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The Good and Bad of Being Fair: Effects of Procedural and Interpersonal Justice Behaviors on Regulatory Resources

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The justice literature has paid considerable attention to the beneficial effects of fair behaviors for recipients of such behaviors. It is possible, however, that exhibiting fair behaviors may come at a cost for actors. In this article, we integrate ego depletion theory with organizational justice research in order to examine the consequences of justice behaviors for actors. We used an experience-sampling method in a sample of managerial employees to examine the relations of performing procedural justice and interpersonal justice behaviors with subsequent changes in actors' regulatory resources. Our results indicate that procedural justice behaviors are draining, whereas interpersonal justice behaviors are replenishing for actors. Depletion, in turn, adversely affected the performance of citizenship behavior, and depletion mediated relations of justice behavior with citizenship. Furthermore, 2 traits that impact self-regulatory skills—extraversion and neuroticism—moderated the replenishing effects of engaging in interpersonal justice behaviors. We conclude by discussing implications and avenues for future research.

Keywords: procedural justice, interpersonal justice, depletion, self-regulation, organizational citizenship behavior

There has been a tremendous amount of research on organizational justice over the past three decades (see Colquitt, Greenberg, & Zapata-Phelan, 2005, for a review). Much of the initial research involved identifying the different dimensions of justice that employees consider, such as the fairness of outcomes, procedures, and interpersonal interactions (Greenberg, 1993). Distinguishing among these dimensions is useful because they predict a variety of employee attitudes and behaviors (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Colquitt et al., 2013). Extending this research, justice scholars have also examined why and how justice experiences impact attitudinal and behavioral outcomes. Theoretical and empirical evidence suggests that employees qua recipients value and respond to justice for instrumental, relational, and moral reasons (Blader & Tyler, 2005; Cropanzano, Byrne, Bobocel, & Rupp, 2001).

Despite these advances, much of our knowledge of justice experiences derives from cross-sectional studies examining between-person differences in justice-based perceptions and reactions. However, many justice experiences are products of discrete

daily events and encounters that shape employees' momentary cognition and behavior in situ (Cropanzano et al., 2001). Thus, there is a need for longitudinal, daily investigations of justice experiences that take a dynamic person-centric view of how justice experiences evolve over time and across circumstances (Hausknecht, Sturman, & Roberson, 2011; Holtz & Harold, 2009; Rupp, 2011). In response to this need, scholars have started to examine daily fluctuations in justice-based experiences and reactions (Ferris, Spence, Brown, & Heller, 2012; Judge, Scott, & Ilies, 2006; Loi, Yang, & Diefendorff, 2009; Yang & Diefendorff, 2009).

The few studies that take a daily within-person approach to examining justice, however, have predominantly focused on justice experiences from the perspective of recipients. For example, Loi, Yang, and Diefendorff (2009) found that daily perceptions of interpersonal and informational justice predicted daily job satisfaction. In other studies, researchers have found that daily perceptions of interpersonal justice predicted daily instances of deviant behavior via the mediating effects of hostility and job satisfaction (Judge et al., 2006), negative emotions (Yang & Diefendorff, 2009), and self-esteem (Ferris et al., 2012). Although there is obvious value in understanding how recipients respond to justice experiences, we know little about how justice behaviors impact actors. For example, being fair may come at some cost for actors (e.g., Patient, 2011). If so, these costs need to be identified and then minimized in order to cultivate fair behavior, and the most direct way to do so is by targeting actors through justice-based training (Greenberg, 2006; Skarlicki & Latham, 1996). Unfortunately, little empirical evidence provides insight into the consequences of justice for actors (see Scott, Colquitt, & Paddock,

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2009). The possibility that acting fair may entail some harm to actors is especially intriguing given that fair behavior is generally regarded as being beneficial. As we propose shortly, exhibiting procedural justice behaviors may have deleterious effects on actors.

