How Can Stressed Employees Deliver Better Customer Service? The Underlying Self-Regulation Depletion Mechanism

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ABSTRACT

This research delineates and empirically tests how regulatory depletion may affect high-stress employees' service performance on job tasks with different natures. Using a laboratory experiment and a survey study, this research examines (1) whether work stress causes a depletion effect, such that high work stress undermines service employees' performance on tasks requiring self-regulation (e.g., customer complaint handling performance [CCHP]) versus tasks requiring limited self-regulation (e.g., customer-directed extra-role performance [CDERP]); (2) whether the depletion effect can be overcome by supervisory support or employees' engagement in perspective taking, and (3) how these moderating effects might be mediated by employees' feelings of fatigue and intrinsic job motivation. The results confirm regulatory depletion: High-stress employees feel more fatigue and perform more poorly than low-stress employees in tasks requiring self-regulation (i.e., CCHP). However, the depletion effect from work stress was largely attenuated on employees' performance on tasks requiring less or limited self-regulation (i.e., CDERP). The mediated moderation tests further show that the extent of the depletion effect is not uniform. Employees who can replenish their resources from supervisory support or enhance their goal focus by engaging in perspective taking are less affected by regulatory depletion. These buffering effects occur because of enhanced intrinsic job motivation.

Keywords: customer service, work stress, self-regulation depletion, complaint and extra-role behaviors, supervisory support, perspective taking.

The importance of frontline employees for delivering quality services is uncontested by managers and researchers (Singh 2000). Frontline employees' attitudes and behaviors significantly affect customers' perceptions of the service, so service firms must find ways to effectively manage their employees and ensure their attitudes and behaviors are conducive to the delivery of quality service. The management of customer-contact employees has been extensively discussed in the services marketing literature (e.g., Bettencourt and Brown 1997; Singh 2000). However, relatively little research has considered how employees' experience of work stress influences their service performance, despite the accumulated evidence that frontline employees are often highly stressed (Hartline and Ferrell 1996). Moreover, the question of whether the impact of work stress varies depending on the nature of the service tasks (i.e., tasks requiring high levels of or limited self-regulation) remains unexplored. Examining these questions has great importance for services, because frontline employees are the primary contacts for customers during the service delivery, particularly during the economic downturn when the massive organizational changes (e.g., layoffs) threaten their job security and elevate work stress. In the current research, we define work stress as the feelings of pressure and stress associated with the employees' current job task.

To deal with their work stress, employees regulate their emotions, thinking, and behaviors (Schaufeli and Bakker 2004; Singh 2000). According to research on self-regulation depletion (Muraven and Baumeister 2000; Vohs and Faber 2007; Wan et al. 2010), the effort involved in coping with stress consumes the limited pool of self-regulation resources. The regulatory depletion theory posits that performing an act of self-regulation impairs performance on subsequent self-regulatory tasks, because a temporary resource deficit appears (*depletion effect*); the same effect is less likely to occur on tasks that require limited self-regulation. We thus adopt

a self-regulation perspective to investigate the impact of work stress on service performance and distinguish service tasks as either requiring high self-regulation or limited/less self-regulation.

In self-regulation, people exert conscious effort to align their behaviors with established or preferred standards. Thus, the performance of self-regulatory tasks requires them to alter their default thoughts, feelings, and behaviors so as to inhibit the forbidden reactions and encourage the desirable responses (Muraven and Baumeister 2000). In the workplace, employees often exert self-regulation to align their performance with the guidelines specified by the company in their job descriptions (e.g., Simon 1997). Take employees' customer complaint handling performance (CCHP) as an example, to deal with complaining customers, service employees must follow formal customer complaint handling procedures (e.g., keep smiling even when dealing with unpleasant customers; Goldberg and Grandey 2007). Thus, they exert self-regulation to perform emotional labor, such as suppressing negative feelings (e.g., anger) and inhibiting undesirable behaviors (e.g., shouting at customers).

In contrast, tasks requiring limited self-regulation involve more automatic or voluntary actions and thus require limited exertion of control or inhibition (Shiffrin and Schneider 1977). In the workplace, employees might voluntarily engage in tasks not formally required in their job descriptions (Organ 1997), usually due to their own personal initiative or enjoyment, which less likely requires inhibiting undesirable emotions or behaviors. For example, many employees display organizational citizenship behaviors toward customers, also known as customer-directed extra-role performance (CDERP) (Bettencourt and Brown 1997; Netemeyer, Maxham, and Pullig 2005). These behaviors express employees' natural disposition to serve customers well, enjoyment in doing so, and discretion to choose their actions (Babakus, Yavas, and Ashill 2009; Donavan, Brown, and Mowen 2004). Therefore, this task requires limited self-regulation.

Considering both types of service tasks, we attempt to bridge research on self-regulation, work stress, and services to address three key research questions: (1) How does work stress influence an employee's performance on service tasks that require self-regulation (i.e., CCHP) versus tasks that require limited self-regulation (i.e., CDERP)? (2) What psychological mechanisms underlie their service performance under work stress? (3) What strategies can employees adopt to revive their performance, even under high work stress? Accordingly, we have three research objectives. First, we integrate the research on employee's service performance with both the research on work stress from organizational behavior literature and the regulatory depletion mechanism from psychology literature by using regulatory depletion theory to delineate and empirically test the effects of work stress on employees' performance on tasks that require different degrees of self-regulation. We propose that managing work stress depletes self-regulation resources, which impairs performance on service tasks that require self-regulation (e.g., CCHP), but is less likely to harm the performance of tasks that demand relatively less and limited self-regulation (e.g., CDERP). Second, we propose feelings of fatigue and intrinsic job motivation as two distinct processes that mediate the effect of work stress on service performance. Third, we examine supervisory support (SS) and perspective taking (PT) as two strategies that might help mitigate the detrimental effect of work stress on self-regulatory tasks.

THEORETICAL BACKGROUND

Self-Regulation and Regulatory Depletion

Self-regulation occurs when people attempt to change the way they would otherwise think, feel, or behave, and it requires the effortful exertion of regulation resources (Baumeister et al. 1998). A person presented with highly desirable food normally responds by eating it; a dieter

instead requires some forms of resistance. This type of regulation seems more difficult and strenuous than performing the desired act (Muraven and Baumiester 2000). In turn, regulatory depletion theory posits that each person has limited resources for self-regulation activities (Muraven and Baumeister 2000). Because all acts of self-regulation draw on the same resource pool, performing one self-regulation activity creates a temporary deficit that hinders the performance of subsequent self-regulatory tasks. Vohs and Faber (2007) show that people who initially exerted self-regulation by suppressing their thoughts performed worse in regulating their impulse purchases than people who did not control their thoughts initially. This depletion effect also emerges when the tasks involve the control of emotions (e.g., suppressing feelings; Muraven, Tice, and Baumeister 1998) and behaviors (e.g., faking gestures; Baumeister et al. 2005).

Not all effortful tasks are subject to the influence of regulatory depletion though (Muraven and Baumeister 2000). Some tasks require effort but not an internal process of control or inhibition. For example, prior regulation efforts (e.g., suppressing attention and thinking) impairs performance on a subsequent task that requires the active control of thoughts but does not harm performance on a rote memory task that requires straightforward information processing and some efforts but very limited regulation resources (Schmeichel, Vohs, and Baumeister 2003).

Impacts of Regulatory Depletion on Service Performance Due to Work Stress

The tasks of coping with work stress and handling customer complaints (CCHP) both require employees to exert self-regulation resources. According to regulatory depletion theory, handling work stress reduces the self-regulation resources accessible for subsequent self-regulatory tasks and thus might hinder employees' CCHP. However, customer-directed extra-role performance (CDERP) requires relatively less self-regulation by employees and therefore should be less likely to be harmed by regulatory depletion due to work stress.

Stress and Self-Regulation. Stress results from the relationship between the person and an environment that the person considers taxing, in excess of his or her resources, or dangerous to his or her well-being (Schwarzer and Taubert 2002). Stressful demands at work create a threat to employees who feel incapable of completing impending tasks with the resources at hand. For example, employees should feel high levels of stress if they are at the risk of losing their job in a turbulent economy that is beyond their control. Greater work stress can prompt employees to seek homeostasis (e.g., maintain performance) by evoking self-regulatory mechanisms (Singh 2000) that use up self-regulation resources. First, employees may need to inhibit, suppress, or alter their negative thoughts and emotions (Eisenberg, Fabes, and Guthrie 1997; Hancock and Warm 1989). For example, to suppress fear about job loss, an employee might try to stay calm and work as usual. Second, handling work stress requires employees to monitor threatening stimuli, such as salary reductions or layoffs (Cohen 1980), and thus override their general tendency to allow their attention to wander. The need to monitor is particularly high when the threat is unpredictable or uncontrollable (Matthews, Bunson, and Carducci 1989). These cognitive, emotional, and behavioral control features all require the use of self-regulation resources. However, each person's regulation resource pool is finite, so expending self-regulation resources to manage work stress means that fewer resources are available to support the performance of other self-regulatory tasks.

CCHP and Self-Regulation. The task of handling customer complaints, by its very nature, requires employees to exert substantial self-regulation (Giardini and Frese 2006). Customer complaints tend to be confrontational, hostile, and irritating and may create perceptions of interpersonal injustice among employees (Rupp et al. 2008). Both customers and employees have a self-serving attribution bias (Bitner, Booms, and Mohr 1994), such that employees likely feel

irritated and frustrated when customers attribute a failure to them, especially if they believe the problem is due to an external agent or even the customers themselves. However, most firms have "display rules" that require employees to regulate their emotions and behaviors to ensure they are conducive to customer satisfaction and retention (Grandey 2000). Therefore, employees' responses to customer complaints require self-regulation in two ways—emotional and behavioral.

First, handling complaining customers creates inconsistency between the emotions employees actually feel while serving the customers (e.g., anger, frustration) and those emotions the organization requires them to display (e.g., calm, empathy). Thus, frontline employees regulate their emotions by engaging in surface acting (modifying facial expressions) or deep acting (modifying inner feelings) to please customers. Prior research in self-regulation indicates that emotion regulation is psychologically taxing and requires regulation resources (Brotheridge and Grandey 2002; Wan and Agrawal *in press*). Neuroimaging studies (Ochsner and Gross 2005) also show that inhibiting and regulating emotions activate similar brain regions as does self-regulation, suggesting that regulating emotion requires self-regulation.

