industries, and cultures, incorporating additional control variables (e.g., trait affectivity) and using experimental or longitudinal designs, is needed to further address these issues.

We also note that the current study used supervisor ratings of coworker harming that may only capture relatively overt types of behavior that are visible to supervisors or

otherwise brought to their attention. It may therefore be fruitful to constructively replicate this study using alternative measurement sources that can also capture more covert forms of harmful behavior. Potential measurement approaches include coworker- and self-ratings as well as archival data (e.g., records of official reprimands).

Finally, as noted before, we parceled the items for ego depletion to achieve an acceptable subject-to-item ratio when examining our measures' factor structure. Although parceling is commonly used when subject-to-item ratios are low and generally does not bias parameter estimates for unidimensional constructs (Bandalos, 2002), we acknowledge this approach is not ideal when examining measurement models because it does not provide evidence on the viability of the individual items. We therefore reexamined the hypothesized five-factor measurement model without parceling ego depletion ( $\chi^2 = 1151.59, p < .01, df = 550, CFI = .79, TLI = .77; RMSEA = .085, SRMR = .075$ ). As shown, RMSEA and SRMR for this model met common thresholds (e.g., Hu & Bentler, 1999) and were comparable to previous research using the same ego depletion measure (e.g., Lian et al., 2014). CFI and TLI, however, did not reach conventional cut-off points. Further, although all the item loadings on ego depletion were significant, we note that a third of the items had standardized loadings of less than .60 (average standardized loading = .62). It is clear, then, that the non-parceled measurement model exhibited suboptimal fit with the data. Besides having a low subject-to-item ratio, one potential reason for this may be the non-parceled ego depletion measure's relatively large item-to-factor ratio (18:1). Despite clear benefits (e.g., superior model convergence), research has demonstrated that a large number of items per factor can bias key fit indices in confirmatory factor analyses toward rejecting true models (Anderson & Gerbing, 1991; Ding, Velicer, & Harlow, 1995; Marsh, Hau, Balla, & Grayson, 1998; Moshagen, 2012). Ultimately, we cannot ascertain the reasons for the fit differences between our parceled and non-parceled measurement models, so concerns about the ego depletion

measure remain. More research is urgently needed to further examine and potentially refine this widely used instrument.

Beyond addressing these limitations, our investigation offers several additional directions for future research. We have examined how emotional labor in customer interactions translates into outcomes related to coworkers. Our theoretical arguments may also enable researchers, however, to explain more broadly the mechanisms and boundary conditions underlying the effects of emotional labor on individuals not directly involved in a service encounter. For example, ego depletion may transfer emotional labor's implications for employees' upward influence behavior (e.g., their impression management toward supervisors; Vohs, Baumeister, & Ciarocco, 2005). Moreover, employees' surface acting (and the resulting self-regulatory depletion) may contribute to dysfunctional behaviors toward a wide range of targets both inside and outside the workplace, whereas employees' deep acting may reduce their ego depletion and, thus, enable them to maintain socially appropriate conduct (Gino, Schweitzer, Mead, & Ariely, 2011). Future research examining these ideas may enhance the generalizability of the model presented here, moving closer toward an overarching theoretical framework for the far-reaching interpersonal effects of emotional labor. Similarly, as an anonymous reviewer suggested, scholars could move beyond the resource depletion perspective developed in this research to examine the potential consequences of emotional labor for positive (rather than negative) coworker interactions. Under certain circumstances, for example, employees who frequently engage in surface acting toward customers may turn to coworkers for social support, in an effort to cope with feelings of inauthenticity and emotional dissonance that stimulate their need for relatedness or communion striving (Halbesleben & Bowler, 2007).

Consistent with existing research (e.g., Brotheridge & Lee, 2002; Grandey et al., 2005), the present model is conceptualized at the interindividual level. That is, we argue that

service employees who engage in surface (deep) acting more frequently will experience more (less) ego depletion and, thus, exhibit more (less) coworker harming than employees who engage in surface (deep) acting less frequently. Recent research, however, has also conceptualized emotional labor (e.g., Scott & Barnes, 2011) and ego depletion (e.g., Thau & Mitchell, 2010, Study 3) as intraindividual phenomena, and it would be highly interesting to expand the present considerations to this lower level of analysis. Studies using experience sampling (Scollon, Kim-Prieto, & Diener, 2003) could, for example, examine day-to-day variations in individual employees' surface and deep acting and link these variations with employees' ego depletion and harmful acts, thus contributing to a better understanding of the micro-foundations underlying the present model.

