

RESEARCH REPORT

Rising to the Challenge: Deep Acting is More Beneficial When Tasks are Appraised as Challenging

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Cumulative research indicates that deep acting has a nonsignificant relationship with employee exhaustion, despite arguments that deep acting can be beneficial. To illuminate when deep acting leads to more positive employee outcomes, we draw on the resource conservation perspective to propose a within-individual model of deep acting that focuses on service employees' daily fluctuation of emotional labor and emotional exhaustion. Specifically, we propose that the ongoing experience of felt challenge is a within-person boundary condition that moderates deep acting's relationship with emotional exhaustion, and model emotional exhaustion as a mediating mechanism that subsequently predicts momentary job satisfaction and daily customer conflict handling. Using an experience sampling design, we collected data from 84 service employees over a 3-week period. Deep acting was less emotionally exhausting for service providers when they saw their tasks as more challenging. Furthermore, emotional exhaustion mediated the deep acting by felt challenge interaction effect on momentary job satisfaction and daily customer conflict handling. The findings contribute to a better understanding of the deep acting experience at work, while highlighting customer conflict handling as a key behavioral outcome of emotional labor.

Keywords: customer service, emotional exhaustion, emotional labor, felt challenge, deep and surface acting

In service contexts, emotional labor matters. Service providers' displays of positive emotions enhance customers' mood (Luong, 2005) and willingness to return (Tsai, 2001). Conversely, emo-

tionally unpleasant service encounters may drive customers away (Smith & Bolton, 2002). *Emotional labor*—the public display of emotions based on display rules—is essential for service delivery (Hochschild, 1983). With increasing numbers of service workers, researchers have examined the consequences of emotional labor (Kammeyer-Mueller, Rubenstein, et al., 2013; Ryan & Ployhart, 2012) in two particular forms: *deep acting*, defined as the modification of actual feelings to match required emotional display, and *surface acting*, the display of requisite emotions without a corresponding inner emotional adjustment (Hochschild, 1983).

From a conservation of resources perspective (Hobfoll, 1989), both surface and deep acting consume resources (Totterdell & Holman, 2003). Yet they differ in whether they can lead to potential downstream resource gains that may offset such resource expense (Grandey & Gabriel, 2015). Deep acting, in the form of modifying felt emotions (or “changing what we feel,” Hochschild, 1983, p. 90), can result in resource gains such as positive social feedback (Côté, 2005; Côté & Morgan, 2002) and genuine affective experience (Brotheridge & Lee, 2002; Scott & Barnes, 2011), which may compensate for the energy losses from deep acting (Grandey & Gabriel, in press). In contrast, surface acting (“changing what we feign,” Hochschild, 1983, p. 90) can lead to a net loss

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in resources, since the inauthentic display of emotions is less likely to yield an upswing in positive resources (Grandey & Gabriel, *in press*). Consistent with this view, meta-analyses indicate that surface acting positively predicts emotional exhaustion, whereas deep acting has a nonsignificant prediction (Hülshager & Schewe, 2011; Kammeyer-Mueller, Rubenstein, et al., 2013).

Due to obvious resource expenditure during emotional labor (Diefendorff, Erickson, Grandey, & Dahling, 2011; Grandey, 2003; Holman, Chissick, & Totterdell, 2002), researchers have investigated how social resources in the form of a supportive social context can alleviate resource losses (Grandey, Foo, Groth, & Goodwin, 2012; McCance, Nye, Wang, Jones, & Chiu, 2013). For example, a climate for authenticity can provide employees with self-regulatory breaks to recover from surface acting’s strains (Grandey et al., 2012). Given the perspective that emotional labor can be beneficial (Ashforth & Humphrey, 1993; Côté, 2005), there is a clear need to understand what other factors—particularly those situated within the individual—can generate necessary resource gains for deep acting (Grandey & Gabriel, 2015). Such investigations are particularly needed given the tension between the avowed benefits of deep acting (Côté & Morgan, 2002; Kammeyer-Mueller, Rubenstein, et al., 2013) and the disappointing empirical evidence. In two meta-analytic studies, for example, deep acting did not significantly predict emotional exhaustion (Hülshager & Schewe, 2011; Kammeyer-Mueller, Rubenstein, et al., 2013).

Our within-individual model of emotional labor (Figure 1) draws on the resource perspective to focus on felt challenge (Boswell, Olson-Buchanan, & LePine, 2004) as a resource that can magnify deep acting’s beneficial influence. We do so by engaging in two extensions of prior work. First, we investigate felt challenge’s moderating effect on deep acting’s influence in the momentary context of employees’ ongoing service interactions. The preponderance of studies on emotional labor, based on between-individual designs, constitutes a knowledge base for typical emotional labor *tendencies* for employees. In contrast, emotional labor *processes* occur dynamically in real time (Judge Woolf, & Hurst, 2009; Scott & Barnes, 2011; Scott, Barnes, & Wagner, 2012; Totterdell & Holman, 2003). Importantly, such dynamic within-individual emotional labor processes are not necessarily isomorphic with between-individual aspects (Beal & Trougakos, 2013; Ohly, Sonnentag, Niessen, & Zapf, 2010). Service employees may vary in the degree to which they engage in deep/surface acting across days or even interactions (Judge et al., 2009), and their ongoing work experience is constantly shaped by the characteristics of customers and tasks at hand (Huang & Ryan, 2011). We examine felt challenge as a dynamic within-individual moderator that captures service employees’ ongoing perceptions, thus complementing research on stable individual difference moderators

(e.g., extraversion, Judge et al., 2009; gender, Scott & Barnes, 2011). Felt challenge also answers a recent call to examine “social–cognitive motivational constructs” (Goodwin, Groth, & Frenkel, 2011, p. 545) as moderators, which has the potential to explicate the benefits of deep acting (Judge et al., 2009).