The goal of our study was to break new ground in the justice literature by focusing on the effects of daily justice behaviors for actors. In order to understand actor-based justice, we draw from ego depletion theory (Baumeister, Bratslavsky, Muraven, & Tice, 1998). This theory proposes that acts involving self-regulation deplete people's finite self-regulatory resources, which are inner personal resources akin to strength and energy (Lilius, 2012; Muraven & Baumeister, 2000). For example, engaging in impression management and dealing with demanding partners consumes self-regulatory resources (Finkel et al., 2006; Muraven, 2012; Vohs et al., 2005). The existence of these resources is inferred from the multitude of studies showing that exertion of self-control leads to a period of reduced capability where subsequent attempts at self-control are more likely to fail (Hagger, Wood, Stiff, & Chatzisarantis, 2010). Consistent with this idea, there is also evidence linking regulatory resources to physiological sources of energy (e.g., blood glucose; Denson, von Hippel, Kemp, & Teo, 2010; Gailliot et al., 2007). These regulatory resources, which fuel people's capacity to self-regulate and thus contribute to successful performance at work (Beal, Weiss, Barros, & MacDermid, 2005; Thau & Mitchell, 2010), are independent of cognitive ability and affective states (e.g., mood and arousal; Baumeister et al., 1998; Muraven, 2012). In line with recent work suggesting that specific interpersonal events at work can either deplete or replenish self-regulatory resources (Bono, Glomb, Shen, Kim, & Koch, in press; Lilius, 2012), we theorize about and then empirically test the effects of daily procedural and interpersonal justice behaviors on employees' self-regulatory resources. Ego depletion theory states that rule-driven behaviors consume self-regulatory resources (Muraven, 2012), which suggests that procedural justice behaviors may deplete actors' self-regulatory resources. In contrast, exhibiting interpersonal justice behaviors (e.g., showing respect) create positive work interactions, which replenish resources (Bono et al., in press; Lilius, 2012). These self-regulatory resources are, in turn, consequential for other activities at work. For example, organizational citizenship behavior (OCB) represents resource-intensive contributions that go beyond contractual in-role duties (Organ, 1988). OCB relies on self-regulatory resources because exhibiting them necessitates that employees take on a larger workload (Barnes et al., 2008; Bergeron, 2007). Hence, justice-based resource depletion and replenishment ought to impact the performance of OCB, which we examine in this study.

Our study makes several contributions to the existing literature. As noted above, it addresses two shortcomings by focusing on justice actors (rather than recipients; Scott et al., 2009) and by adopting a dynamic within-person perspective (rather than a static between-person perspective; Rupp, 2011). A third contribution derives from our inclusion of daily procedural justice. Although procedural justice behaviors are likely to vary daily, within-person studies of justice have primarily focused on interpersonal justice. We therefore provide one of the first tests of whether there is meaningful daily variance in procedural justice. We specifically selected procedural and interpersonal justice behaviors because, together, they capture the structural and social aspects of organi-

zational justice. As noted by Greenberg (1993), procedural justice is structural because it delineates specific contextual elements (e.g., voice) that enhance fairness, whereas interpersonal justice is social because it reflects the enactment of fairness. Furthermore, of the two structural aspects (procedural and distributive) and the two social aspects (interpersonal and informational), actors are believed to have the greatest discretion over procedural and interpersonal justice (Scott et al., 2009). A fourth contribution is that we highlight a potential downside of being fair. Although fairness is universally heralded as something good, acting procedurally fair may come at a cost for actors, in the form of depleted resources and reduced OCB. Such an effect parallels findings from between-person studies that reveal that procedural fairness can sometimes be harmful for recipients (Schroth & Shah, 2000; Wiesenfeld, Swann, Brockner, & Bartel, 2007). Awareness of these harmful effects is necessary for a complete understanding of how justice behaviors impact actors. Finally, we examine two individual differences that may impact the resource-based demands of justice behaviors. According to prominent self-regulation frameworks (Elliot & Thrash, 2002; Kanfer & Heggestad, 1997), extraversion and neuroticism are markers of approach and avoidance tendencies, respectively, that influence how skilled people are at regulating their behavior. Thus, these traits may influence the extent to which self-regulatory resources are depleted by behavior (Baumeister et al., 1998), a possibility that we tested in the present study.