Finally, as discussed earlier, we did not find a significant interaction between deep acting and emotion regulation self-efficacy. In general, the effects of deep acting remain more ambiguous than for surface acting (Hülshager & Schewe, 2011). As such, we encourage future researchers to put more emphasis on this emotional labor strategy. By demonstrating distinct boundary conditions that shape the consequences of deep acting, scholars may be able to shed new light on the diverse (and sometimes contradictory) empirical findings that have been obtained in this area (e.g., Grandey, 2003; Kruml & Geddes, 2000).

All in all, the present study offers novel insights into the complex ways through which the results of emotional labor in customer service encounters are transferred toward coworker interactions. In doing so, it points toward important research directions that can further expand our knowledge of emotional labor as a key feature of today's service economies.

### References

- Abraham, R. (1998). Emotional dissonance in organizations: Antecedents, consequences, and moderators. *Genetic, Social, and General Psychology Monographs, 124*, 229-246.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Aldao, A., & Nolen-Hoeksema, S. (2012). When are adaptive strategies most predictive of psychopathology? *Journal of Abnormal Psychology, 121*, 276-281.
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion regulation strategies across psychopathology: A meta-analysis. *Clinical Psychology Review, 30*, 217-237.
- Anderson, J. C., & Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology, 76*, 732-740.
- Aquino, K., Lewis, M. U., & Bradfield, M. (1999). Justice constructs, negative affectivity, and employee deviance: A proposed model and empirical test. *Journal of Organizational Behavior, 20*, 1073-1091.
- Aquino, K., & Thau, S. (2009). Workplace victimization: Aggression from the target's perspective. *Annual Review of Psychology, 60*, 717-741.
- Ashforth, B. E., & Humphrey, R. H. (1993). Emotional labor in service roles: The influence of identity. *Academy of Management Review, 18*, 88-115.
- Augustine, A. A., & Hemenover, S. H. (2009). On the relative effectiveness of affect regulation strategies: A meta-analysis. *Cognition and Emotion, 23*, 1181-1220.
- Awa, W. L., Plaumann, M., & Walter, U. (2010). Burnout prevention: A review of intervention programs. *Patient Education and Counseling, 78*, 184-190.



- Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 9, 78-102.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1-26.
- Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88, 87-99.
- Barling, J., Dupré, K. E., & Kelloway, E. K. (2009). Predicting workplace aggression and violence. *Annual Review of Psychology*, 60, 671-692.
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74, 1252-1265.
- Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass*, 1, 115-128.
- Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods*, 8, 274-289.
- Bennett, R. J., & Robinson, S. L. (2000). The development of a measure of workplace deviance. *Journal of Applied Psychology*, 85, 349-360.
- Bechtoldt, M. N., Rohrmann, S., De Pater, I. E., & Beersma, B. (2011). The primacy of perceiving: Emotion recognition buffers negative effects of emotional labor. *Journal of Applied Psychology*, 96, 1087-1094.
- Bechtoldt, M. N., Welk, C., Zapf, D., & Hartig, J. (2007). Main and moderating effects of self-control, organizational justice, and emotional labour on counterproductive

behaviour at work. *European Journal of Work and Organizational Psychology*, *16*, 479-500.

Blau, G., Fertig, J., Tatum, D. S., Connaughton, S., Park, D. S., & Marshall, C. (2010).

Further scale refinement for emotional labor: Exploring distinctions between types of surface versus deep acting using a difficult client referent. *Career Development International*, *15*, 188-216.

Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective:

A theoretical model and meta-analysis. *Journal of Applied Psychology*, *91*, 998-1012.

Brackett, M. A., Rivers, S. E., Shiffman, S., Lerner, N., & Salovey, P. (2006). Relating

emotional abilities to social functioning: A comparison of self-report and performance measures of emotional intelligence. *Journal of Personality and Social Psychology*, *91*, 780-795.

Brislin, R. W. (1980). Translation and content analysis of oral and written material. In H. C.