Second, beyond emotional exhaustion, we examine two additional outcomes relevant to both employees and organizations. Specifically, we examine employee job satisfaction, which is paramount in service contexts (Schneider, 1980), and customer conflict handling, which is defined as agents’ behaviors directed at deterring potential conflict, expertly addressing manifest conflict, and using constructive strategies for conflict management (Ndubisi, Malhotra, & Wah, 2008). The inclusion of customer conflict handling is particularly novel in emotional labor studies. As MacDonald and Sirianni (1996) noted, service workers’ experience “is often one of a series of minor complaints assuming major proportions for the customer” (p. 17). Customers can lash out (Fisk et al., 2010), with an average of 10 episodes of customer verbal aggression per day in call centers (Grandey, Dickter, & Sin, 2004). Such hotbeds for emotions and conflict, coupled with the need to avoid service or relationship failure (Bitner, Booms, & Tetreault, 1990; Ndubisi, Malhotra, & Miller, 2013), put customer conflict handling at a premium (Palmatier, Dant, Grewal, & Evans, 2006). Indeed, if agents’ emotional resources are depleted in the short term, they are less likely to effectively regulate their emotions to handle potential customer conflict in their daily interactions. Focusing on customer conflict handling has another advantage: Because emotional labor-based predictions are more accurate for criteria with higher relevance (Hülshager & Schewe, 2011; Totterdell & Holman, 2003), it has higher criterion specificity (Hogan & Roberts, 1996) compared with general criteria. Deep acting’s association with performance is indeed stronger for higher criterion specification: $-.01$ for (general) task performance compared with $.18$ for (specific) emotional performance (Hülshager & Schewe, 2011). We present specific hypotheses derived from our model in Figure 1 next.

The Joint Influence of Deep Acting and Felt Challenge

In surface acting individuals manipulate expressions; in deep acting they manage emotions. Although deep acting is considered less demanding than surface acting (Goldberg & Grandey, 2007; Ma & Huang, 2006), it is nonetheless effortful (Beal & Trougakos, 2013; Goodwin, 2011) and consumes emotional resources (Grandey & Gabriel, 2015; Hülshager & Schewe, 2011). The idea that deep acting is effortful has been recognized in the early work of Hochschild (1983), reinforced later by authors who pointed out its “excessive energy” requirements (Schaufeli & Enzmann, 1998; p. 126), and refined more recently by Grandey and Gabriel (2015) who noted the hidden toll taken by the deep actor’s constant change of internal emotional signals.

At the same time, resource drains due to deep acting may be offset by resource gains (Brotheridge & Lee, 2002; Grandey & Gabriel, 2015). First, approached from an affective experience perspective, when positive affect is part of the display rules, the actual experience of positive affect due to deep acting (Scott & Barnes, 2011) has long been recognized as a self-regulatory resource (Aspinwall, 1998; Lyubomirsky, King, & Diener, 2005). Second, based on the social interaction sequence perspective (Dar-

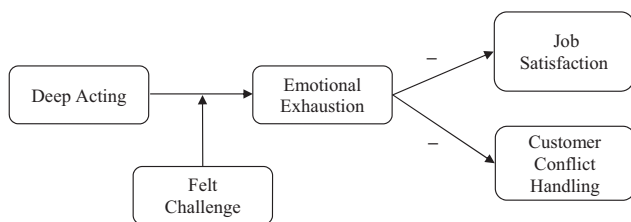


Figure 1. Theoretical model.

ley & Fazio, 1980), service agents' amplified positive emotions during customer service facilitate service interactions and foster positive social responses from customers (Côté & Morgan, 2002). Finally, deep acting contributes to personal energy by heightening service employees' sense of personal accomplishment (Brotheridge & Lee, 2002).

When there is an imbalance between emotional effort expended and resources generated, workers will experience increased strain and dissatisfaction. Deep acting is effortful self-regulation, requiring "temporary efforts in generating new thoughts, creating imaginations, and trying to feel what should be felt" across customers and time (Liu, Prati, Perrewé, & Ferris, 2008, p. 2417). The weak relationships with strain have been explained by the argument that the energy expenses are "repaid" by social rewards due to the authentic displays, and intrinsic rewards, due to the feeling of personal accomplishment (Brotheridge & Lee, 2002; Côté, 2005; Hochschild, 1983; Hülsheger & Schewe, 2011). However, there is little research evidence for moderating effects that support these ideas.