Impact of Justice Behaviors on Regulatory Resources

Self-regulatory resources are important because, according to ego depletion theory (Baumeister et al., 1998), they are required for successful self-regulation. This is especially true in work settings, where regulatory resources are needed to block out distracting cognitions and emotions, align behavior with task goals and social norms, make choices, initiate action, and override impulses (Beal et al., 2005; Hagger et al., 2010; Kanfer, Ackerman, Murtha, Dugdale, & Nelson, 1994; Muraven & Baumeister, 2000). Acts such as these draw from a finite pool of regulatory resources that, when depleted, reduce people's ability to exert subsequent self-control (Baumeister et al., 1998). For example, when regulatory resources are depleted, it becomes more difficult for employees to inhibit deviant and unethical impulses (Barnes, Schaubroeck, Huth, & Ghumman, 2011; Christian & Ellis, 2011; Thau & Mitchell, 2010). Identifying potential sources of resource depletion and replenishment at work is therefore an important first step to help employees manage their regulatory resources (Beal et al., 2005).

Actor's self-regulatory resources at work are especially affected by daily interpersonal events (Bono et al., in press; Lilius, 2012), which we suspect includes the enactment of procedural and interpersonal justice behaviors. *Procedural justice* refers to the perceived fairness of how decisions are made and outcomes are determined (i.e., the fairness of "means" rather than "ends"; Thibaut & Walker, 1975). Leventhal (1980) identified six rules that exemplify fair procedures: accuracy (i.e., decisions are based on accurate information), bias suppression (i.e., self-interest is kept in check), consistency (i.e., procedures are consistently applied across people and time), correctability (i.e., there are opportunities

to appeal or alter decisions), ethicality (i.e., decisions and allocations are consistent with prevailing moral standards), and representativeness (i.e., all stakeholders are involved in the process). Thus, procedural justice behaviors are rule-bound activities that require close monitoring and appraisal of work procedures and policies. In order to cultivate perceptions of procedural fairness, then, actors must exhibit behaviors that conform to these rules. However, doing so may come at the cost of depleting actors' regulatory resources (Muraven, 2012).

There are two reasons why exhibiting procedural justice behaviors may be depleting. First, a central tenet of ego depletion theory is that abiding by rules and norms drains regulatory resources (Baumeister et al., 1998; Baumeister, Vohs, & Tice, 2007; Muraven, 2012). Thus, the extent to which actors attempt to regulate their behavior around Leventhal's (1980) six rules, which actors must do in order to be perceived as procedurally fair, will be depleting, especially when the rules are not aligned with actors' natural reactions to situations. For example, managers may be inclined to rely on their position power and take full responsibility for making decisions that impact their workgroup. To be procedurally fair, however, requires actors to relinquish authority and process control to their subordinates. As observed by Moller, Deci, and Ryan (2006), behaviors are more depleting when actors surrender personal control in situations, such as when managers cede authority to subordinates. As another example, managers may prefer to assign work tasks and incentives to subordinates in disparate ways, given that the nature and quality of their relationships with specific subordinates varies (Graen & Uhl-Bien, 1995). Whereas some relationships may involve high-quality social exchanges, other relationships may be more transactional in nature and invite little trust or liking between the two parties. To be procedurally fair, however, requires actors to apply procedures consistently, which is difficult irrespective of whether the subordinate is liked (i.e., actors must suppress preferential bias) or disliked (i.e., actors must suppress prejudicial bias). Bias suppression is required in both cases, which requires deliberative and effortful processing (see Devine, 1989).

Second, exhibiting procedural justice behaviors is also depleting due to uncertainty regarding how to enact such behaviors across different contexts. For example, actors may be unsure about how best to implement an appeals mechanism when trying to ensure correctability, or about which stakeholders to include in the process when trying to ensure representativeness. This may give rise to another source of uncertainty, namely, uncertainty regarding whether or not procedures will be challenged by one or more stakeholder groups, especially ones who are dissatisfied with the decision or outcome. As one anonymous reviewer pointed out, the worry of being second guessed by others may be depleting as well. The enactment of procedural justice rules also entails uncertainty is because such rules vary across different human resource functions (Folger & Greenberg, 1985). For example, what is appropriate information to consider when making training and development recommendations is not necessarily appropriate when making reward or promotion nominations, or when hiring job candidates for an open position. Regardless of what actors ultimately do, arriving at a decision is quite effortful and depleting when uncertainty is high (Milkman, 2012). Part of the reason for this uncertainty is that structural (e.g., procedural) justice issues arise less frequently than social (e.g., interpersonal) justice issues