Second, perceptions of customers' injustice also may trigger defensive behaviors by employees, such as arguing or quarreling with the complaining customers. However, this default behavior is inconsistent with corporate display rules that mandate how employees act (e.g., apologizing, bowing) in response to customers' complaints (Grandey 2000). Therefore, employees need to override their default behavioral responses and replace them with polite reactions, which also demands self-regulation resources (Muraven and Baumeister 2000).

Because both tasks—handing work stress and responding to customer complaints—require substantial self-regulation resources, we expect that when employees expend resources to

regulate their work stress, they have fewer resources available for handling customer complaints, which should harm their performance. Formally,

> H_1: Employees' work stress has a negative impact on their CCHP (depletion effect). That is, employees with high work stress, compared with employees with low work stress, perform worse on the task of handling customer complaints.

CDERP and Limited Self-Regulation. Employees who undertake extra-role behaviors to serve customers, beyond the level required for their jobs (Bettencourt and Brown 1997; Netemeyer, Maxham, and Pullig 2005; Organ 1997), usually enjoy serving customers and have an internal drive to engage in mutually satisfying interactions (Donavan, Brown and Mowen 2004). Thus, CDERP is less likely to demand emotional labor because employees' natural feelings (e.g., joy) are consistent with the emotional display rules (e.g., keep smiling) (Babakus, Yavas, and Ashill 2009). Such tasks also entail employees' active engagement (vs. inhibition) in preferred actions, which require limited regulation. For example, service staff at a university might help exchange students find rental apartments—a task outside their job descriptions. In financial services, CDERP might take the form of voluntarily searching information for clients about where they can celebrate big events. Because employees engage in CDERP based on their internal preferences, instead of anxiety-provoking mandates by the organization, the default emotional and behavioral responses are consistent with the service goal. Thus, CDERP requires minimal inhibition of negative feelings or behaviors and little faking of positive features.

Of course, both CCHP and CDERP consume employees' general resources, such as their time and energy (Wuyts 2007), and both tasks can be effortful. However, CDERP differs from CCHP in the degree of self-regulation resources it uses. Unlike CCHP, CDERP is less likely to tax employees' regulatory resources, because employees perform these services voluntarily and spontaneously, without demanding much regulation to inhibit or override default responses and urges. Because research on regulatory depletion shows that the depletion effect occurs only for

behaviors that require self-regulation (e.g., Schmeichel, Vohs, and Baumeister 2003), we expect that performance of tasks with limited self-regulation such as CDERP will be less likely to be impaired even if employees use self-regulation resources to deal with high work stress. Formally,

> H_2: Resource depletion resulting from work stress is less likely to impair employees' CDERP. That is, high work stress is less likely to decrease employees' customer-directed extra-role performance.

It is worth noting that although some research suggests that employees engage in extra-role services because of their self-interested goal of impression management, rather than being altruistic or voluntary (e.g., Bolino 1999), we adopt the conventional view to define CDERP as voluntary, authentic and enjoyable in nature (e.g., Babakus, Yavas, and Ashill 2009; Organ 1997) . We leave to further research the investigation of alternative conceptualizations.

Feelings of Fatigue and Regulatory Depletion. Performing regulatory tasks often leads to intensified feelings of fatigue, mostly reflected as a sense of being mentally tired, drowsy, or exhausted (Baumeister et al. 1998; Muraven, Tice, and Baumeister 1998). We thus expect that feelings of fatigue emerge when employees deal with high work stress, which requires self-regulation. This expectation is consistent with findings from organizational behavior literature that fatigue is a state resulting from active efforts used to deal with job stressors (Sonnentag and Zijlstra 2006). For example, Meijman (1991) notes that exposure to job stressors demands effort and results in physiological responses such as feeling tired. De Croon and colleagues (2002) also report that the continuous experience of work stressors invokes accumulated mental fatigue.

Research on regulatory depletion has shown that people who exercise self-regulation focus on their feelings of fatigue instead of on the task goals (Vohs and Schmeichel 2003; Wan and Sternthal 2008). The feelings of fatigue highlight their resource limits, which induces a depletion effect and impairs the performance on the subsequent self-regulation task (Agrawal and Wan

2009). We thus expect that the effect of regulatory depletion, resulting from high levels of work stress, on CCHP is driven by the feelings of fatigue. Formally,

> H_3: Employees' feelings of fatigue mediate the effect of work stress on CCHP, such that work stress increases feelings of fatigue, which in turn impairs CCHP.

Overcome the Regulatory Depletion Effect Induced by Work Stress

Emerging evidence in regulatory depletion literature indicates that depleted people employ two main tactics to overcome this effect. The first way is to replenish resources, such as by taking a break (Muraven and Baumeiseter 2000), or ingesting glucose (Gailliot et al. 2007). This concept is analogous to the idea in Hobfoll's (1989) conservation of resource theory that resource losses can be restored through replenishment. The second way to offset the depletion effect is to directly shift the focus from depletion and fatigue to goal pursuit. People can strategically allocate adequate amounts of resources to pursue regulatory tasks, even when they feel highly depleted and do not replenish resources (Wan and Sternthal 2008). For example, it has been shown that the depletion effect is overcome when people are prompted to think about monetary rewards for good performance (Baumeister et al. 2005) or adopt a goal focus rather than a resource focus (Agrawal and Wan 2009). In turn, the depleted participants could devote substantial regulatory resources to maintain their performance on subsequent regulatory tasks.

We examine two strategies relating to employees' job experiences that may help employees maintain a high-quality CCHP even when they experience the depletion brought by high work stress: supervisory support (SS) and perspective taking (PT). We propose that SS replenishes employees' self-regulation resources, whereas engaging in PT encourages employees to directly shift their focus from regulatory fatigue to the task goal of restoring customer satisfaction.

Using Supervisory Support to Replenish Resources. Hobfoll (1989) argues that building rewarding social relationships is the most important means to increase the pool of available

resources or replace and reinforce other resources that might have been lacking. When work stress drains employees' self-regulation resources and causes fatigue, they may seek to replenish their resource pool from their work environment or social network (Athay and Darley 1982). Supervisory support (SS) offers an interpersonal resource that can help create a supportive work environment and replenish regulation resources, particularly for stressed employees. Prior studies suggest that support from a boss who cares about his or her employees is a key resource that frontline employees use to cope with the dysfunctional effect of stress on their performance and well-being (Singh 2000). A supportive leader also represents a coping resource that employees can draw on when they confront organizational changes (Rafferty and Griffin 2006). Similar to Karasek and Theorell (1990) and Oldham and Cummings (1996), we capture work-related (or instrumental) support from supervisors who recognize the contributions of their employees, help them solve work-related problems, understand their needs, and reward good performance.

The availability of such SS can replenish self-regulation resources and mitigate the depletion effects in two ways. First, it provides information germane to employees' work stressors, concrete assistance, and instrumental support to help employees complete tasks (Aspinwall and Taylor 1997; Singh 2000). Second, a rewarding working relationship with supervisors should reinforce employees' beliefs that their work problems and problem-solving efforts are recognized (Brotheridge and Lee 2002). Respect and recognition from the supervisor can also help foster employees' identification with the organization (Ramaswami 1996). Taken together, both the instrumental help from and rewarding working relations with supervisors therefore would enhance employees' confidence to get the task done (Anderson et al. 2007) and help replenish their resources for performing self-regulation tasks. When perceiving being replenished with ample resources from SS, employees would reduce their concerns about resource depletion

due to handling work stress, and will be able to focus on their task goal of handling customer complaints well. Thus, we expect that high SS mitigates the depletion effect of work stress on CCHP, consistent with Homburg and Fürst's (2005) organic approach to complaint handling: A motivational leadership should favor effective CCHP by frontline employees. We posit:

> H_4: The depletion effect of work stress on employees' CCHP is moderated by the level of SS, such that high SS attenuates the negative effect of work stress on employees' CCHP.

Engaging in Perspective Taking to Enhance Goal Focus. Perspective taking (PT) refers to people's efforts to reframe and reappraise a demanding situation as less harmful. People can consider the facts and critical elements of the situation and formulate a plausible narrative that implies a less harmful and threatening impact (Folkman and Moskowitz 2000). In so doing, they gain a different understanding of the implications of the situation in terms of their goals and concerns. For example, an employee with high PT might reframe a pay cut as a way to save everyone's job in the long run. In this sense, PT offers psychological flexibility, which enhances the ability to retain focus on achieving goals and values (Grandey 2000).

When faced with a highly stressful work situation, employees who engage in more PT should be able to reappraise stressors (e.g., job insecurity) in a positive manner (e.g., an opportunity to sharpen working skills in a challenging environment), attribute the situation less to the responsibility of the management or company (e.g., reappraise the stressful working environment as less controllable by the top management and blame the global economic downturn) (Mohr et al. 2007), and be more flexible in shifting their attention from their current distressed feelings to goal-directed actions.

As a result, PT may make employees focus less on the regulatory fatigue caused by high work stress and prompt them to direct their resources toward delivering good services, which should result in good CCHP despite their high work stress and depletion. We formally posit:

H_5: The depletion effect of work stress on employees' CCHP is moderated by the level of PT, such that high PT attenuates the negative effect of work stress on employees' CCHP.

Building on these hypotheses, when the level of either SS or PT is low, employees' feelings of fatigue should partly explain why highly stressed people exhibit poorer CCHP than those less stressed. However, when employees have high SS, their replenished resources help mitigate the impact of fatigue. Although dealing with high work stress makes them feel tired, the resources these employees receive from SS make them worry less about resource limits. Similarly, when employees engage in high PT, they would focus on pursuing the goal of handling complaints well rather than lingering on thoughts about their fatigue. Therefore, we expect that high (versus low) work stress leads to greater feelings of fatigue regardless of the levels of SS or PT, but a high level of SS or PT attenuates the negative effect of fatigue on CCHP. We predict:

H_6: Feelings of fatigue mediate the effect of work stress on CCHP when employees have low levels of SS or PT but not when they have high levels of SS or PT.