Triandis & J. W. Berry (Eds.), *Handbook of cross-cultural psychology* (pp. 349-444). Boston, MA: Allyn & Bacon.

Brooks, A. W. (2014). Get excited: Reappraising pre-performance anxiety as excitement.

*Journal of Experimental Psychology: General*, *143*, 1144-1158.

Brotheridge, C. M., & Lee, R. T. (2002). Testing a conservation of resources model of the

dynamics of emotional labor. *Journal of Occupational Health Psychology*, *7*, 57-67.

Ciarocco, N., Twenge, J., Muraven, M., & Tice, D. (2007). *The state self-control capacity scale: Reliability, validity, and correlations with physical and psychological stress*.

Poster presented at the annual meeting of the Society for Personality and Social Psychology, San Diego, CA.

- Chiaburu, D. S., & Harrison, D. A. (2008). Do coworkers make the place? Conceptual synthesis and meta-analysis of lateral social influences in organizations. *Journal of Applied Psychology, 93*, 1082-1103.
- Choi, S., Kluemper, D. H., & Sauley, K. S. (2013). Assessing emotional self-efficacy: Evaluating validity and dimensionality with cross-cultural samples. *Applied Psychology: An International Review, 62*, 97-123.
- Christian, M. S., & Ellis, A. P. J. (2011). Examining the effects of sleep deprivation on workplace deviance: A self-regulatory perspective. *Academy of Management Journal, 54*, 913-934.
- Cohen-Charash, Y., & Mueller, J. S. (2007). Does perceived unfairness exacerbate or mitigate interpersonal counterproductive work behaviors related to envy? *Journal of Applied Psychology, 92*, 666-680.
- Côté, S. (2005). A social interaction model of the effects of emotion regulation on work strain. *Academy of Management Review, 30*, 509-530.
- Côté, S., Van Kleef, G. A., & Sy, T. (2013). The social effects of emotion regulation in organizations. In A. A. Grandey, J. M. Diefendorff, & D. E. Rupp (Eds.), *Emotional labor in the 21st century: Diverse perspectives on emotion regulation at work* (pp. 79-100). New York: Psychology Press/Routledge.
- Diefendorff, J. M., Croyle, M. H., & Gosserand, R. H. (2005). The dimensionality and antecedents of emotional labor strategies. *Journal of Vocational Behavior, 66*, 339-357.
- Diefendorff, J. M., Richard, E. M., & Croyle, M. H. (2006). Are emotional display rules formal job requirements? Examination of employee and supervisor perceptions. *Journal of Occupational and Organizational Psychology, 79*, 273-298.
- Ding, L., Velicer, W. F., & Harlow, L. L. (1995). Effects of estimation methods, number of

indicators per factor, and improper solutions on structural equation modeling fit indices.

*Structural Equation Modeling: A Multidisciplinary Journal*, 2, 119-143.

DeWall, C. N., Baumeister, R. F., Stillman, T. F., & Gailliot, M. T. (2007). Violence

restrained: Effects of self-regulation and its depletion on aggression. *Journal of Experimental Social Psychology*, 43, 62-76.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables

and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18, 382-388.

Duffy, M. K., Ganster, D. C., Shaw, J. D., Johnson, J. L., & Pagon, M. (2006). The social

context of undermining behavior at work. *Organizational Behavior and Human Decision Processes*, 101, 105-126.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The

broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218-226.

Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward

emotional well-being. *Psychological Science*, 13, 172-175.

Fujita, K. (2011). On conceptualizing self-control as more than the effortful inhibition of

impulses. *Personality and Social Psychology Review*, 15, 352-366.

Gabriel, A. S., Daniels, M. A., Diefendorff, J. M., & Greguras, G. J. (in press). Emotional

labor actors: A latent profile analysis of emotional labor strategies. *Journal of Applied Psychology*.

Gailliot, M. T., Gitter, S. A., Baker, M. D., & Baumeister, R. F. (2012). Breaking the rules:

Low trait or state self-control increases social norm violations. *Psychology*, 3, 1074-1083.