An important question, then, is whether downstream resource gains in excess of the resource expenditure are possible, and what would generate them. In what follows, we propose that if service employees view their work as challenging, they will have access to greater motivational resources to better manage their emotions in service interactions, and thus the resource gains from deep acting can outweigh the cost, manifesting in reduced exhaustion of emotional resources. Following Judge et al.'s (2009) speculation that employees' resources can increase when they "frame customer demands as *challenges* rather than threats" (p. 81, italics added), we turn to felt challenge, a resource-enhancing component that can modify the influence of deep acting.

Felt challenge is the positive appraisal of job demands that includes interpreting work requirements as potentials for rewards and opportunities for growth (Boswell et al., 2004; Folkman & Lazarus, 1985). It originates, in part, from one's task and role characteristics (Cammann, Fichman, Jenkins, & Klesh, 1983) and has been shown to mediate the positive effects of challenge-related stress on work outcomes (Boswell et al., 2004). Prior research has established connections between felt challenge and increases in motivation (LePine, LePine, & Jackson, 2004), effort exertion (Tomaka, Blascovich, Kelsey, & Leitten, 1993), positive feelings about the job (Podsakoff, LePine, & LePine, 2007), and performance (LePine, Podsakoff, & LePine, 2005).

As service employees continuously engage in service delivery, their *momentary* assessment of felt challenge captures ongoing perceptions of their service interactions. When feeling challenged, agents are more likely to see personal resources at their disposal as exceeding situational demands (Blascovich & Tomaka, 1996). Specifically, felt challenge can facilitate service agents' access to their memory of emotional experiences or their use of trained imagination. Using such emotional labor techniques documented by Hochschild (1983) will delay the onset of emotional exhaustion. Furthermore, through increasing employees' attention and focus on tasks (Rodell & Judge, 2009), felt challenge facilitates a change of perspective and protects the deep acting employee from experiencing an excessive burden of complying with feeling rules which are "not completely of their own making" (Hochschild, 1979, p. 562), a cause of emotional exhaustion (Hochschild, 1983). Taken together, when perceiving their ongoing interactions as

challenges, agents draw on resources to steer their emotional experiences toward the positive and away from the negative, while feeling a sense of accomplishment in doing so (Brotheridge & Lee, 2002; Brotheridge & Grandey, 2002). As a result, the joint operation of high felt challenge and deep acting will reduce exhaustion.

In contrast, when employees do not perceive their service interactions as challenging, they may construe their tasks as boring, mundane, or taxing—the "default mode" in some service settings. As one agent reports, "there is one part of your brain that does go into repetitive mode just so that you can deal with the repetition over and over again" (Callaghan & Thompson, 2002, p. 245). In such cases, the limited resource input to deep acting makes it less effective in generating affective, social, and person resources, and as a result, resource consumption and gains are offsetting. Thus, with the perception of low challenge, deep acting is not expected to influence exhaustion.

It should be noted that we did not expect felt challenge to moderate surface acting's influence. Resources that have been found to interact with surface acting are ones that allow the employee to disengage and thus either reduce or recover from the strain which accompanies faking and inauthenticity. For example, surface acting is less exhausting when one can be authentic with coworkers (Grandey et al., 2012), or can externally attribute faking to financial incentives (Grandey, Chi, & Diamond, 2013). In contrast, felt challenge engages the self, rather than disengages, and thus is unlikely to reduce the strain from surface acting. In other words, while perceiving challenges enhances the deep acting process by representing an additional venue for personal growth and work satisfaction, the surface acting process requires external resources that replenish rather than enhance. We nevertheless include surface acting as a control variable, to allow for comparisons with prior within-person emotional labor studies (e.g., Judge et al., 2009). We also test the felt challenge by surface acting interaction in an exploratory manner to confirm our reasoning.

Hypothesis 1: The within-individual relationship between deep acting and momentary emotional exhaustion is moderated by felt challenge, such that employees who engage in deep acting are less exhausted when they also experience higher challenge.

The Mediating Role of Emotional Exhaustion

The felt challenge by deep acting interaction effect will likely impact employee experiences beyond emotional exhaustion. Following research that examined attitudinal and behavioral outcomes of emotional labor (Kammeyer-Mueller, Rubenstein, et al., 2013), we turn to momentary job satisfaction and daily customer conflict handling as outcomes, both being important to service delivery (Lewig & Dollard, 2003; Palmatier et al., 2006) and from a within-person perspective (Sonnenschein et al., 2007).

Regarding job satisfaction, the experience of authentic positive emotions and the feelings of accomplishment stemming from deep acting are likely to lead service employees to react more positively to their jobs (Fisher, 2000; Zapf, Vogt, Seifert, Mertini, & Isic, 1999). As for customer conflict handling, the authentic display of positive emotions may promote rapport building and facilitate social interactions (Grandey, Fisk, Mattila, Jansen, & Sideman, 2005; Hennig-Thurau, Groth, Paul, & Gremler, 2006), and thus

result in employees being more effective in handling potential conflicts with customers. Consistent with the rationale for Hypothesis 1, the influx of attentional and motivational resources accompanying felt challenge can render deep acting more effective in influencing both job satisfaction and customer conflict handling. More importantly, we posit that emotional exhaustion mediates the proposed deep acting by felt challenge interaction onto job satisfaction and customer conflict handling. Edwards and Lambert (2007) called such a model first stage moderation model, where the effect of an antecedent (deep acting) on a mediator (emotional exhaustion) is moderated by a third variable (felt challenge).