As we discussed previously, high levels of SS will replenish employees' self-regulation resources and enable them to be more motivated to perform well and focus on their task goal instead of fatigue. Similarly, high levels of PT encourage employees to reappraise the situation in a relatively positive manner and direct them to focus on their goal of pursuing job tasks effectively. This enhanced attention to goal pursuit closely relates to the intrinsic job motivation - an inner force that drives employees to perform the task in order to experience the pleasure and satisfaction inherent in their current job and so to accomplish organizational goals (Vallerand 1997; Van Yperen and Hagedoorn 2003). Previous research has suggested that work stress has positive effects on job motivation (e.g., Schaufeli and Bakker 2004; Van Yperen and Hagedoorn 2003), because stress makes people feel connected or engaged. Stressors such as high job demands might push employees into aroused and motivated states (Karasek and Theorell 1990). Such motivation increases the likelihood that they put forth more self-regulation effort, resulting

in positive work outcomes such as high job performance (Muraven and Slessareva 2003; Schaufeli and Bakker 2004). Therefore, we expect that with high SS or PT, employees' pursuit of the task of CCHP is driven by their motivation, rather than their feelings of fatigue. That is, high (versus low) work stress should lead to greater intrinsic job motivation, and a high level of SS or PT intensifies the positive effect of job motivation on CCHP. Thus, we hypothesize:

> H_7: Employees' intrinsic job motivation mediates the effect of work stress on CCHP when employees have high levels of SS or PT but not when they have low levels of SS or PT.

We conducted two studies to test these hypotheses. In Study 1, a laboratory experiment among employees from an educational institution, we manipulated the levels of work stress, SS, and PT, asked participants to perform a real-time CCHP versus CDERP task, and assessed the task performance using multiple measures. Study 2 is a survey conducted among employees and supervisors in a global financial institution, in which we measured employees' perceptions of work stress, SS, and PT and supervisors' ratings of the employees' CCHP and CDERP. We also examined fatigue and intrinsic job motivation as mechanisms underlying our proposed effects.

STUDY 1: LABORATORY EXPERIMENT

Overview and Design

Study 1 aims to test the differential effects of regulatory depletion brought by work stress on employees' performance of tasks that require self-regulation (i.e., CCHP) and those that require limited self-regulation (i.e., CDERP), as well as the process involving the feelings of fatigue and the moderating roles of SS and PT, in a controlled laboratory experiment. One hundred forty-four administrative staff (35% men) of a major university in Hong Kong participated in this experiment, in return for HK$100 payment each. These employees work in various departments with job titles such as executive assistant (27%), executive officer (35%), and others such as program managers (38%). They all have experience handling complaints and inquiries from customers—the students at their university. They were randomly assigned to the 2 (high versus

low work stress) × 3 (control versus SS versus PT) x 2 (high self-regulatory task versus limited self-regulatory task) between-subjects experimental design. We manipulated SS and PT in ways such that conditions with the presence of SS/PT would represent high levels of SS/PT whereas the control condition with the absence of SS/PT represent low levels of SS/PT.

Procedure

Manipulation of Work Stress. At the beginning of the study, the experimenter first briefly introduced the purpose of this study. Participants were told the following: In response to the recent cuts to government grants for all universities in Hong Kong, allocated on a competitive basis (The 2008-2009 Budget, HKSAR), their university is now in the process of implementing a reform plan for the coming year to enhance its competitiveness for the grants. The current research is to understand their views and seek their feedbacks about the reform plan. After receiving the introduction, participants were presented with a "confidential document" (labeled with "for internal circulation only") as a real document that detailed the reform policy. This procedure helped make the participants believe that what they read about was a reform to be implemented at their institution. To manipulate work stress, we varied the level of threat of the reform on the administrative staff's job. The document in the different conditions was identical, except for the description of the impacts of the reform. In the high stress condition, participants read that the reform would have a threatening impact on administrative staff, including more frequent performance reviews (once a quarter instead of once a year), possible salary reductions, and greater difficulty renewing job contracts. In the low stress condition, participants read that the reform would mainly affect academic, not administrative, staff.

After reading the document, participants moved to computers to complete the remaining tasks. First, they answered two work stress manipulation check questions anchored on seven-

point scales (1 = not at all; 7 = very much): “How stressed are you with your work?” and “How pressured do you feel by this reform plan?” In addition, they indicated their beliefs about the likelihood that this reform would be implemented on a seven-point scale (1 = not likely at all; 7 = very likely). Responses to this question indicated that it is highly believable (M = 5.44).

Manipulation of SS and PT. In the SS condition, participants read the following message immediately after the description of reform: “To ensure a smooth execution of the reform plan, all departments will provide training to supervisors to ensure that they are highly supportive of subordinates’ work, have great understanding of their difficulties, and take care of their subordinates.” In the PT condition, prior to reading the document about the university reform, participants were prompted to reappraise the reform and read the following message: “We are looking for an objective assessment of the university reform plan from you. For this purpose, please take the perspective of an educator or a third-party person in reading, thinking about, and analyzing the reform.” The control condition featured neither the SS nor PT instructions.

We administered the manipulation check questions for SS and PT separately. Specifically, the two items for participants’ perceived supervisory support asked, “How helpful will your supervisor be?” and “How much will your supervisor understand your difficulties at work?” The two questions pertaining to the extent of perspective taking asked, “To what extent did you perform an objective review of the reform plan?” and “To what extent did you take a neutral stance in assessing the plan?” (1= not at all; 7 = very much).

Measuring CCHP. In the second part of the study, depending on their random assignment, participants either dealt with students’ e-mailed complaints (CCHP) or inquiries (CDERP). Each condition featured six e-mails that contained either student complaints about the respondents’ work unit or non-complaining inquiries. The messages were adapted from real e-mails received

by a department at the university, with minor modifications (e.g., removing names), and were pretested among 40 administrative staff in the same university. In the CCHP condition, the topic of the complaints could apply to administrative units across disciplines, such as dissatisfaction with the course registration or disappointment with the staff's service manner. As is typical of service complaints, the e-mails featured irritating words and hostile tones. For example, one e-mail described the course registration procedure as "ridiculous" and the staff's service manner as "horrible." The e-mails appeared in random order on the participants' computer; the participants were allowed to decide how to reply to these e-mails and told that their responses would be forwarded to the students.

To assess CCHP, we used three sets of measures that captured participants' patience in responding to complaints, students' perceptions of service quality, and students' satisfaction with the replies. First, we recorded the total amount of time each participant spent responding to the e-mails, because self-regulation research suggests that the amount of time spent performing challenging tasks can indicate their self-regulation performance (Muraven, Tice, and Baumeister 1998). For our study, this time measure reflects the level of patience that participants exhibited in explaining the situation and helping resolve customers' problems (e.g., explain the course schedule, promise to forward messages to someone who can offer solutions), even as they regulated their emotions and behaviors in response to the hostile and unpleasant complaints. More time spent replying should indicate greater patience and better service.

Second, two judges, unaware of our study hypotheses, rated the service quality of the replies. These judges were undergraduate students from the same university, who both had experience issuing complaints and general inquiries to staff members. Their evaluations of the e-mail replies served as the proxy of customers' judgments of the service. Specifically, the judges imagined

that they were the students who had written the complaint e-mails and rated the service quality of the participants' replies on eight items (Cronin and Taylor 1994), such as "The staff was sincere in helping me" and "The staff had my best interests at heart" (1 = strongly disagree; 9 = strongly agree). They repeated the ratings for each complaint e-mail. Thus, we created six separate service quality scores for each complaint e-mail. We then averaged the six highly correlated service quality scores ($\alpha = .75$) to form a composite service quality index for our further analyses.

Third, the same two judges rated their satisfaction with the replies on two measures: "You are happy/satisfied with the staff's reply" (1 = strongly disagree; 9 = strongly agree). Thus, we created six separate satisfaction scores, and then averaged these highly correlated scores ($\alpha = .78$) to form a composite satisfaction index. Both service quality and satisfaction ratings revealed a very high level of interrater reliability (.96); any disagreements were resolved through discussion.

Measuring CDERP. The CDERP condition featured e-mailed inquiries from students that extended beyond the participants' job scope, so the staff members had a choice of helping or not, without much emotional and behavioral regulation. The six messages asked for help on various issues, such as obtaining housing information for exchange students, dealing with study stress, completing surveys for students' term projects, or providing facilities for students' private parties. All e-mails were written in a non-hostile manner using a neutral tone.

To enhance the comparability of the measures of CCHP and CDERP, we ensured similar length for each e-mail. The same three sets of measures—service time, service quality, and satisfaction—served to assess CDERP, with minor modifications to fit the context. The service quality index revealed a composite α of .75, and that for the composite satisfaction index was .78.

Measures of Self-Regulatory and General Efforts. We asked participants to report how they felt about the tasks of responding to students' e-mailed complaints or inquiries. In line with self-

regulation and emotional labor literature (Grandey 2000; Muraven and Baumeister 2000), we administered a six-item measure to assess participants' exertion of regulation or their control of behavior or emotion when replying (α = .82). Sample items included, "My replies to the e-mails were genuine without being pretentious", "I truly enjoyed the task", and "I had to control my emotions or inappropriate thoughts to maintain a proper attitude in replying". Two separate questions assessed the general effort that participants used: "I had to use substantial time/energy to reply to these e-mails" (α = .95). All responses were anchored on seven-point scales (1 = strongly disagree; 7 = strongly agree).

Measures of Fatigue and Mood. After reading the document, participants reported their feelings of fatigue using three items adapted from Agrawal and Wan (2009) and Vohs and Faber (2007) (1 = not at all, 7 = very much): "How tired/mentally fatigued/mentally depleted are you?" Because mood might influence people's response tendencies (Beal et al. 2005), we also measured participants' positive and negative affect (Watson, Clark, and Tellegen 1988) to determine whether the effect of work stress on service task performance could be explained by mood changes. Finally, participants were debriefed, thanked, and paid. They indicated no awareness of the experimental hypotheses.

Results

Manipulation Checks. We formed the work stress score by averaging participants' responses to the stress and pressure measures (α = .78). A 2 × 3 analysis of variance (ANOVA) for this score indicated only a main effect of the work stress manipulation: Participants who read the highly threatening message reported greater stress (M = 5.56) than those who read the low-threat message (M = 4.70; $F(1, 138) = 25.90$, $p < .01$). No other effects were significant. These results confirm the success of our work stress manipulation.

For the SS score, we averaged the responses to the two questions that assessed perceived support from supervisors ($\alpha = .86$). This 2×3 ANOVA indicated only a main effect of receiving SS or PT instruction ($F(2, 138) = 12.68$, $p < .01$). The comparison of the three conditions (i.e., control, SS, and PT) revealed that participants in the SS condition reported greater supervisory support ($M = 4.74$) than those in the control ($M = 3.81$, $p < .01$) or PT ($M = 3.88$, $p < .01$) conditions. The other effects were not significant. The PT score similarly was the average of the two questions that measured the extent to which participants engaged in perspective taking ($\alpha = .81$). The 2×3 ANOVA showed only a main effect of having SS or PT ($F(2, 138) = 27.29$, $p < .01$). Participants in the PT condition reported a greater level of perspective taking ($M = 5.51$) than those in the control ($M = 4.17$, $p < .01$) or SS ($M = 4.18$, $p < .01$) conditions. No other effects were significant. Therefore, the manipulations of SS and PT were successful.