(e.g., it may not be necessary for managers to seek input from subordinates every day, but they do interact with subordinates on all or most days). Because procedural justice issues are encountered less frequently, actors' responses require more deliberation and thus are more depleting. The relatively higher infrequency of procedural justice behaviors also prohibits actors from developing automatic behavioral routines and scripts, even when behaviors are consistent (Strack & Deutsch, 2004). We therefore hypothesized the following:

Hypothesis 1: Within individuals, exhibiting daily procedural justice behavior is associated with an increase in resource depletion.

Interpersonal justice refers to the perceived fairness of the interpersonal treatment that is shown to others when procedures are implemented and outcomes are allocated (Bies, 2001). Bies and Moag (1986) identified two rules that govern interpersonal fairness: respect (i.e., being sincere and showing dignity) and propriety (i.e., using appropriate, nonprejudicial language), and actors are viewed as interpersonally fair to the extent that their behavior typifies these rules. However, unlike procedural justice behaviors, we suspect that interpersonal justice behaviors may be replenishing rather than depleting for actors' subsequent regulatory resources. Although resources are drained when abiding by rules (Baumeister et al., 1998), interpersonal justice rules may cause less depletion than procedural justice rules for a few reasons.

First, it is easier to regulate interpersonal justice behaviors because the actions they stipulate are more familiar and straightforward to enact. Indeed, cultivating socially accepted interpersonal interactions that signal respect and consideration are principles that people are taught from a very young age (e.g., Markovits, Roy, Denko, & Benenson, 2003) and should therefore come more naturally. Interpersonal justice also involves far less uncertainty than procedural justice because the former reflects universal expectations for social interactions. In contrast, procedural justice behaviors are less frequent and involve some degree of uncertainty—actors have a better sense of what it means to be respectful and polite compared with knowing whether or not procedures are correctable, representative, and based on accurate information. Thus, fair interpersonal interactions are less likely to be challenged and second guessed the way procedures can.

Second, interpersonal justice rules are broader and more generalizable than procedural justice rules. Showing respect involves similar behaviors regardless of whether actors are communicating with applicants in a selection context, with subordinates in a performance appraisal context, or with customers in a sales context. In fact, research on ego depletion theory suggests that performing similar activities across different contexts improves self-regulation (e.g., Gailliot, Plant, Butz, & Baumeister, 2007; Muraven, Baumeister, & Tice, 1999; Wang, Liao, Zhan, & Shi, 2011). The expression of procedural justice behaviors, however, is more context dependent and thus requires greater deliberation (e.g., process control in a performance appraisal context might involve allowing employees to set their own performance criteria, but allowing job candidates to set the hiring criteria in a selection setting is not recommended!).

Third, whereas enacting procedural justice requires actors to suppress their preferential and prejudicial biases when interacting

with liked and disliked subordinates, respectively, enacting interpersonal justice only requires actors to suppress possible prejudicial biases toward disliked subordinates (no self-control is needed to show respect when interacting with liked subordinates). Thus, any depleting effects due to self-monitoring and emotional regulation are less for interpersonal justice as compared with procedural justice. Taken together, the aforementioned reasons suggest that performing interpersonal justice behaviors may consume fewer regulatory resources than procedural justice behaviors.