At the between-individual level, emotional exhaustion appears to be an outcome of deep and surface acting (Martínez-Iñigo, Totterdell, Alcover, & Holman, 2007; Sliter, Jex, Wolford, & McInnerney, 2010), and the depletion of employees' emotional resources can decrease satisfaction and negatively impact behavioral outcomes (Banks, Whelpley, Oh, & Shin, 2012; Cropanzano, Rupp, & Byrne, 2003; Grandey, 2003; Wright & Cropanzano, 1998). A similar mediating role can be expected for emotional exhaustion at the within-individual level, with emotional exhaustion carrying forth the influence of deep acting's interactive effects with felt challenge. We discuss the mediating mechanisms for job satisfaction and customer conflict handling separately below.

First, the availability of personal resources associated with reduced emotional exhaustion can lead employees to feel more positive toward their job (Cropanzano et al., 2003; Lee & Ashforth, 1990), perceiving the job as more rewarding and satisfying. Meanwhile, emotional exhaustion is affectively unpleasant. Thus, emotionally exhausted service agents may find it difficult to appreciate the positive aspects of their jobs and may try to distance themselves from their work, which is likely seen as the cause of exhaustion. This is consistent with past research on emotional exhaustion's negative influence on job satisfaction at the between-individual level (Cherniss, 1980; Wolpin, Burke, & Greenglass, 1991).

Second, the availability of emotional resources associated with lowered levels of exhaustion will enable employees to better attend to customers' needs and to solve potential conflicts. When emotionally exhausted, agents have limited resources to draw on and invest less of their attention in their immediate customer interaction (Lee & Ashforth, 1990, 1996; Rodell & Judge, 2009). The current examination of customer conflict handling is particularly relevant because customer conflict handling reflects service behaviors that necessitate high levels of emotional and attentional resources (Palmatier et al., 2006). Generic service performance includes technical aspects (e.g., skills in operating specialized service software) that depend to a lesser degree on agents' resources (see Goodwin et al., 2011). In contrast, customer conflict handling requires the service agent to utilize cognitive resources to recognize conflict cues and employ emotional resources to avert potential conflicts. As a result, we expect customer conflict handling to be sensitive to the negative influence of emotional exhaustion. Taken together, we proposed the following mediated moderation hypothesis:

Hypothesis 2: Emotional exhaustion mediates the interactive effects of deep acting and felt challenge on momentary (a) job satisfaction and daily (b) customer conflict handling.

Method

Participants were service employees working in the call center of a telecommunication company in midwest China.¹ The call center provides customer support for telephone, cell phone, and Internet services. Agents (around 100 in total) were invited to participate, informed that their participation was voluntary, and ensured that responses would be kept confidential. Eighty-four call agents participated. On each work day during the next three weeks, participants completed short questionnaires after receiving a notice on their working platform at two times, one in the middle and the other at the end of the workday. Questionnaires were distributed during each shift, and completed questionnaires were immediately collected by research assistants after each shift. Respondents were compensated with up to \$30, depending on the number of questionnaires completed. On average, each respondent completed 25 out of 30 possible surveys. Paired daily data with both surveys were available for an average of 12.5 days out of 15 possible days. The sample consisted of 1,054 daily observations nested within 84 individuals. Respondents were primarily female (73%), with average age of 23 and mean organization tenure of 1.8 years.

Measures

In the middle of the work day, respondents provided information on deep and surface acting, felt challenge, emotional exhaustion, and job satisfaction. At the end of the work day, respondents rated their customer conflict handling. Items were anchored on a five-point Likert-type scale (1 = Strongly Disagree; 5 = Strongly Agree), except where noted below.

Deep acting and *surface acting* were each captured using three items (Brotheridge & Lee, 2003). Respondents reported how often they engaged in actions such as "Make an effort to actually feel the emotions that you needed to display to others" (deep acting; $\bar{\alpha}$ [average α across days] = .94) versus "Resist expressing your true feelings" (surface acting; $\bar{\alpha}$ = .85) during the morning (1 = never; 5 = always). We measured *felt challenge* using four items (Boswell et al., 2004; Tomaka et al., 1993). Employees were asked to what extent their tasks were seen as challenging during the first part of the day (e.g., "I view my tasks as challenging"; $\bar{\alpha}$ = .84).

Emotional exhaustion was assessed using six items from Shirom-Melamed burnout measure (Shirom & Melamed, 2006). Respondents indicated their present degree of exhaustion (e.g., "Feel emotionally drained from my work," $\bar{\alpha}$ = .94; 1 = never; 5 = always). Respondents' momentary *job satisfaction* was evaluated with three items developed by Cammann, Fichman, Jenkins, and Klesh (1979). An item reads, "At present, I am satisfied with my job" ($\bar{\alpha}$ = .95).