To confirm that CCHP and CDERP differed in the amount of self-regulation, but consumed a similar level of general effort of time and energy, we created a self-regulatory effort score by averaging the six items pertaining to the level of self-regulation that participants exerted when performing each task and a general effort score that averaged the two items pertaining to the amount of time and energy they used in replying to the e-mails. We then compared these scores for the CCHP versus CDERP conditions. A one-way ANOVA indicated that participants in the CCHP condition reported a greater exertion of self-regulatory efforts ($M = 4.09$) than those in the CDERP group ($M = 3.02$, $F(1, 142) = 38.36$, $p < .01$). However, CCHP ($M = 4.98$) and CDERP ($M= 4.83$) participants did not differ in their self-reported general effort.[1]

CCHP: Service Time. We averaged the total amount of time participants spent replying to the six complaints ($\alpha = .78$) to form a service time score. The 2×3 ANOVA for this score showed

[1] We included these two sets of measurements in Study 2 and obtained similar findings: Employees rated CCHP as significantly more demanding of self-regulation ($M = 4.16$) than CDERP ($M = 2.71$, $p < .01$). They indicated similar levels of general effort of time and energy for both CCHP ($M = 5.13$) and CDERP ($M = 5.25$, n.s.).

that neither the main effect of work stress nor the main effect of having SS or PT was significant; the interaction effect was significant ($F(2, 67) = 15.69$, $p < .01$; see Table 1, Panel a). Simple contrasts revealed the nature of the interaction. When participants received neither information about the availability of SS nor instructions for performing PT (control condition), they spent less time responding to the complaints if they suffered high stress (M = 3.15 minutes) than if the stress was low (M = 5.40 minutes; $p = .01$), which indicates a depletion effect. However, for participants with high SS or PT, the amount of time spent addressing students' complaints did not differ significantly between the high and low stress conditions (SS: $M_{high\ stress} = 5.89$ minutes, $M_{low\ stress} = 5.29$ minutes; PT: $M_{high\ stress} = 5.17$ minutes, $M_{low\ stress} = 5.02$ minutes). Without SS or PT, highly stressed participants spent less time replying to students' complaints; however, if they perceived SS or engaged in PT, they maintained their patience while handling the complaints.

CCHP: Service Quality and Satisfaction. A 2 × 3 ANOVA on the composite service quality index showed that neither the main effect of stress nor the main effect of SS or PT was significant, but the interaction effect was ($F(2, 67) = 4.79$, $p < .02$; see Table 1a). Again, the simple contrasts revealed that in the control condition, the service quality for highly stressed staff was lower (M = 6.49) than that for the less stressed staff (M = 7.46, $p < .01$). However, these differences disappeared in the SS and PT conditions (SS: $M_{high\ stress} = 7.58$ minutes, $M_{low\ stress} = 7.25$ minutes; PT: $M_{high\ stress} = 7.43$ minutes, $M_{low\ stress} = 7.41$ minutes). For highly stressed participants, service quality suffered in the control condition compared with either the SS or the PT conditions. We also submitted the composite satisfaction index to a 2 × 3 ANOVA and obtained similar results (see Table 1, Panel a for the means across conditions).

CDERP: *Service Time, Quality, and Satisfaction.* The service time score represented the average amount of time participants spent responding to the six students' inquiries ($\alpha = .86$). A 2

× 3 ANVOA for this score indicated only a main effect of stress; highly stressed participants spent more time responding to students' general inquiries than did less stressed participants ($F(1, 65) = 11.25$, $p < .01$). This main effect occurred in all three conditions. We submitted the composite service quality and satisfaction index to 2 × 3 ANOVAs, separately, and again found a main effect of stress: Highly stressed participants provided higher quality ($F(1, 65) = 10.39$, $p < .01$) and more satisfactory ($F(1, 65) = 13.10$, $p < .01$) services than did less stressed ones. Again, this main effect occurred regardless of whether participants received SS or PT instructions (see Table 1, Panel b). That is, the depletion effect was largely attenuated on CDERP. The results even suggested that participants provided better CDERP services to students when they experienced high rather than low stress, in a reverse of the depletion effect.

Fatigue as a Mediator. To determine if feelings of fatigue underlie the effects of work stress on complaint handling, we developed a fatigue index in which we averaged participants' ratings of tiredness, mental fatigue, and felt depletion ($\alpha = .92$). We first submitted this index to a 2 × 3 ANOVA, which indicated a significant main effect of work stress: Participants felt more fatigue in the high-stress ($M = 4.86$) than in the low-stress ($M = 3.81$; $F(1, 67) = 20.00$, $p < .01$) conditions. No other effects were significant, so regardless of whether participants received SS or PT information, they felt more fatigue after processing the highly threatening message.

We also tested the role of fatigue as the mediator, following the procedures recommended by Baron and Kenny (1986), for the three performance measures in all conditions. First, regressing the service time devoted to CCHP on stress showed that high stress reduced service time ($\beta = -.54$, $p < .01$). Second, regressing fatigue on stress indicated that high stress led to more fatigue ($\beta = .49$, $p < .05$). Third, more fatigue led to less service time ($\beta = -.78$, $p < .01$). Fourth, regressing service time on both stress and fatigue index resulted in a significant effect of fatigue ($\beta = -.68$, *p*

< .01) but a non-significant effect of stress (β = -.20, $p > .18$). Therefore, the effect of work stress on the service time spent on CCHP was fully mediated by fatigue in the control condition (see Figure 1, Panel a). Similar result patterns emerged for the measures of service quality and satisfaction (see Figure 1, Panels b and c).

We performed the same mediation procedure for the SS and PT conditions, separately. In both conditions, high stress was associated with more fatigue ($p < .01$), but fatigue was not significantly associated with service time, quality, or satisfaction ($p > .15$). Although high work stress always led to greater fatigue, the mediation of fatigue occurred only in the control condition (i.e., with the absence of SS and PT manipulations), not in the SS or PT conditions, which moderated the depletion effect, in support of H_6.

We conducted similar analyses for CDERP. For these participants, the 2 × 3 ANOVA showed a main effect of stress only: highly stressed participants reported greater fatigue (M = 4.78) than less stressed participants (M = 4.20, $F(1, 65) = 4.15$, $p < .05$). However, fatigue was not significantly associated with the three performance measures of CDERP in any of the conditions (*ps* > .60). Therefore, fatigue did not influence the effect of work stress on CDERP, which provides the evidence that a depletion effect is less likely to occur on tasks requiring limited self-regulation.

Possibility of Mood Effects. To examine whether the experimental effects on CCHP and CDERP might be due to variations in participants' mood, we conducted 2 × 3 ANOVAs for the positive and negative affect scores, separately. The analyses indicated no significant effects of the experiment treatments on participants' positive or negative affect (*ps* > .17). Therefore, the effects we observed cannot be explained effectively by changes in participants' mood.

Discussion

The results of Study 1 support our hypotheses. First, high work stress impairs employees' service performance on tasks that require self-regulation, such as CCHP (H_1), but is less likely to harm those requiring limited regulation resources, such as CDERP (H_2). The findings even indicate that work stress improves, rather than undermines, CDERP, reversing the depletion effect. Second, the mediation analysis offers evidence that the depletion effect for CCHP is driven by fatigue related to regulating stress (H_3), though fatigue does not impair CDERP. Third, providing good SS or encouraging employees to engage in PT helps mitigate the depletion effect of stress on CCHP (H_4 and H_5): although these participants feel greater fatigue when they face high stress, their complaint handling performance is not affected by feelings of fatigue (H_6)[2]. Such findings motivate us to further explore intrinsic job motivation as the potential mediating mechanism underlying the moderation effect of SS/PT on the depletion effect in Study 2 (H_7). Finally, the null results regarding mood rule out the possibility of a mood effect in this study.

STUDY 2: SURVEY STUDY

Overview and Design

Study 2 serves several major goals. First, we test the robustness of the depletion effect by examining the impacts of naturally occurring levels of work stress, SS, and PT on frontline employees' service performance in the financial industry. Second, we test the mediating role of intrinsic job motivation on CCHP when employees have high SS or PT (H_7). Third, we explore the unexpected enhancement effect of work stress on CDERP from Study 1. Fourth, we use supervisors' ratings of participants' performance as a dependent measure of their service.

Procedure

[2] The mediated moderation role of feelings of fatigue (H_6) was also empirically supported by using the mediated moderation procedure recommended by Muller, Judd, and Yzerbyt (2005). Results are available upon request.

This survey included respondents from a global financial institution, which offers an effective study context for several reasons. The delivery of financial services is often highly involved, requiring considerable customer contacts (Chan, Yim, and Lam 2010). Its intangible service nature also provokes frequent customer complaints (Tax, Brown, and Chandrashekaran 1998). Our respondents included frontline service employees and their supervisors from a multinational bank in Hong Kong, across various departments and several branches. The respondents provide professional financial and banking services to customers in retail, personal, and corporate banking, and each reports to a supervisor. To reduce any inconvenience and enhance the response rate, we visited various branches of this company in person to distribute and collect the survey packages. Each survey package contained a cover letter that described the purpose of the study as to understand their job experiences, our commitment to keeping the data anonymous, and the questionnaire. Participation was completely voluntary. After completing the questionnaire, the employee respondents provided another survey package (with the same layout and cover letter) to their immediate supervisors. The completed questionnaires were sealed in envelopes that we collected independently from the employee and supervisor respondents. We provided a HK$100 cash voucher in return for each completed questionnaire and an additional cash voucher for HK$50 to employees who successfully provided the survey to their supervisors. We also promised a report of our findings, upon request. Of the total possible sample of 335 employees, 242 completed the questionnaire, and 229 successfully passed a questionnaire on to their supervisors. After removing two cases with missing data, we obtained a final data set of 227 matched employee–supervisor pairs from 21 branches across different departments, including corporate and private banking (44%), insurance (26%), investment services (31%), mortgage loans (29%), and other sectors, such as wealth management (37%).[3] The employee (supervisor)

[3] Because the service scope of our respondents involved more than one service area, the sum of the percentages for

respondents indicated a mean tenure of 5.0 (6.0) years, 40% (34%) were men, and 43% (72%) had graduated from high school. The analysis of the focal constructs and demographics indicated no significant differences between early and late responses (Armstrong and Overton 1977), suggesting that nonresponse bias was not a serious issue.