Gino, F., Schweitzer, M. E., Mead, N. L., & Ariely, D. (2011). Unable to resist temptation:

How self-control depletion promotes unethical behavior. *Organizational Behavior*

*and Human Decision Processes, 115, 191-203.*

- Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review, 17, 183-211.*
- Glomb, T. M., Kammeyer-Mueller, J. D., & Rotundo, M. (2004). Emotional labor demands and compensating wage differentials. *Journal of Applied Psychology, 89, 700-714.*
- Glomb, T. M., & Liao, H. (2003). Interpersonal aggression in work groups: Social influence, reciprocal, and individual effects. *Academy of Management Journal, 46, 486-496.*
- Grandey, A. A. (2000). Emotion regulation in the workplace: A new way to conceptualize emotional labor. *Journal of Occupational Health Psychology, 5, 95-110.*
- Grandey, A. A. (2003). When “the show must go on”: Surface acting and deep acting as determinants of emotional exhaustion and peer-rated service delivery. *Academy of Management Journal, 46, 86-96.*
- Grandey, A. A. (2008). Emotions at work: A review and research agenda. In C. Cooper & J. Barling (Eds.), *Handbook of organizational behavior* (pp. 235-261). London, UK: Sage.
- Grandey, A. A., Fisk, G. M., & Steiner, D. D. (2005). Must “service with a smile” be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology, 90, 893-904.*
- Gross, J. J. (1998a). Antecedent-and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74, 224-237.*
- Gross, J. J. (1998b). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2, 271-299.*

- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348-362.
- Groth, M., Hennig-Thurau, T., & Walsh, G. (2009). Customer reactions to emotional labor: The roles of employee acting strategies and customer detection accuracy. *Academy of Management Journal, 52*, 958-974.
- Hagger, M. S., Wood, C., Stiff, C., & Chatzisarantis, N. L. D. (2010). Ego depletion and the strength model of self-control: A meta-analysis. *Psychological Bulletin, 136*, 495-525.
- Hall, R. J., Snell, A. F., & Foust, M. S. (1999). Item parceling strategies in SEM: Investigating the subtle effects of unmodeled secondary constructs. *Organizational Research Methods, 2*, 233-256.
- Harter, J. K., Schmidt, F. L., Asplund, J. W., Killham, E. A., & Agrawal, S. (2010). Causal impact of employee work perceptions on the bottom line of organizations. *Perspectives on Psychological Science, 5*, 378-389.
- Hennig-Thurau, T., Groth, M., Paul, M., & Gremler, D. D. (2006). Are all smiles created equal? How emotional contagion and emotional labor affect service relationships. *Journal of Marketing, 70*, 58-73.
- Heuven, E., Bakker, A. B., Schaufeli, W. B., & Huisman, N. (2006). The role of self-efficacy in performing emotion work. *Journal of Vocational Behavior, 69*, 222-235.
- Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. Berkeley, CA: University of California Press.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). London, UK: Sage.
- Holtz, B. C., & Harold, C. M. (2013). Effects of leadership consideration and structure on

- employee perceptions of justice and counterproductive work behavior. *Journal of Organizational Behavior*, *34*, 492-519.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*, 1-55.
- Hülsheger, U. R., & Schewe, A. F. (2011). On the costs and benefits of emotional labor: A meta-analysis of three decades of research. *Journal of Occupational Health Psychology*, *16*, 361-389.
- Job, V., Dweck, C. S., & Walton, G. M. (2010). Ego depletion—Is it all in your head? Implicit theories about willpower affect self-regulation. *Psychological Science*, *21*, 1686-1693.
- John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality*, *72*, 1301-1334.
- Kammeyer-Mueller, J. D., Rubenstein, A. L., Long, D. M., Odio, M. A., Buckman, B. R., Zhang, Y., & Halvorsen-Ganepola, M. D. (2013). A meta-analytic structural model of dispositional affectivity and emotional labor. *Personnel Psychology*, *66*, 47-90.
- Kirk, B. A., Schutte, N. S., & Hine, D. W. (2008). Development and preliminary validation of an emotional self-efficacy scale. *Personality and Individual Differences*, *45*, 432-436.
- Kruml, S. M., & Geddes, D. (2000). Exploring the dimensions of emotional labor: The heart of Hochschild's work. *Management Communication Quarterly*, *14*, 8-49.
- Lam, C. K., Walter, F., & Ouyang, K. (2014). Display rule perceptions and job performance: The moderating role of employees' affect at work. *Asia Pacific Journal of Management*, *31*, 575-597.