Customer conflict handling (3 items; Ndubisi et al., 2008) measured the extent to which agents tried to "openly discuss solutions when problems arise," "solve conflicts before they occur," and "avoid potential conflicts with customers" during the day ($\bar{\alpha}$ = .79). Since recovery from resource depletion typically occurs after work (e.g., Sonnentag, 2003), assessing customer conflict handling behaviors at the end of the work day allowed us to

¹ The current data were collected as a part of a larger research effort, consisting of two other currently unpublished papers based on nonoverlapping constructs.

Table 1
Descriptive Statistics and Correlations

	1	2	3	4	5	6	M	SD
1. Deep acting		.50***	.22*	-.03	.11	.50***	3.82	0.76
2. Surface acting	.22***		-.10	.21	-.12	.24*	3.14	0.83
3. Felt challenge	.19***	.03		-.55***	.71***	.45***	3.58	0.75
4. Emotional exhaustion	-.11***	.11***	-.08**		-.76***	-.24*	2.43	1.03
5. Job satisfaction	.14***	-.10**	.22***	-.35***		.40***	3.41	1.14
6. Customer conflict handling	.13***	.00	.07	-.13***	.14***		4.25	0.57
Within-individual variance	0.38	0.70	0.45	0.34	0.48	0.36		
Between-individual variance	0.55	0.63	0.52	1.02	1.26	0.29		
Within-individual variance (%)	41	53	46	25	27	55		

Note. Within-individual (Level 1) correlations are presented below the diagonal, estimated as $B_{X \rightarrow Y} \times SD_X / SD_Y$, where $B_{X \rightarrow Y}$ = unstandardized coefficient of X predicting Y in multilevel modeling; SD_X and SD_Y = within-individual standard deviations of X and Y, respectively (see Judge et al., 2009). Percentage of within-individual variance = within-individual variance / (within-individual variance + between-individual variance). Between-individual (Level 2) correlations are presented above the diagonal, with all eight Level 1 variables aggregated to individual means at Level 2 ($N = 84$) prior to correlation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

capture variance in the eventual outcome that theoretically occurs after resource depletion.

Results

Descriptive statistics and correlations appear in Table 1. We first examined the amount of within- versus between-individual variance in the eight experience-sampled variables. Decomposition of variance components revealed sizable within-individual variance on all eight variables, ranging from 25% for emotional exhaustion to 55% for conflict handling, supporting the examination of within-individual relationships. At the within-individual level, deep acting was positively associated with surface acting, $r = .22, p < .001$ and felt challenge, $r = .19, p < .001$; surface acting was unrelated to felt challenge ($r = .03, ns$). Consistent with the literature, surface acting was positively associated with emotional exhaustion, $r = .11, p < .001$ and negatively with job satisfaction, $r = -.10, p < .01$. In contrast, deep acting was negatively correlated with emotional exhaustion, $r = -.11, p < .001$ and positively with job satisfaction, $r = .14, p < .001$. In addition, deep acting, $r = .13, p < .001$, but not surface acting ($r = .00, ns$), had a significant within-person correlation with customer conflict handling.

Variable centering in multilevel modeling can impact parameter estimates and subsequent interpretation of results (Enders & To-

fighi, 2007). Given the current substantive interest at the within-individual level, particularly mediated effects among Level 1 variables (a 1-1-1 model per Zhang, Zyphur, & Preacher, 2009), inclusion of between-individual variance in estimation can confound within-individual effects and bias estimates (Preacher, Zyphur, & Zhang, 2010; Zhang et al., 2009). To estimate unconfounded multilevel models (Preacher et al., 2010), we applied group mean centering on all Level 1 variables by removing each individual's mean score from each variable (Zhang et al., 2009). Following this centering method, a Level 1 predictor's fixed effect can be interpreted as the average within-individual change on the dependent variable uniquely associated with that predictor, whereas the intercept will become zero.

To test the hypotheses, we conducted multilevel modeling using the nlme package for linear and nonlinear mixed effects models in R (Pinheiro & Bates, 2000). For Hypothesis 1, we expected employees to experience less emotional exhaustion when engaging in deep acting while feeling challenged. We assessed the effects of deep and surface acting in Block 1 and the effect of felt challenge in Block 2, before adding the interactive effect (deep acting by felt challenge) in Block 3 (Table 2). In terms of main effects, deep acting had a negative ($B = -.12, p < .001$) and surface acting had a positive ($B = .08, p < .001$) relationship with emotional exhaustion. Felt challenge displayed a negative relationship as well

Table 2
Test of Hypothesized Effects

Block: Predictor	DV = Emotional exhaustion			DV = Job satisfaction				DV = Customer conflict handling			
	Block 1	Block 2	Block 3	Block 1	Block 2	Block 3	Block 4	Block 1	Block 2	Block 3	Block 4
1. Deep acting	-.12***	-.11***	-.09**	.19***	.15***	.14**	.10**	.11***	.10***	.10**	.09**
1. Surface acting	.08***	.08***	.09***	-.12***	-.11***	-.12***	-.08**	-.03	-.03	-.03	-.02
2. Felt challenge		-.06*	-.06*		.19***	.17***	.17***		.02	.02	.01
3. Deep acting × Felt challenge			-.15***			.12**	.07†			.08*	.07†
4. Emotional exhaustion							-.37***				-.09**
Pseudo R ²	.03	.03	.04	.04	.07	.08	.17	.01	.01	.02	.03