In addition to less depletion, interpersonal justice behaviors may actually help replenish regulatory resources. According to ego depletion theory, regulatory resources are bolstered when people experience positive social interactions and receive social rewards (Baumeister et al., 2007; Bono et al., in press), both of which extend to interpersonal justice (Loi et al., 2009). Interpersonal justice elicits strong emotional responses in recipients, more so than other types of justice, and these emotional responses are experienced immediately (Bies, 2001). When recipients of interpersonally fair treatment experience positive emotions, it can elicit positive emotions in actors as well via emotional contagion (i.e., actors automatically mimic and then experience the positive emotions expressed by recipients; Hatfield, Cacioppo, & Rapson, 1993) and via favorable reflected appraisals (i.e., actors feel good based on recipients' expressed positive attitude toward them; Rosenberg, 1979). Interpersonal justice behaviors are also directly rewarding for actors because they foster social acceptance and support (Bies, 2001; Masterson, Lewis, Goldman, & Taylor, 2000) and satisfy basic needs for belonging and esteem (Cropazano, Byrne, Bobocel, & Rupp, 2001), which are social incentives that replenish resources (Muraven & Slessareva, 2003). These beneficial effects are particularly strong because interpersonal justice behaviors are highly visible and thus readily attributable to actors (Scott et al., 2009). In contrast, procedural justice behaviors lack the same discretionary nature and are often attributed to the organization (Masterson et al., 2000). On the basis of the preceding discussion, we expected the following:

Hypothesis 2: Within individuals, exhibiting daily interpersonal justice behavior is associated with a decrease in resource depletion.

Moderating Effects on Justice-Based Depletion and Replenishment

In the preceding section, we proposed that enacting procedural justice behaviors depletes regulatory resources, whereas resources are replenished when employees exhibit interpersonal justice behaviors. It is important to note that depletion and replenishment both reflect a change in regulatory resources, but change in different directions (cf. Lilius, 2012). Depletion involves negative change because current behaviors require the use of regulatory resources and therefore reduce them. In contrast, replenishment involves positive change because current behaviors build resources. Thus, depletion and replenishment are inversely related—any effect that is replenishing is necessarily less depleting, and vice versa.¹ In this section, we discuss two individual-difference variables—extraversion and neuroticism—that, according to self-regulation and approach/avoidance theories, influence the extent to which people experience change in their regulatory resources as a function of their actions.

The effects of justice experiences on recipients are moderated by individual differences (e.g., Johnson, Selenta, & Lord, 2006; Scott & Colquitt, 2007), and the same is likely true of actors. Ego depletion theory and other self-regulatory frameworks suggest that extraversion and neuroticism have implications for actors' goal-related strategies and skills during self-regulation episodes (Bakker, Van der Zee, Ledwig, & Dollard, 2006; Elliot & Thrash, 2002; Kanfer & Heggstad, 1997; Lanaj, Chang, & Johnson, 2012; Tangney, Baumeister, & Boone, 2004). Specifically, extraversion and neuroticism are markers of approach and avoidance tendencies, respectively, that elicit the pursuit of approach and avoidance goals (e.g., Elliot & Thrash 2002; Lanaj et al., 2012), which have implications for people's regulatory resources.

With respect to extraversion, pursuit of approach-oriented achievement goals is less taxing on actors' resources because of the explorative and interest-enhancing nature of such goals (Thoman, Smith, & Silvia, 2011). Less self-control is needed to pursue approach goals because actors view them as valuable and useful ends, reducing any uncertainty or hesitation about exerting and maintaining effort. Although attaining such goals undoubtedly requires effort, the value and usefulness attached to approach goals serves as an incentive, which counteracts the effects of depletion (Muraven & Slessareva, 2003). Approach-oriented goals also facilitate efficient regulation strategies by specifying exactly what actors need to do in order to be successful, which provides a clear guide for behavior (Carver & Scheier, 1998; Johnson, Chang, Meyer, Lanaj, & Way, 2013). Having a clear guide is beneficial because it lessens actors' susceptibility to off-task temptations and impulses (Wenzlaff & Wegner, 2000), reducing the need for self-control and thus freeing up resources (Baumeister, Schmeichel, & Vohs, 2007).