- Lam, C. K., Van der Vegt, G. S., Walter, F., & Huang, X. (2011). Harming high performers: A social comparison perspective on interpersonal harming in work teams. *Journal of Applied Psychology, 96*, 588-601.
- LeBlanc, M. M., & Kelloway, E. K. (2002). Predictors and outcomes of workplace violence and aggression. *Journal of Applied Psychology, 87*, 444-453.
- Lim, S., Cortina, L. M., & Magley, V. J. (2008). Personal and workgroup incivility: Impact on work and health outcomes. *Journal of Applied Psychology, 93*, 95-107.
- Lian, H., Brown, D. J., Ferris, D. L., Liang, L. H., Keeping, L. M., & Morrison, R. (2014). Abusive supervision and retaliation: A self-control framework. *Academy of Management Journal, 57*, 116-138.
- Little, T. D., Rhemtulla, M., Gibson, K., & Schoemann, A. M. (2013). Why the items versus parcels controversy needn't be one. *Psychological Methods, 18*, 285-300.
- Marcus, B., & Schuler, H. (2004). Antecedents of counterproductive behavior at work: A general perspective. *Journal of Applied Psychology, 89*, 647-660.
- Marcus-Newhall, A., Pedersen, W. C., Carlson, M., & Miller, N. (2000). Displaced aggression is alive and well: A meta-analytic review. *Journal of Personality and Social Psychology, 78*, 670-689.
- Marsh, H. W., Hau, K.-T., Balla, J. R., & Grayson, D. (1998). Is more ever too much? The number of indicators per factor in confirmatory factor analysis. *Multivariate Behavioral Research, 33*, 181-220.
- Maslach, D., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397-422.
- McKibben, E. S. (2010). *The relationship between mood, emotional labor, ego depletion, and customer outcomes over time*. (Unpublished doctoral dissertation). Clemson University, Clemson, SC.



- Moshagen, M. (2012). The model size effect in SEM: Inflated goodness-of-fit statistics are due to the size of the covariance matrix. *Structural Equation Modeling: A Multidisciplinary Journal*, *19*, 86-98.
- Parker, S. K., & Axtell, C. M. (2001). Seeing another viewpoint: Antecedents and outcomes of employee perspective taking. *Academy of Management Journal*, *44*, 1085-1100.
- Paulhus, D. L., Robins, R. W., Trzesniewski, K. H., & Tracy, J. L. (2004). Two replicable suppressor situations in personality research. *Multivariate Behavioral Research*, *39*, 303-328.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879-903.
- Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, *15*, 209-233.
- Pugh, S. D., Groth, M., & Hennig-Thurau, T. (2011). Willing and able to fake emotions: A closer examination of the link between emotional dissonance and employee well-being. *Journal of Applied Psychology*, *96*, 377-390.
- Robinson, J. L., & Demaree, H. A. (2007). Physiological and cognitive effects of expressive dissonance. *Brain and Cognition*, *63*, 70-78.
- Schmeichel, B. J., & Baumeister, R. F. (2004). Self-regulatory strength. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 84-98). New York, NY: Guilford Press.
- Schmeichel, B. J., Demaree, H. A., Robinson, J. L., & Pu, J. (2006). Ego depletion by response exaggeration. *Journal of Experimental Social Psychology*, *42*, 95-102.

- Schmeichel, B. J., & Vohs, K. (2009). Self-affirmation and self-control: Affirming core values counteracts ego depletion. *Journal of Personality and Social Psychology*, *96*, 770-782.
- Scollon, C., Kim-Prieto, C., & Diener, E. (2003). Experience sampling: Promises and pitfalls, strengths and weaknesses. *Journal of Happiness Studies*, *4*, 5-34.
- Scott, B. A., & Barnes, C. M. (2011). A multilevel field investigation of emotional labor, affect, work withdrawal, and gender. *Academy of Management Journal*, *54*, 116-136.
- Selig, J., & Preacher, K. (2008). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. Retrieved from <http://www.quantpsy.org>
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods*, *7*, 422-445.
- Simon, L. S., Judge, T. A., & Halvorsen-Ganepola, M. D. (2010). In good company? A multi-study, multi-level investigation of the effects of coworker relationships on employee well-being. *Journal of Vocational Behavior*, *76*, 534-546.
- Spector, P. E., & Fox, S. (2005). A model of counterproductive work behavior. In S. Fox & P. E. Spector (Eds.), *Counterproductive workplace behavior: Investigations of actors and targets* (pp. 151-174). Washington, DC: APA.
- Spector, P. E., & Jex, S. M. (1998). Development of four self report measures of job stressors and strain: Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory. *Journal of Occupational Health Psychology*, *3*, 356-367.
- Stucke, T. S., & Baumeister, R. F. (2006). Ego depletion and aggressive behavior: Is the inhibition of aggression a limited resource? *European Journal of Social Psychology*, *36*, 1-13.

- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*, 271-322.
- Thau, S., Aquino, K., & Poortvliet, P. M. (2007). Self-defeating behaviors in organizations: The relationship between thwarted belonging and interpersonal work behaviors. *Journal of Applied Psychology, 92*, 840-847.
- Thau, S., & Mitchell, M. S. (2010). Self-gain or self-regulation impairment? Tests of competing explanations of the supervisor abuse and employee deviance relationship through perceptions of distributive justice. *Journal of Applied Psychology, 95*, 1009-1031.
- Tice, D. M., Baumeister, R. F., Shmueli, D., & Muraven, M. (2007). Restoring the self: Positive affect helps improve self-regulation following ego depletion. *Journal of Experimental Social Psychology, 43*, 379-384.
- Trougakos, J. P., Beal, D. J., Green, S. G., & Weiss, H. M. (2008). Making the break count: An episodic examination of recovery activities, emotional experiences, and positive affective displays. *Academy of Management Journal, 51*, 131-146.
- Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology, 86*, 320.
- Twenge, J., Muraven, M., & Tice, D. (2004). *Measuring state self-control: Reliability, validity, and correlations with physical and psychological stress*. Unpublished manuscript, San Diego State University, San Diego, CA.
- Venkataramani, V., & Dalal, R. S. (2007). Who helps and harms whom? Relational antecedents of interpersonal helping and harming in organizations. *Journal of Applied Psychology, 92*, 952-966.

- Vohs, K. D., Baumeister, R. F., & Ciarocco, N. J. (2005). Self-regulation and self-presentation: Regulatory resource depletion impairs impression management and effortful self-presentation depletes regulatory resources. *Journal of Personality and Social Psychology, 88*, 632-657.
- Vohs, K. D., & Heatherton, T. F. (2000). Self-regulatory failure: A resource-depletion approach. *Psychological Science, 11*, 249-254.
- Wagner, D. T., Barnes, C. M., & Scott, B. A. (2014). Driving it home: How workplace emotional labor harms employee home life. *Personnel Psychology, 67*, 487-516.
- Wang, M., Liao, H., Zhan, Y., & Shi, J. (2011). Daily customer mistreatment and employee sabotage against customers: Examining emotion and resource perspectives. *Academy of Management Journal, 54*, 312-334.
- Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feeling: A meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological Bulletin, 138*, 775-808.
- Wilk, S. L., & Moynihan, L. M. (2005). Display rule "regulators": The relationship between supervisors and worker emotional exhaustion. *Journal of Applied Psychology, 90*, 917-927.
- Wong, C. S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *Leadership Quarterly, 13*, 243-274.
- Yao, X. (2005). *Ego depletion in emotional labor: The role of humor and methods of acting*. (Unpublished doctoral dissertation). University of Washington, Seattle, WA.

Table 1

*Means, Standard Deviations, Correlations, and Reliabilities*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Surface acting	3.60	1.66	(.86)						
2. Deep acting	4.89	1.03	.41**	(.81)					
3. Emotion regulation self-efficacy	4.58	0.75	.00	.25**	(.87)				
4. Ego depletion	2.55	0.80	.10	-.16*	-.23**	(.92)			
5. Interpersonal harming of coworkers	1.32	0.46	.05	.05	-.19*	.20*	(.84)		
6. Gender <sup>a</sup>	0.63	0.48	-.03	.05	-.07	.00	-.01	(-)	
7. Age <sup>b</sup>	2.70	0.96	.09	.18*	.11	-.09	-.10	-.12	(-)

*Note.*  $N = 150$ . Reliabilities are in parentheses. \*  $p < .05$ , \*\*  $p < .01$ .