Note. DV = dependent variable. The multilevel modeling for each DV included an autoregressive term (AR1), which provided significantly better fit to the data than the corresponding model without the autoregressive term.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

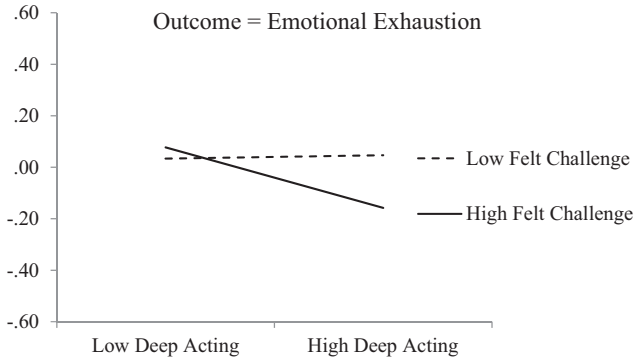


Figure 2. Interactive effects of felt challenge and deep acting on emotional exhaustion.

($B = -.06, p < .05$). Supporting Hypothesis 1, felt challenge interacted with deep acting to predict emotional exhaustion ($B = -.15, p < .001$), such that employees were less exhausted when deep acting while feeling challenged (Figure 2).

For Hypothesis 2, we proposed that emotional exhaustion will mediate the interactive effect of deep acting and felt challenge on (a) job satisfaction and (b) customer conflict handling. We first assessed the total effects of the interaction on the outcomes. Modeling job satisfaction as outcome, deep acting ($B = .15, p < .001$) and felt challenge ($B = .19, p < .001$) both had positive, whereas surface acting had negative ($B = -.11, p < .001$) relationships. In line with Hypothesis 2a, the relationship between deep acting and job satisfaction was accentuated for higher felt challenge ($B = .12, p < .01$; Figure 3). For customer conflict handling, deep acting had the only significant main effect ($B = .10, p < .001$). In line with Hypothesis 2b, felt challenge magnified deep acting's positive relationship with customer conflict handling ($B = .08, p < .01$; Figure 4). Thus, we proceeded to test emotional exhaustion's mediating role by estimating two paths: path *a* (predictor to emotional exhaustion) and *b* (emotional exhaustion to outcome, controlling for the predictor). While paths *a* for deep acting and Deep acting \times Felt challenge interaction were estimated in the earlier analysis, we estimated path *b* by adding emotional exhaustion in Block 4 to the models predicting job satisfaction and customer conflict handling (see Table 2). Emo-



Figure 3. Interactive effects of felt challenge and deep acting on job satisfaction.

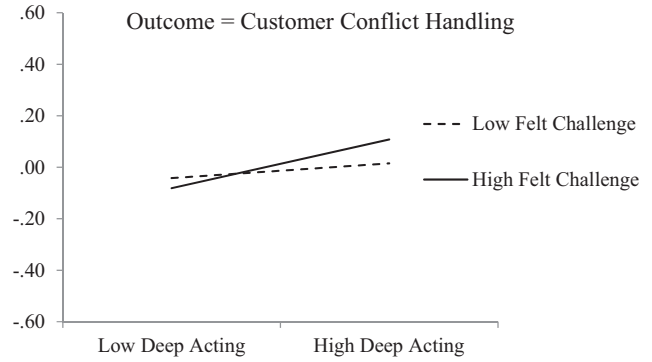


Figure 4. Interactive effects of felt challenge and deep acting on conflict handling.

tional exhaustion added significantly to the prediction ($B = -.37$ and $-.09$, respectively, $ps < .01$), supporting the condition for mediation.

The commonly used Sobel (1982) mediation test assumes normal distribution for the *ab* product, an oftentimes violated assumption (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Instead, we used Monte Carlo analyses (Selig & Preacher, 2008) to estimate confidence intervals and the significance of indirect effects (Hayes, in press; Preacher & Selig, 2012). As presented in Table 3, deep acting influenced momentary job satisfaction through emotional exhaustion (indirect effect $B_{ab} = .04, p < .001$). Supporting Hypothesis 2a, the Deep acting \times Felt challenge interaction was also mediated by emotional exhaustion ($B_{ab} = .04, p < .001$). Similarly, emotional exhaustion mediated the main effect of deep acting ($B_{ab} = .01, p < .01$) and, supporting Hypothesis 2b, the interaction of Deep acting \times Felt challenge on customer conflict handling ($B_{ab} = .01, p < .01$). The Deep acting \times Felt challenge interaction term was no longer significant after controlling for emotional exhaustion, indicating complete mediation.

Although not hypothesized, one might wonder whether the benefits from the influx of resources due to felt challenge would extend to surface acting, thus buffering surface acting's resource drains. Exploratory analyses indicated otherwise: felt challenge did not attenuate surface acting's association with any of the three outcomes.² Thus, the evidence suggests that having additional resources from feeling challenged is unlikely to mitigate the detrimental effects of surface acting, possibly due to surface acting's inauthentic nature.