Measure Operationalization. The questionnaire was originally prepared in English and then translated into Chinese using standard back-translation methods (Brislin 1980). We pretested the questionnaire with 10 employees and 5 supervisors and asked them to comment on any items they found difficult to understand. This process did not indicate any major changes. In the Appendix, we provide the scales for the key constructs, along with their measurement reliability and validity. All items, unless specifically indicated, used seven-point scales (1 = strongly disagree, 7 = strongly agree). The items generally came from previous research, with minor modifications to fit the study context. We present the descriptive statistics in Table 2.

We measured work stress with two items pertaining to employees' stress and pressure experienced on the job. The feelings of fatigue measure included four items, reflecting the levels of fatigue felt at the end of a work day (Shirom and Melamed 2006; Vohs and Faber 2007). Four items adapted from prior literature assessed intrinsic job motivation (Dysvik and Kuvaas 2008; Hackman and Lawler 1971). The six SS items assessed the degree to which supervisors offered employees work-related support, encouragement, and concern (Oldham and Cummings 1996; van Yperen and Hagedoorn 2003). The four PT items, adapted from Grandey, Dickter, and Sin (2004), measured respondents' intent to view their current job demands from a positive perspective. For the CCHP and CDERP tasks, we asked the supervisors to rate each employee's performance. The CCHP measure consisted of three items that captured employees' attitudes and responsiveness in handling customer complaints, as well as customers' resultant satisfaction

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each service does not add up to 100.

(Homburg and Fürst 2005; Maxham and Netemeyer 2003). We operationalized CDERP with four items based on Netemeyer, Maxham, and Pullig's (2005) and Bettencourt and Brown's (1997) work, which examines employees' discretionary extra-role behaviors toward customers. We used supervisor-rated measures of employee performance because employees may overrate their own performance (Netemeyer, Maxham, and Pullig 2005); by including two informants, we also limited the potential for same-source bias in our study (Podsakoff et al. 2003).

Control Variables. We included employees' gender and job tenure as control variables. According to Greenglass and Burke (1988), social support relates negatively to work stress for women but not for men. Job tenure also may influence employees' ability to cope with work stress and handle complaints (Crandall and Perrewé 1995).

Results

Measurement Model Tests. Using confirmatory factor analysis with LISREL 8 (Joreskog and Sorbom 1993), we tested the expected factor structure of all measures (i.e., work stress, feelings of fatigue, intrinsic job motivation, SS, PT, CCHP, and CDERP). The model provided a satisfactory fit to the data ($\chi^2_{(303)} = 450.88$, $p < .001$; goodness-of-fit index [GFI] = .88, comparative fit index [CFI] = .97, incremental fit index [IFI] = .97, root mean square error of approximation [RMSEA] = .05). Although the GFI, slightly below the threshold of .90, might indicate some concerns (see also Garbarino and Johnson 1999), additional analyses of the convergent and discriminant validity supported the reliability and unidimensionality of our constructs (Anderson and Gerbing 1988): All factor loadings were highly significant ($p < .01$), the composite reliabilities of all constructs were greater than .90, all average variance extracted (AVE) estimates were greater than .60, and the shared variance between all pairs of constructs was lower than the AVE of each construct.

Depletion Effect and its Moderation. We first regressed the effect of work stress on CCHP and found that work stress exerted a significant, negative impact on CCHP (β = -.25, p <.01), in support of H_1. Moreover, we tested the direct effect of work stress on CDERP, and similar to Study 1, we found that employees suffering from high work stress achieved better CDERP (β = .30, p <.01). Thus, in support of H_2, depletion resulting from work stress is less likely to impair the performance of tasks requiring limited self-regulation.

We tested the role of fatigue (H_3) with a mediation analysis (Baron and Kenny 1986): Work stress significantly predicted CCHP (β = -.25, p < .01) and was significantly related to fatigue (β = .56, p < .01); fatigue significantly predicted CCHP (β = -.28, p < .01); and the effect of work stress on CCHP became insignificant (β = -.13, p =.15) after we controlled for the effect of fatigue (β = -.22, p < .05). That is, feelings of fatigue fully mediated the relationship between work stress and CCHP, in support of H_3. Yet fatigue was not significantly related to CDERP (β = .09, p = .16), in further support of the regulatory depletion theory that the depletion effect impairs the performance of tasks that require self-regulation.

To test the moderating effects of SS and PT, as predicted in H_4 and H_5, we regressed CCHP on the control variables, work stress, and the interaction between work stress and the two moderators separately. The results indicated that the main effects of SS and PT were not significant. More central to our interest, the SS × work stress (β = .28, p < .01) and PT × work stress (β = .16, p < .05) interaction effects both were significant. We conducted simple slope tests to examine the nature of the significant interactions (Aiken and West 1991). The results in Figure 2a indicate that self-regulation depletion resulting from work stress had a significant effect on CCHP for respondents with low SS (one standard deviation below the mean). They performed worse in handling customer complaints when their work stress was high than when it was low

(t(223) = -5.00, $p < .01$). In contrast, work stress did not significantly affect the CCHP for respondents with high SS (one standard deviation above the mean; t(223) = .22, *n.s.*). Taken together, when work stress was high, employees with high SS were less affected by the depletion effect and thus performed better than those with low SS. The same slope test for the work stress × PT interaction produced similar results (Figure 2b), in support of H_4 and H_5.

Mediated Moderation: Feelings of Fatigue and Intrinsic Job Motivation. We also adopted the approach proposed by Muller, Judd, and Yzerbyt (2005) to test the mediated moderation hypotheses (H_6 and H_7). We created Models 1–3 to test feelings of fatigue and intrinsic job motivation; as an illustration, consider the following descriptions of the potential mediating role of feelings of fatigue (FF) for the moderation of SS:

(1) $CCHP = \beta_{10} + \beta_{11}STRESS + \beta_{12}\, SS + \beta_{13}\, STRESS \times SS + \varepsilon_1$.

(2) $FF = \beta_{20} + \beta_{21}STRESS + \beta_{22}\, SS + \beta_{23}\, STRESS \times SS + \varepsilon_2$.

(3) $CCHP = \beta_{30} + \beta_{31}STRESS + \beta_{32}\, SS + \beta_{33}\, STRESS \times SS + \beta_{34}\, FF + \beta_{35}\, FF \times SS + \varepsilon_3$.

To establish a mediated moderation effect, we must first observe an overall moderating effect of SS. In Model 1, the coefficient for the STRESS × SS interaction (β_{13}) was significant and indicated an overall moderating role of SS (Table 3). Next, we determined whether the mediating process accounted for the moderation effect. In Model 2, the effect of STRESS on FF was significant (i.e., β_{21}). In Model 3, the interacting term of FF × SS (β_{35}) was also significant. Therefore, the moderation of the residual direct effect of STRESS (β_{33}) declined in magnitude (and then became insignificant) compared with the moderation of the overall effect of STRESS (β_{13}). Fatigue thus fully mediated the moderating role of SS in the effect of STRESS on CCHP.

We assessed the total indirect effect of work stress on CCHP through fatigue by calculating the simple effects for each moderator value. As we show in Table 3, Panel a, for employees with less SS (–1 standard deviation), work stress had a negative effect (-.23) on CCHP, through the

increased feelings of fatigue. In contrast, work stress had a negligible effect (.02) on CCHP for those who indicated high SS (+1 standard deviation). We used the same mediated moderation procedure to test the mediating role of fatigue for the moderation effect of PT and obtained similar results (see Table 3, Panel b).

The influence of work stress on CCHP thus was not uniform across employees. Work stress appeared to have stronger dysfunctional effects on employees with less SS or PT, through the impact of fatigue. Although work stress always increased employees' feelings of fatigue, regardless of their levels of SS or PT, the dysfunctional impact of fatigue on CCHP was minimized when the level of either SS or PT was high. We thus found support for H_6.

We employed similar procedures to test the mediated moderation model for intrinsic job motivation, with SS or PT as the moderator. Consistent with our prediction (H_7), the interaction of work stress with SS or PT and its effect on employees' CCHP was mediated by job motivation. That is, work stress enhanced employees' job motivation, and the positive effect of job motivation on employees' CCHP occurred only for employees with high SS or PT (see Table 4). Highly stressed employees who also had high levels of SS or PT could maintain their good CCHP, because they focused on their goals and motivation rather than on their feelings of fatigue when performing the self-regulatory tasks.

Discussion

The findings from Study 2 replicate the results of our laboratory study with a survey that measures naturally varying levels of work stress, SS, and PT. Therefore, we provide convergent evidence for our contention that the regulatory depletion effect occurs in the effect of work stress on self-regulatory task performance (i.e., CCHP). Tasks that are difficult and effortful but demand less self-regulation, such as CDERP, are sometimes immune to the depletion effect.

Work stress even acts positively on these service tasks, across both our studies, as we detail in the "General Discussion" section. Moreover, Study 2 confirms that high levels of SS or PT can help employees overcome the depletion effect caused by high work stress. It also demonstrates a motivational process underlying the moderation effect of SS or PT on the depletion effect.

GENERAL DISCUSSION

It is widely recognized that customer service behaviors (e.g., handling customer complaints, engaging in extra-role performance) and its management have great importance for businesses, particularly for its value in long-term customer relationships. However, the impact of service employees' job experience often gets ignored, despite their important role as the primary contact point for customers. We know little, for example, about how employees' experienced work stress influences their service performance, especially when tasks vary in the degrees of self-regulation. The underlying theoretical mechanism also has remained essentially unexplored. Using findings from a laboratory experiment and a survey, we contribute to existing literature in several ways.

First, we add to the growing organizational behavior and marketing literature that examines employees' service performance by using the self-regulation perspective to distinguish employees' service tasks into two types: requires high versus limited self-regulation. We employ the regulatory depletion mechanism to theorize about the effect of employees' work stress on their performance: Stressful working conditions negatively influence employees' performance on service tasks requiring self-regulation (e.g., CCHP), through the mediation of feelings of fatigue.