<sup>a</sup> Gender: 0 = male, 1 = female; <sup>b</sup> Age: 1 = below 19, 2 = 20-29, 3 = 30-39, 4 = 40-49, 5 = above 50 (exploratory

hypothesis testing including age as a dummy-coded categorical variable did not change the pattern of findings).

Table 2

*Results of Multilevel Analyses*

Predictor	Ego depletion		Interpersonal harming	
	<i>B (se)</i>	<i>B (se)</i>	<i>B (se)</i>	<i>B (se)</i>
Surface acting	.20* (.09)	.21* (.09)	.04 (.08)	.01 (.09)
Deep acting	-.24** (.09)	-.20* (.09)	.01 (.07)	.06 (.09)
Emotion regulation self-efficacy (ERSE)		-.18* (.08)		
Surface acting × ERSE		-.19* (.09)		
Deep acting × ERSE		.06 (.07)		
Ego depletion				.20* (.09)
AIC	423.63	420.72	428.67	425.41
Adjusted BIC	423.01	419.64	427.90	424.48
<i>Pseudo-R</i> <sup>2</sup>	.06	.11	.00	.05
$\Delta$ <i>Pseudo-R</i> <sup>2</sup>		.05		.05

Note.  $N = 150$ . Unstandardized coefficients shown. \* $p < .05$ , \*\* $p < .01$ .

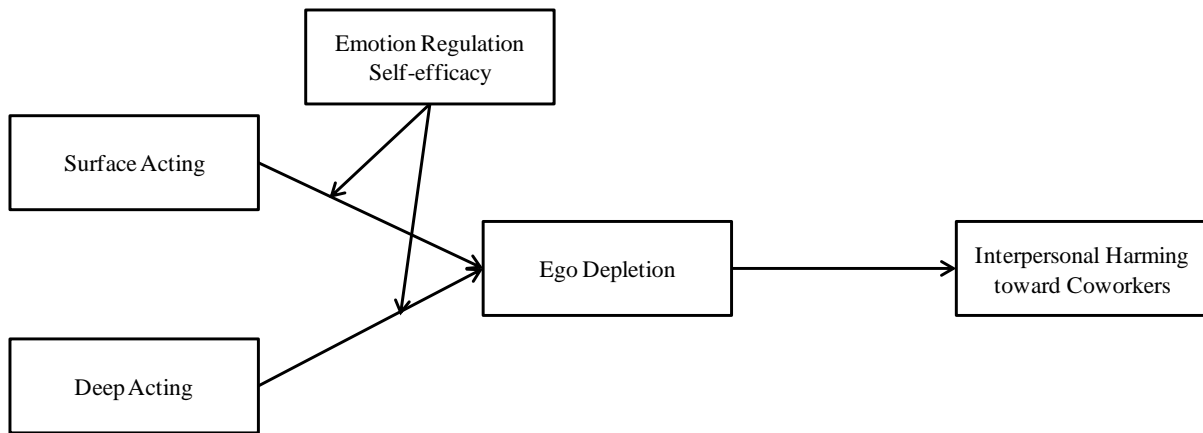
AIC = Akaike information criterion; BIC = Bayesian information criterion.

Table 3

*Indirect and Conditional Indirect Relationships of the Emotional Labor Strategies with Interpersonal Harming*