Discussion

In concluding her influential emotional labor study, Grandey (2003) stated that her study provides evidence for "encouraging and training service personnel in deep acting when 'the show must go on'" (p. 94). As reviewed at the outset, both between- and within-person studies indicate deep acting's lack of influence on emotional exhaustion. Given that deep acting is not as detrimental

² Adding Surface acting \times Felt challenge to the model did not change the pattern of results for the Deep acting \times Felt challenge interaction term for any of the three outcomes.

Table 3
Monte Carlo Estimation of the Mediated Effects Through Emotional Exhaustion

	IV to mediator pathway ^a (a)	Mediator to DV pathway ^b (b)	Indirect effect (ab)	95% Confidence interval
Mediator = Emotional exhaustion				
DV = Job satisfaction				
IV: Deep acting	-0.10 (0.03)	-0.37 (0.03)	0.04***	0.017-0.060
IV: Deep acting × Felt challenge	-0.12 (0.03)	-0.37 (0.03)	0.04***	0.020-0.069
DV = Customer conflict handling				
IV: Deep acting	-0.10 (0.03)	-0.09 (0.03)	0.01**	0.002-0.018
IV: Deep acting × Felt challenge	-0.12 (0.03)	-0.09 (0.03)	0.01**	0.002-0.021

Note. DV = dependent variable; IV = independent variable. Standard errors for *a*, *b* paths are presented in parentheses. Levels of significance and confidence intervals were estimated using Monte Carlo simulation with 20,000 repetitions (Selig & Preacher, 2008).

^a The model for estimating pathway (*a*) included deep acting, surface acting, felt challenge, and Deep acting × Felt challenge interaction. ^b The model for estimating pathway (*b*) included emotional exhaustion in addition to deep acting, surface acting, felt challenge, and Deep acting × Felt challenge interaction.

* $p < .05$. ** $p < .01$. *** $p < .001$.

as surface acting, a logical extension of extant research is to examine what may enhance its potential benefits. As our findings reveal, deep acting coupled with felt challenge is associated with lower emotional exhaustion, greater job satisfaction, and better daily customer conflict handling. Further, mediation analyses indicate that emotional exhaustion carried forth the influence of this joint effect on job satisfaction and customer conflict handling.

Theoretical Implications

Extending existing research on the effects of deep acting at the between-individual level of analysis, our study helps advance the understanding of emotional regulation processes. In service contexts, employees engage in deep acting in a dynamic manner, showing meaningful intraindividual variations (Beal & Trougakos, 2013; Groth, Hennig-Thurau, & Walsh, 2009; Huang & Ryan, 2011). The large within-individual variations observed in our data support the need to understand emotional labor as a within-individual process. Such within-person ebb and flow influence service employees' ongoing perceptions and behaviors, representing meaningful differences that warrant theoretical and empirical modeling.

An important contribution of this study is to theoretically propose and empirically uncover felt challenge as a boundary condition for deep acting's influence. Felt challenge emerged as a consistent moderator for all three outcomes. Supplementing existing research that examined individual difference moderators of emotional labor processes (Judge et al., 2009), the identification of felt challenge as a *momentary* moderator contributes to a closer understanding of service employees' ongoing daily experience. From a transactional stress standpoint, a potential stressor can result in positive consequences if perceived as offering potential for individual growth or mastery of the situation (Lepine et al., 2005). Indeed, the direct relationships between felt challenge and both emotional exhaustion and job satisfaction, although not hypothesized, point to such benefits.

Another contribution is outlining the process through which the joint influence of deep acting and felt challenge is carried forward. Felt challenge, a "good" stressor (Blascovich, 2008; Boswell et al., 2004; Cavanaugh, Boswell, Roehling, & Boudreau, 2000), exerted its effect in conjunction with deep acting through decreasing agents' emotional exhaustion. The mediated moderation held for

both job satisfaction (an attitude) and for customer conflict handling (a behavior). Moreover, our inclusion of customer conflict handling in employees' daily experiences helps focus emotional labor research on a specific and relevant criterion. Together, these findings extend within-person studies of emotional labor mechanisms (Judge et al., 2009; Scott & Barnes, 2011) by delineating one process by which deep acting affects service behavior.

Although we focused on emotional exhaustion as the key mediating mechanism in our model, it is worth noting that we included momentary positive and negative affect (PA and NA, respectively) as potential mediators of the Deep acting × Felt challenge interaction effect on emotional exhaustion. We assessed momentary PA and NA by asking participants to reflect how they felt "at the moment" in the middle of the work day. Results indicate that PA, but not NA, partially mediated the Deep acting × Felt challenge joint effect on emotional exhaustion. This exploratory result indicates that positive affective experience is part of the downstream resource gains of deep acting, magnified by the presence of felt challenge.

Furthermore, our findings point toward the reinforcing effects of both how employees regulate their emotions (deep acting) and how they perceive their task (challenging). Based on findings consistent with ours (Rodell & Judge, 2009), there are reasons to believe that the benefits uncovered in this study may extend to broader work effectiveness outcomes, including withdrawal behavior, citizenship behavior, and proactive performance. That is, resources conserved from decreased emotional exhaustion can become available to other work-related tasks and interactions. The presence of such resources may create positive spillovers not only toward customers, but also toward colleagues and supervisors. Our findings highlight the theoretical relevance of felt challenge in emotional labor research and suggest the potential of including challenge stressors to reconcile inconsistencies in findings regarding the effects of deep acting.