Second, we extend regulatory depletion and marketing literature by providing convergent evidence that depletion effects are less likely to occur for tasks requiring limited self-regulation (e.g., CDERP). Instead, work stress can have a positive effect on CDERP, implying that work stress is not always bad. If the job task requires less self-regulation resources, the dysfunctional

effect of work stress could be suspended or even reversed. The enhancement effect of work stress on CDERP may reflect a compensatory or repairing behavior. Psychologists note that stressful people often engage in self-gratifying acts as "therapy" (Morris and Reilly 1987). Because performing voluntary and altruistic acts of CDERP is more enjoyable and self-rewarding (e.g., appreciation from customers), which enables employees to fulfill their psychological needs for autonomy, competence, and relatedness (Grant 2008). To compensate for their feelings of depletion, highly stressed employees might seek self-rewarding experiences through CDERP, a claim consistent with Trougakos and colleagues' (2008) suggestion that engaging in preferred behaviors helps replenish self-regulation resources.

The unexpected finding of the positive effect of work stress on CDERP is seemingly in contrast with Netemeyer, Maxham, and Pullig's (2005) findings of a negative effect of work stress on employees' in-role and extra-role task performance. We consider a couple of reasons for this difference. The sources of stress being investigated clearly differ in the two research work: Netemeyer, Maxham, and Pullig examine conflicts at the work–family interface. The stress brought about by work–family conflicts might not involve employees' work directly. In this sense, it might reduce general resources to perform all kinds of tasks, regardless of whether those tasks require self-regulation. In contrast, the work stress in our study results directly from high job demands and thus reduces self-regulation resource and impairs self-regulatory tasks (i.e., CCHP), but it might improve intrinsic job motivation for tasks involving initiative taking and voluntary behaviors (i.e., CDERP). As Fay and Sonnentag (2002) suggest, stressors can cause perceived discrepancies between performance inputs and expected outcomes, which might prompt initiative taking (a key dimension of CDERP) to reduce the discrepancy. Grant (2008) also shows that the intrinsically motivated employees value helping behaviors more. Though

speculative, these explanations are consistent with a preliminary mediation analysis in our Study 2 which shows that intrinsic job motivation mediates the positive effect of work stress on CDERP.[4] Moreover, we manipulated the stress that arises from a threat related to the effective performance of one's job (i.e., the possibility of layoff or salary cut caused by the reform plan, Study 1), and examined it in a highly competitive customer service industry (financial service in Study 2) where stress often arises from the requirement to perform well on job tasks associated with customer satisfaction. Therefore, engaging in effective CDERP has the potential to reduce or influence the stressors in a positive manner.

Furthermore, the less dysfunctional effect of work stress on CDERP found in our research might be due to the lower level of work stress experienced by respondents in our survey (mean = 4.63) than that of Netemeyer, Pullig, and Maxham (2005) (mean = 5.55)[5]. Other potential reasons might also include contextual factors such as differences in industry/company norms (i.e., the extent to which CDERP is rewarded) and cultural differences (i.e., the way in which CDERP is viewed might vary across cultures). It might be that the US employees surveyed by Netemeyer, Pullig, and Maxham (2005) may view CDERP very differently compared with the Chinese employees surveyed in the current research.

Nevertheless, the limited research available on the impact of work experiences on employees' extra-role performance means that our findings about CDERP are suggestive rather than conclusive. Further research is needed to determine the underlying mechanisms and define the conditions in which work stress affects employees' extra-role performance differently. Our

[4] Work stress significantly predicted CDERP ($\beta = .28$, $p < .01$); work stress was significantly related to job motivation ($\beta = .33$, $p < .01$); job motivation significantly predicted CDERP ($\beta = .43$, $p < .01$); and the effect of work stress on CDERP declined significantly ($\beta = .16$, $p < .05$; Sobel $z = 3.93$, $p < .05$) when we controlled for the effect of job motivation ($\beta = .36$, $p < .01$).

[5] We split the survey sample according to employees' self-reported levels of work stress: low-to-medium work stress group (ratings below or equal to 5 out of 7) and high work stress group (ratings above 5). Results of a mean comparison test showed that work stress has a significant and positive effect on CDERP for low-to-medium stress group whereas no effect is found for the high stress group.

research calls for an investigation of the difference in the self-regulatory process. Particularly, the nature of work stress and the tasks of CDERP and CCHP might be one of the keys to better understand this issue in further research.

Third, we add to previously documented evidence in self-regulation literature suggesting replenishing resources (Gailliot et al. 2007) through supervisory support and shifting focus (Wan and Sternthal 2008) through perspective taking as means to overcome the depletion effect. Our mediated moderation analyses further show that for employees with high levels of SS or PT, CCHP depends not on fatigue but on their motivation to pursue job tasks. Perceived availability of instrumental support will be effective in reducing the detrimental effects of high job demands because it elevates employees' intrinsic motivation and enhances their confidence that the job will be done with supervisors' help. On the other hand, engaging in high PT would help the employees psychologically shift focus from their current feelings of fatigue to work goals achievement. Though it requires further research to provide empirical evidences to clarify how SS and PT lead to a focus on job motivation, our findings delineate fatigue and job motivation as two potential distinct mediators for the effect of work stress.

Fourth, by combining a controlled laboratory experiment with a survey, we can draw strong interpretations from our findings and suggest the generalizability of the regulatory depletion effect. Moreover, the dyadic view, from both employee–customer (Study 1) and employee–supervisor (Study 2) perspectives, enhances the validity of our results.

Managerial Implications

Effective customer service contributes significantly to positive customer evaluations. Understanding how employees and firms can serve customers well, even in complaint situations, has great strategic importance for managers. Our findings provide key implications for firms that

need to manage stressed employees who provide customer services and for frontline employees who need to perform self-regulation tasks as a significant part of their jobs.

Reallocate Human Resources. As our results reveal a dysfunctional impact of work stress on CCHP whereas a positive effect of it on CDERP, management might consider reallocating employees of different levels of work stress to tasks with varied levels of self-regulation. For example, low-stressed employees could be assigned to handle more self-regulatory tasks such as handling difficult or problematic customers, whereas the highly stressed could be allocated to handle less self-regulatory tasks such as those more habitual and semi-automatic paper work. Such interventions may enable highly stressed employees who lack self-control to maintain good task performance because they do not have to expend substantial self-regulation resources and thus suffer less from regulatory depletion.

Provide Work Redesign Interventions to Enhance Employees' Perception of Task Control. The enhancement effect of work stress on less self-regulatory tasks such as CDERP found in the current research suggests that managers could introduce work redesign interventions to reduce the self-regulatory nature of the task (Goldberg and Grandey 2007) by elevating employees' perceived level of discretion over their own behaviors on job. Such interventions might include measures to provide employees the autonomy to manage the high job demands. For example, managers could consider loosening the existing strict job descriptions by removing overt attempts to control employees' displays with rigid rules about necessary behaviors (e.g., three-minute bathroom breaks; Grandey, Dickter, and Sin 2004). Allowing employees to perceive having greater autonomy over their work behaviors could reduce the intensity of the self-regulation in the task so that "service with a smile" can be less resource-taxing (Goldberg and Grandey 2007).

Select and Train Employees. Managers should look for and train employees with high self-regulation capabilities. Past research has suggested that people's capability to inhibit their current desires can predict their performance on many tasks (e.g., Shoda, Mischel, and Peake 1990). Managers could use role playing or aptitude tests to assess job candidates' ability to override impulses to respond in adaptive ways that benefit customers. A customer-oriented personality trait might be another key personal characteristic that managers should look for when selecting the candidates. Employees with a high level of customer orientation should require less self-regulation resources in serving customers (Babakus, Yavas, and Ashill 2009).

Managers also should identify employees who can take different perspectives. Those who naturally can engage in high levels of perspective taking may be uniquely qualified to handle difficult customers, because of their emotional fitness and heightened resistance to work stress. Moreover, all employees could benefit from emotional display training using a PT approach, because past research suggests that employees can learn to modify their emotional responses by reinterpreting the service context (e.g., imagining customers as personal guests, recalling past positive experiences; Hochschild 1983). These measures should reduce the taxing of employees' self-regulation resources in handling customer complaints.

Provide Supervisory Support. Supportive supervisors are found to be effective in suspending the depletion effect related to work stress. Thus, organizations may benefit from developing and rewarding supportive and considerate supervisory practices. For instance, managers may find it productive to encourage strong social support networks between supervisors and subordinates by establishing formal mentoring program to help increase communication and experienced social support on the job. Such enhanced social bond helps replenish the existing depleted employees with resources (e.g., social resources) to maintain their task performance (Hobfoll 1989). As

found by Anderson et al. (2007), social support might increase one's self-regulation acts through the enhancement of one's self-efficacy or confidence in accomplishing the task. One way that supervisors can do is therefore to bolster employees' self-efficacy through continuous positive verbal persuasion (e.g., "You did a great job") (Lent and Lopez 2002).

Bolster Employees' Job Motivation. Intrinsic job motivation is found to enhance stressful employees' performance not only on tasks requiring self-regulation (i.e., CCHP), but also on tasks requiring less self-regulation (i.e., CDERP). It is therefore important for managers to find ways to bolster employees' intrinsic motivation to accomplish their job tasks and direct their attention to such motivation, rather than lingering on their experiences of fatigue (Agrawal and Wan 2009). Supervisory support is one of the keys. Supervisors should highlight the fun and meaningful aspects of the job, reinforce employees' beliefs that they are doing important work (Brotheridge and Lee 2002), emphasize employees' roles as valuable assets to the company, and boost employees' confidence in their job skills. Moreover, managers should also be aware of other factors such as types of employees (temporary or regular) and job attitudes that are suggested to influence one's motivation to work, particularly on those voluntary and less self-regulatory tasks. For example, Stamper and Van (2001) suggest that temporary employees often define the relationships with the organization as economic exchange rather than social exchange and consequently feel less motivated in performing organizational citizenship behaviors (OCBs) than regular employees. Moreover, certain job attitudes such as job satisfaction and organizational commitment have also been found to bolster employees' motivation to perform more authentic and less self-regulatory tasks (Organ and Ryan 1995).