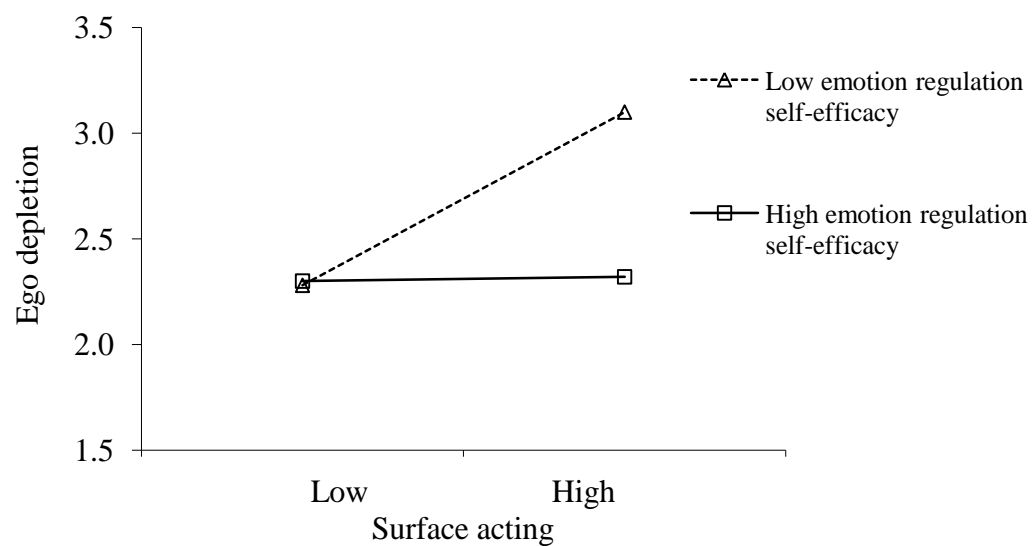
	Value	LL 95% CI	UL 95% CI
<i>Indirect relationships (Hypotheses 3a and 3b)</i>			
Surface acting → ego depletion → interpersonal harming	.04	.001	.102
Deeping acting → ego depletion → interpersonal harming	-.05	-.114	-.002
<i>Conditional indirect relationships (Hypothesis 5a)</i>			
Surface acting → ego depletion → interpersonal harming (high ERSE)	.00	-.048	.059
Surface acting → ego depletion → interpersonal harming (low ERSE)	.08	.007	.186

*Note.*  $N = 150$ . High ERSE = emotion regulation self-efficacy at +1 *SD*. Low ERSE = emotion regulation self-efficacy at -1 *SD*. LL = lower limit; UL = upper limit; CI = confidence interval.



*Figure 1.* Proposed Model





*Figure 2.* Interaction between Surface Acting and Emotion Regulation Self-efficacy on Ego Depletion

## Appendix

To pilot-test the potential relevance of emotional labor for ego depletion, we conducted a preliminary cross-sectional study to examine Hypotheses 1a and 1b. Specifically, 477 interns working as customer service representatives for a large bank in China completed online surveys (response rate = 75%; 57% female, mean age = 23 years). On average, respondents had about one year of full-time work experience during which they had rotated through different departments without being part of a stable team.

The survey used measures similar to those in our main study to capture surface acting (Diefendorff et al., 2005;  $\alpha = .86$ ), deep acting (Diefendorff et al., 2005;  $\alpha = .84$ ), and ego depletion (Ciarocco et al., 2007;  $\alpha = .82$ ). Moreover, we also measured dispositional self-control as a covariate (Tangney et al., 2004;  $\alpha = .71$ ) to rule out potential biases originating from differences in individuals' stable self-regulatory resource bases (DeWall et al., 2007). All variables were measured using a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table A.1 presents descriptive statistics and correlations, and Table A.2 depicts regression results. As shown, surface acting was positively, and deep acting negatively, related to ego depletion across both analyses. Mirroring the main study's findings, the pilot study therefore supported Hypotheses 1a and 1b, although we note that its cross-sectional, single-source design introduces the possibility of common method variance.

Table A.1

*Means, Standard Deviations, Correlations, and Reliabilities (Pilot Study)*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Surface acting	2.91	0.74	(.86)			
2. Deep acting	3.55	0.70	.26**	(.84)		
3. Ego depletion	2.84	0.37	.34**	-.10*	(.82)	
4. Dispositional self-control	3.15	0.39	-.23**	.13**	-.47**	(.71)

*Note.*  $N = 477$ . Reliabilities are in parentheses. \*  $p < .05$ , \*\*  $p < .01$ .

Table A.2

*Regression Analysis on Ego Depletion (Pilot Study)*

Predictor	Ego depletion	
	<i>B</i> ( <i>se</i> )	<i>B</i> ( <i>se</i> )
Dispositional self-control	-.44** (.04)	-.37** (.04)
Surface acting		.14** (.02)
Deep acting		-.06** (.02)
$R^2$	.22	.28
$\Delta R^2$		.06

*Note.*  $N = 477$ . Unstandardized coefficients shown. \*\*  $p < .01$ .