Finally, felt challenge's interaction with deep acting complements prior research that identified extrinsic social and financial rewards as moderators buffering the negative consequences of surface acting but not deep acting (Grandey et al., 2012; McCance et al., 2013). Our results support that, for deep acting, intrinsic motivators provide emotional and motivational resources that compensate for the effort expended. This suggests that not all

resources are created equal: The effort of surface acting is recuperated by resources that allow employees to disengage or externalize their behavior, whereas the effort of deep acting is compensated by resources that internalize their behaviors such that they may experience pride from the effort. This reasoning would also suggest that future research should pursue other intrinsically motivating work conditions, such as task variety and social feedback (Humphrey, Nahrgang, & Morgeson, 2007), to determine when deep acting will have fewer costs and more gains for employees.

Practical Implications

In managing customer conflict, representatives are often advised to use a “take the heat” approach (e.g., listen to customers’ complaints, empathize, take responsibility, and apologize; American Water Works Association, 2007, pp. 37–38). The effectiveness of such an approach is premised on service employees’ emotional responses, particularly deep acting. Yet the continuous emotional labor may consume agents’ emotional resources and erode performance. Unlike interventions targeted at enhancing emotional labor skills (Pugh, Diefendorff, & Moran, 2013), felt challenge can be increased with on-the-job interventions by magnifying job responsibility, creating competition, or increasing task significance. Managers may also increase on-the-job autonomy support by providing a rationale for doing the task and emphasizing choice rather than control (Deci, Eghrari, Patrick, & Leone, 1994). These potential interventions may augment service employees’ deep acting to result in less exhausting service provisions for employees and more pleasant service experiences for customers.

Limitations and Future Research

We note several limitations of the present investigation. First, generalizability needs to be evaluated, given the current study’s potentially unique features (e.g., sampling context). However, our main effects of deep acting and surface acting were largely consistent with existing within-individual studies (Judge et al., 2009; Scott & Barnes, 2011), suggesting some commonality of within-individual studies of emotional labor across settings. Second, we could not establish strong causal inferences, despite our attempts to rule out some competing explanations—for example, establishing temporal precedence by modeling customer conflict handling at the end of the day. Reverse causality, with prework emotional exhaustion (Kammeyer-Mueller, Simon, & Judge, 2013) influencing employees’ selection of emotional labor strategies (Hülshager, Lang, & Maier 2010), should be considered. While we assume that employees recover after an exhausting day and resume their effort and performance (Binnewies, Sonnentag, & Mojza, 2009), this may not always be the case. Future research can assess employees’ exhaustion at the beginning of their day or shift as potential predictor of their subsequent emotional labor.

Third, similar to most experience sampling investigations, our study relied on self-report data and may be susceptible to common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Concern over common method bias is somewhat alleviated because of lower demand characteristics in experience sampling, where respondents report current states rather than reconstruct overall responses from memory. Also, findings based on interaction effects are less prone to common method bias (Siemsen, Roth,

& Oliveira, 2010). Some constructs are, however, amenable to objective measurement (e.g., felt challenge as indexed by cardiovascular reactivity; Blascovich, 2008; Tomaka et al., 1993), which can be considered in future research.

Future research can complement the current model to examine the likely deleterious influence of threat (rather than challenge) appraisal. Furthermore, dispositional and contextual factors that would increase felt challenge can be uncovered. Approach (vs. avoidance) orientations—both dispositional and induced—may increase agents’ perceptions of challenge (Elliot & Harackiewicz, 1996; Stout & Dasgupta, 2013). A focus on resources (vs. demands) may accomplish the same purpose (Blascovich & Tomaka, 1996). More interestingly, perceptions of challenge may be idiosyncratic (Blascovich & Tomaka, 1996, p. 39). Fine-grained experience-sampling studies with the unit of analysis at the level of one service interaction (Groth et al., 2009) or a succession of them, coupled with both objective and subjective measurement of felt challenge, may help discern its variation and preconditions.

Future research may expand on the current model to investigate the underlying causes of emotional labor strategies and processes. Within-individual studies of emotional labor, including our study, have reported positive within-person correlations between deep acting and surface acting at the .20 range, similar to the meta-analytic estimates based on between-individual analyses (Hülshager & Schewe, 2011; Kammeyer-Mueller, Rubenstein, et al., 2013). There is reason to expect deep acting to be positively related to surface acting, since they both indicate employees’ adherence to rather than disobedience of emotional display rules. However, deep acting is also conceptually opposite to surface acting as to whether service employees experience authentic emotions. Beyond deep acting and surface acting, research on emotional labor processes should include employees’ naturally felt emotions that are consistent with display rules (Diefendorff, Croyle, & Gosserand, 2005; Zapf, 2002), whereby requisite emotions are experienced effortlessly and their subsequent expression is, therefore, less exhausting. Future work should also consider motives behind emotional labor, such as Bolton’s (2005) typology of motives for workplace emotion (i.e., pecuniary, prescriptive, philanthropic, and presentational). Disentangling the complex causes and mechanisms of emotional labor in real time, albeit challenging, can provide a more comprehensive depiction of service employees’ on-the-job experience.

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