Limitations and Further Research

Several limitations to our study suggest further research opportunities. First, though the focus of current research is on the impact of employees' current feelings of stress on their service performance, the way we manipulated and examined work stress is subject to further investigation. In particular, it would be interesting to examine the potential differential effects of stress from different sources (e.g., stress from family or peers) and of different types (e.g., expected and unexpected stress). Second, though we postulate that SS helps alleviate the depletion effect by replenishing the self-regulation resources that enables employees to focus on their task goals instead of fatigue, and that PT helps diminish the depletion effect by directly changing one's focus to work goal, which will lead to a reliance on the job motivation in task performance, we did not directly test these notions in this research. Future studies should be conducted to fully understand the underlying mechanisms of SS and PT. Third, longitudinal studies would help clarify whether employees' continuous practice with handling customer complaints might enlarge their resource pool and mitigate depletion effects. Fourth, researchers could enhance our understanding of the scope of the depletion effect by examining other types of organizational behaviors that might be affected by the resource depletion associated with work stress. For example, coproducing services with a customer might involve greater uncertainty and incompatible service expectations (Bendapudi and Leone 2003; Chan, Yim, and Lam 2010), which could tax employees' self-regulation resources. Finally, though we take a conventional view of CDERP as voluntary and altruistic, further research could broaden our understanding of this behavior and its relationship with employees' job experiences. Particularly, it might be fruitful to explore the boundary conditions for the impact of work stress on employees' performance on tasks that are difficult and effortful but demand less self-regulation (e.g., CDERP) such as empowerment and job attitudes.

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Table 1. Service Performance, Two Types of Tasks (Study 1)

a. Customer Complaint Handling Performance (CCHP)

			Control	**Supervisory Support**	**Perspective Taking**
Service Time (minutes)	**Stress**	**High**	3.15	5.89	5.17
		Low	5.40	5.29	5.02
		Significance	$p = .01$	*n.s.*	*n.s.*
Service Quality	**Stress**	**High**	6.49	7.58	7.43
		Low	7.46	7.25	7.41
		Significance	$p < .01$	*n.s.*	*n.s.*
Customer Satisfaction	**Stress**	**High**	6.05	7.37	7.06
		Low	7.17	6.98	6.96
		Significance	$p < .05$	*n.s.*	*n.s.*

b. Customer-Directed Extra-Role Performance (CDERP)

			Control	**Supervisory Support**	**Perspective Taking**
Service Time (in minutes)	**Stress**	**High**	5.59	5.67	5.62
		Low	3.90	4.08	4.07
		Significance	$p < .05$	$p < .10$	$p < .10$
Service Quality	**Stress**	**High**	7.68	7.63	7.67
		Low	7.20	7.22	7.26
		Significance	$p < .05$	$p < .10$	$p < .10$
Customer Satisfaction	**Stress**	**High**	7.56	7.51	7.58
		Low	6.99	7.02	7.08
		Significance	$p < .05$	$p < .05$	$p < .05$

Notes: Service quality and customer satisfaction were rated on nine-point scales, such that higher numbers indicate better service quality or greater satisfaction. *n.s.* = not significant.

Table 2. Basic Descriptive Statistics (Study 2)

Construct	1	2	3	4	5	6	7
1. Work stress	1.000						
2. Feelings of fatigue	.574***	1.000					
3. Intrinsic Job motivation	.382***	.097	1.000				
4. Supervisory support (SS)	.015	.000	.323***	1.000			
5. Perspective taking (PT)	.224***	.248***	.216***	.318***	1.000		
6.Customer complaint handling performance (CCHP)	-.221***	-.244***	.129*	.122*	-.017	1.000	
7. Customer-directed extra-role performance (CDERP)	.335***	.098	.423***	.104	.101	.082	1.000
Mean	4.631	4.074	4.019	4.704	5.188	4.504	4.885
Standard deviation	1.402	1.362	1.246	1.040	.958	1.609	1.272

*** $p < .01$. ** $p < .05$. * $p < .10$ (two-tailed).

Table 3. Mediated Moderation Model for Feelings of Fatigue (Study 2)

a. Supervisory Support as the Moderator

Predictor	Model 1: (DV = CCHP)	Model 2: (DV = FF)	Model 3: (DV = CCHP)
Employee gender	.28	-.07	.24
Employee job tenure	-.01	-.00	-.00
Work stress (STRESS)	-.24***	.56***	-.14
Supervisory support (SS)	.15	.02	.17
STRESS × SS	.28***	-.01	.15
Feelings of fatigue (FF)			-.19***
SS × FF			.22***
Model R^2	.13***	.34***	.19***
Simple effect of work stress on feelings of fatigue:		High SS (+1 *SD*): .56 + (.01)(1.04) = .57 Low SS (-1 *SD*): .56 + (.01)(-1.04) = .55	
Simple effect of feelings of fatigue on CCHP:		High SS (+1 *SD*): -.19 + (.22)(1.04) = .04 Low SS (-1 *SD*): -.19 + (.22)(-1.04) = -.42	
Total indirect effect of work stress on CCHP through feelings of fatigue:		High SS (+1 *SD*): .57 x .04 = .02 Low SS (-1 *SD*): .55 x -.42 = -.23	

b. Perspective Taking as the Moderator

Predictor	Model 1: (DV = CCHP)	Model 2: (DV = FF)	Model 3: (DV = CCHP)
Employee gender	.32	.07	.33
Employee job tenure	-.01	-.01	-.01
Work stress (STRESS)	-.25***	.53***	-.16*
Perspective taking (PT)	.08	.19**	.12
STRESS × PT	.16**	.01	-.02
Feelings of fatigue (FF)			-.19*
PT × FF			.20**
Model R^2	.08**	.36***	.13***
Simple effect of work stress on feelings of fatigue:		High PT (+1 *SD*): .53 + (.01)(.96) = .54 Low PT (-1 *SD*): .53 + (.01)(-.96) = .52	
Simple effect of feelings of fatigue on CCHP:		High PT (+1 *SD*): -.19 + (.20)(.96) = -.00 Low PT (-1 *SD*): -.19 + (.20)(-.96) = -.38	
Total indirect effect of work stress on CCHP through feelings of fatigue:		High PT (+1 *SD*): .54 x -.00 = -.00 Low PT (-1 *SD*): .52 x -.38 = -.20	

Notes: DV = dependent variable. *** $p < .01$. ** $p < .05$. * $p < .10$ (two-tailed).

Table 4: Mediated Moderation Model for Intrinsic Job Motivation (Study 2)

a. Supervisory Support as the Moderator

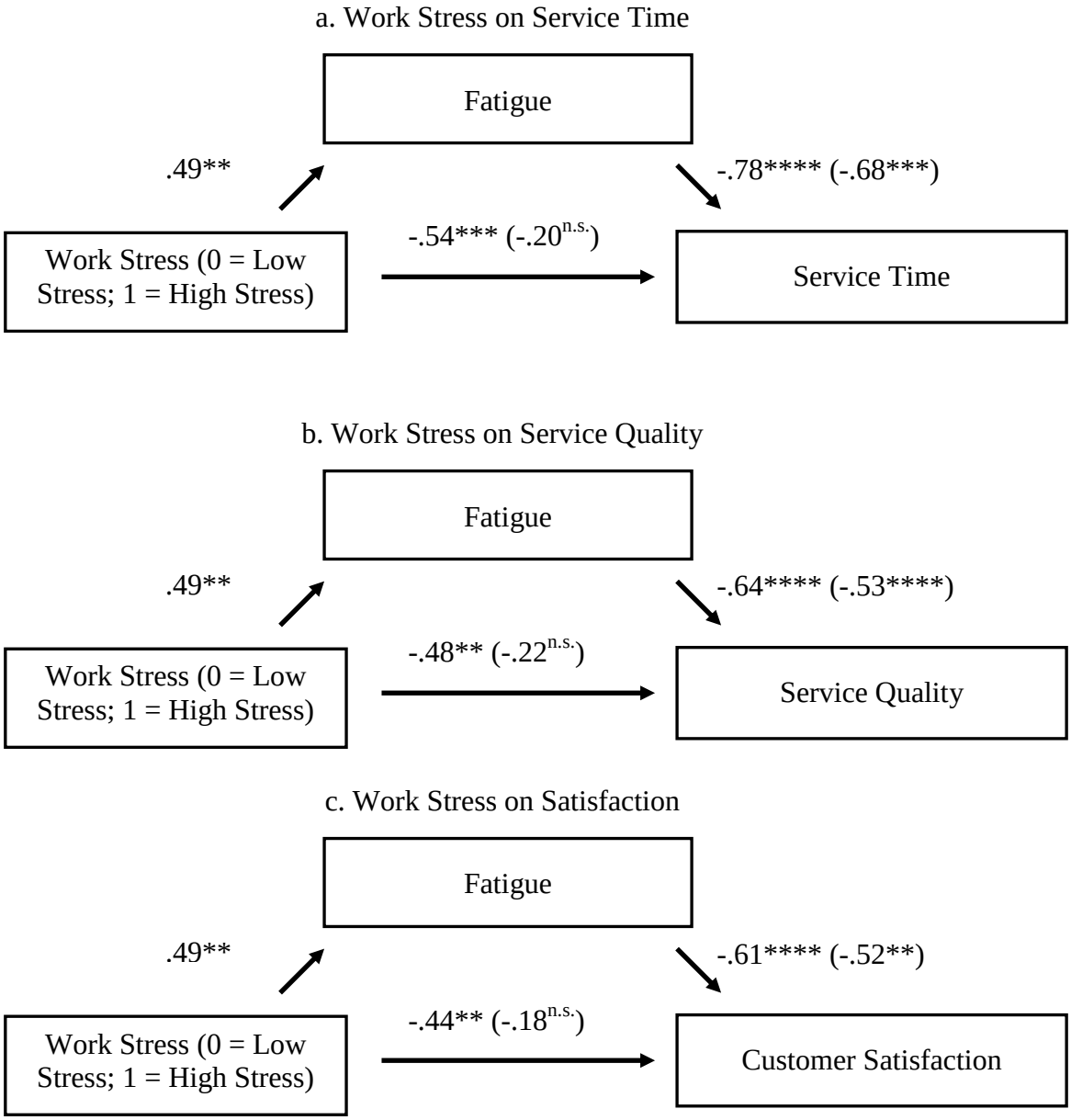
Predictor	Model 1: (DV = CCHP)	Model 2: (DV = JOBMOT)	Model 3: (DV = CCHP)
Employee gender	.28	-.03	.26
Employee job tenure	-.01	.02	-.01
Work stress (STRESS)	-.24***	.33**	-.35***
Supervisory support (SS)	.15	.37***	.06
STRESS × SS	.28***	.12**	.21**
Intrinsic Job motivation (JOBMOT)			.27***
SS × JOBMOT			.13*
Model R^2	.13***	.28***	.17***
Simple effect of work stress on intrinsic job motivation:		High SS (+1 *SD*): .33 + (.12)(1.04) = .45	
		Low SS (-1 *SD*): .33 + (.12)(-1.04) = .21	
Simple effect of intrinsic job motivation on CCHP:		High SS (+1 *SD*): .27 + (.13)(1.04) = .41	
		Low SS (-1 *SD*): .27 + (.13)(-1.04) = -.13	
Total indirect effect of work stress on CCHP through intrinsic job motivation:		High SS (+1 *SD*): .45 x .41 =.18	
		Low SS (-1 *SD*): .21 x -.13 = -.03	

b. Perspective Taking as the Moderator

Predictor	Model 1: (DV = CCHP)	Model 2: (DV = JOBMOT)	Model 3: (DV = CCHP)
Employee gender	.32	.04	.28
Employee job tenure	-.01	.02	-.02
Work stress (STRESS)	-.25***	.31**	-.34***
Perspective taking (PT)	.08	.18	-.01
STRESS × PT	.16**	.02	.08
Intrinsic Job motivation (JOBMOT)			.29***
PT × JOBMOT			.17**
Model R^2	.08**	.18***	.14***
Simple effect of work stress on intrinsic job motivation:		High PT (+1 *SD*): .31 + (.02)(.96) = .33	
		Low PT (-1 *SD*): .31 + (.02)(-.96) = .29	
Simple effect of intrinsic job motivation on CCHP:		High PT (+1 *SD*): .29 + (.17)(.96) = .45	
		Low PT (-1 *SD*): .29 + (.17)(-.96) = .13	
Total indirect effect of work stress on CCHP through intrinsic job motivation:		High PT (+1 *SD*): .33 x .45 = .15	
		Low PT (-1 *SD*): .29 x .13 = .04	

Notes: DV = dependent variable.
*** $p < .01$. ** $p < .05$. * $p < .10$ (two-tailed).

Figure 1: Feelings of Fatigue as the Mediator of CCHP In the Control Condition (Study 1)



Notes: Results in parentheses indicate the effects when both work stress and feelings of fatigue are used to predict the dependent variable.
**** $p < .001$. *** $p < .01$. ** $p < .05$ (two-tailed).

Figure 2: Customer Complaint Handling Performance (Study 2)

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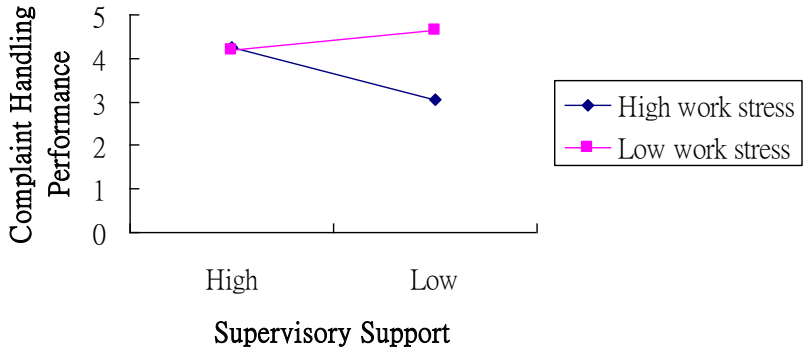
Figure 2a: The Interaction of Work Stress and Supervisory Support on Customer Complaint Handling Performance



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High SS (+1 SD), t (223) = .22, *n.s.*

Low SS (–1 SD), t (223) = -5.00, $p < .01$.

High work stress (+1 SD), t (223) = 3.98, $p < .001$.

Low work stress (–1 SD), t (223) = -1.31, *n.s.*

</td>
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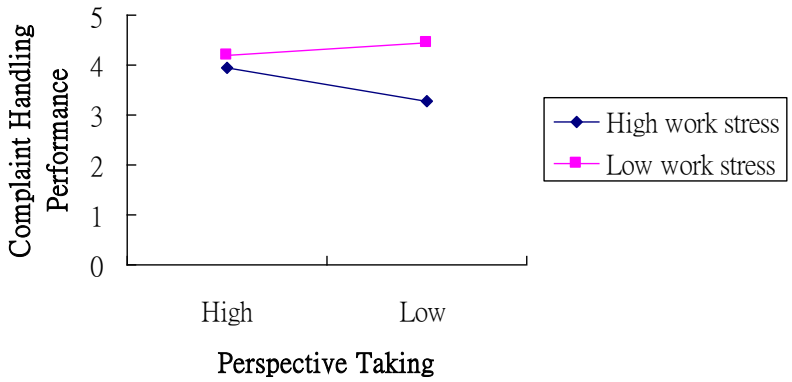
Figure 2b: The Interaction of Work Stress and Perspective Taking on Customer Complaint Handling Performance



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<td>

High PT (+1 SD), t (223) = -.79, *n.s.*

Low PT (–1 SD), t (223) = -3.89, $p < .01$.

High work stress (+1 SD), t (223) = 2.00, $p < .05$.

Low work stress (–1 SD), t (223) = -.86, *n.s.*

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Appendix: Measurement Items and Validity Assessment (Study 2)

Service Employees' Ratings:		
Work Stress: CR = .96, AVE = .93, HSV = .36		**SFL**
1	In the past few months, how stressed have you been at your current job?	.950
2	Overall, how pressured do you feel toward you current job?	.978
Feelings of Fatigue[†]: CR = .94, AVE = .80, HSV = .36		
	Please indicate how often, in the past six months, you have felt the following feelings:	
1	I feel tired.	.933
2	I feel physically drained.	.933
3	I feel really fatigued at the end of a working day.	.826
4	I feel like my "batteries" are "dead."	.819
Intrinsic Job Motivation: CR = .94, AVE = .80, HSV = .20		
1	The tasks that I do at work are enjoyable.	.926
2	My job is so interesting that it is a motivation in itself.	.860
3	The tasks that I do at work are themselves a driving power in my job.	.914
4	My job is meaningful.	.878
Perspective Taking (PT): CR = .90, AVE = .69, HSV = .16		
	In your current job situation, to what extent have you thought in the following ways?	
1	I tried to reinterpret the situation (e.g., customer's complaints) so that I don't take it personally.	.632
2	I tried to see things from the other perspective (e.g., it is my job to serve customers well) so as to not make myself feel so stressed.	.915
3	I generally tried to look at the positive side of things (e.g., pay cut is only a temporary way to save everyone's job) to change how I feel.	.862
4	I changed the way of my thinking to adopt a positive perspective (e.g., providing good service to customers).	.886
Supervisory Support (SS): CR = .90, AVE = .61, HSV = .10		
1	My supervisor always helps me solve work-related problems.	.646
2	My supervisor encourages me to develop new skills.	.742
3	My supervisor praises good work.	.749
4	My supervisor rewards me for good performance.	.852
5	My supervisor recognizes my work potential.	.829
6	My supervisor understands my needs and work problems.	.833
Supervisors' Ratings:		
Customer Complaint Handling Performance (CCHP): CR = .98, AVE = .93, HSV = .06		
1	This employee is sincere in handling customer complaints.	.970
2	This employee reacts quickly to customers' complaints.	.975
3	In general, customers are satisfied with this employee's responses to their complaints.	.959
Customer-Directed Extra-Role Performance (CDERP): CR = .95, AVE = .82, HSV = .10		
1	This employee willingly goes out of his/her way to anticipate and satisfy customers' needs.	.824
2	This employee goes above and beyond the "call of duty" when serving customers.	.878
3	This employee voluntarily assists customers even if it means going beyond job requirements.	.948
4	This employee helps customers beyond what is expected or required in their task.	.919
Overall model fit: $\chi^2_{(303)} = 450.88$, $p < .001$; GFI = .88, CFI = .97, IFI = .97, RMSEA = .05		

Notes: SFL = standardized factor loading, CR = composite reliability, AVE = average variance extracted, HSV = highest shared variance with other constructs.

[†] Seven-point scale: 1 = never or almost never; 2 = very infrequently; 3 = quite infrequently; 4 = sometimes; 5 = quite frequently; 6 = very frequently; 7 = always or almost always.

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How Can Stressed Employees Deliver Better Customer Service? The Underlying Self-Regulation Depletion Mechanism

Kimmy Wa Chan and Echo Wen Wan

Executive Summary

This study examines the impact of service employees' work stress on their service performance by using the self-regulation perspective to distinguish employees' service tasks into two types: requiring high versus limited self-regulation. The authors delineate and empirically test hypotheses pertaining to the regulatory depletion effect caused by work stress on tasks requiring self-regulation (e.g., customer complaint handling performance [CCHP]) versus tasks requiring limited self-regulation (e.g., customer-directed extra-role performance [CDERP]). Using samples from a laboratory experiment and a survey, this study provides confirming evidence for the regulatory depletion effect such that high-stress employees feel more fatigue and perform more poorly than low-stress employees on tasks requiring self-regulation (i.e., CCHP). However, the depletion effect from work stress was largely weakened on employees' performance on tasks requiring less or limited self-regulation (i.e., CDERP). Moreover, employees who can replenish their resources from supervisory support or enhance their goal focus by engaging in perspective taking are more intrinsically motivated to perform and therefore are less affected by regulatory depletion. Our findings have several implications for firms that need to manage stressed employees and for frontline employees who need to perform self-regulation tasks as a significant part of their jobs. First, firms should consider reallocating employees of different levels of work stress to tasks requiring varied levels of self-regulation. For example, high-stress employees could be assigned to handle less self-regulatory tasks such as those more habitual and semi-automatic paper work. Such intervention may enable highly

stressed employees who lack self-control to maintain good task performance because they do not have to expend substantial self-regulation resources and thus suffer less from regulatory depletion. Second, firms should provide work-redesign interventions to provide employees the autonomy to manage the high job demands. Such interventions might include measures such as loosening the existing strict job descriptions by removing overt attempts to control employees' displays with rigid rules about necessary behaviors (e.g., three-minute bathroom breaks). Third, firms should look for and train employees with high self-regulation and perspective taking capabilities. Managers can use role playing or aptitude tests to assess job candidates' ability to override impulses to respond in adaptive ways that benefit customers. They also should identify employees who can naturally engage in high levels of perspective taking. These measures could help reduce the taxing of employees' self-regulation resources in handling customer complaints. Fourth, firms may benefit from developing and rewarding supportive and considerate supervisory practices. Such enhanced social bond helps replenish the existing depleted employees with social resources to maintain their task performance. Finally, it is also important for firms to find ways, such as enhancing employees' job satisfaction and organizational commitment, to bolster employees' intrinsic job motivation. An intrinsically motivated employee will aim to accomplish the job tasks and direct his or her attention to such motivation, rather than lingering on the experiences of fatigue, which improves the employee's performance on both in-role task and extra-role behaviors.

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