Approach traits like extraversion also help employees develop more functional self-regulatory habits and skills. As Kanfer and Heggstad (1997, p. 43) noted, these traits give rise to approach goal pursuits "that promote acquisition of emotional control and motivation control skills." Because extraverts pursue activities that build self-regulatory skills (Kanfer & Heggstad, 1997), their greater skill and coping capacity weaken the effects that behavioral acts of control have on regulatory resources. One reason for these weakened effects is because exercising self-control is more habitual for extraverts, thus acts of self-control operate through more automatic (and less resource-demanding) channels. For example, people with self-regulatory skills have behavioral scripts stored in memory for how to behave in situations that require self-control, bypassing the need for executive control and the resources required to fuel it (Baumeister et al., 2007). As extraverts build their self-regulatory skills by exerting self-control, it improves their self-regulation and slows the rate of change in resources (Baumeister, Gailliot, DeWall, & Oaten, 2006). There is also evidence suggesting that experiencing high-activation positive emotions (e.g., joy and excitement), which are linked to extraversion and pursuing approach goals, helps conserve regulatory resources (Carver & Scheier, 1998; Tice, Baumeister, Shmueli, & Muraven,

¹ Because our measure of regulatory resources assesses depletion, all hypotheses are worded in terms of depletion. A negative relationship between a predictor variable and the depletion criterion therefore signifies replenishment.

2007). Taken together, the self-regulation skills associated with high extraversion weaken the effects that acts of self-control have on regulatory resources.

In contrast, actors high in neuroticism tend to pursue avoidance goals (Lanaj et al., 2012). Such goals require a great deal of self-control because avoidance motivation involves constant vigilance and controlled information processing, which are taxing (Oertig et al., 2013; Roskes, Elliot, Nijstad, & De Dreu, 2013). In fact, pursuing avoidance goals is quite stressful because actors are continually monitoring for obstacles and threats in their environment, even when none exist. As Elliot (2006, p. 115) noted, “avoidance motivation is experienced as stressful, and even when effective, can take a toll on enjoyment and, eventually, well-being.” For actors high in neuroticism, the avoidance goal of preventing any and all instances of unfairness spreads them too thin as they monitor and respond to all real and imagined discrepancies from that goal. As noted above, approach goals give rise to efficient regulation strategies (e.g., a focus on promoting fairness), which aid goal pursuits by highlighting the requirements for success. In contrast, avoidance goals often require suppression strategies (e.g., a focus on preventing unfairness), whereby people monitor for any matches with undesirable states (e.g., letting self-interest guide decisions or speaking with disrespect) and then control these unwanted impulses (Carver & Scheier, 1998; Johnson et al., 2013). In practice, though, the high degree of control needed for suppression often has the ironic effect of increasing rather than decreasing undesirable states and behaviors (Wenzlaff & Wegner, 2000). These failures place a further tax on people’s regulatory resources.

Additionally, actors high in neuroticism “avoid challenging situations, and so experience fewer opportunities for the development of motivational skills” (Kanfer & Heggstad, 1997, p. 43). Acts of self-control thus produce large changes in neurotics’ resources because greater effort is needed to overcome their deficient self-regulatory skills and coping capacity. Fewer opportunities to develop motivational skills also means that neurotics lack cognitive schemas for processing cues pertaining to self-control and the behavioral scripts for responding to such cues. The pursuit of avoidance goals by neurotics is therefore a time-consuming endeavor that requires a great deal of deliberative self-control. Even when neurotics are successful at regulating their avoidance goals, they experience less intense positive emotions as opposed to achieving approach goals (e.g., a sense of relief rather than excitement; Carver & Scheier, 1998; Elliot, 2006). Although high-intensity positive emotions help conserve regulatory resources, this beneficial effect is absent in the case of low-intensity positive emotions (Tice et al., 2007). Taken together, the maladaptive motivational skills and strategies associated with high neuroticism amplify the demands of self-control on regulatory resources (Roskes et al., 2013).

Given these implications of extraversion and neuroticism for self-regulation, they are expected to influence the depleting and replenishing effects of actors’ justice behaviors. As we proposed earlier, exhibiting procedural justice behavior increases resource depletion. For extraverts, though, their approach-oriented focus on enhancing process fairness and their well-developed self-regulation habits and skills will lessen the drain of procedural justice behaviors on available resources. Fewer resources are needed because some self-control functions are outsourced to

automatic processes (e.g., behavioral scripts stored in memory). However, for actors high in neuroticism, who lack sufficient self-regulation skills and are prone to experiencing negative emotions (e.g., anxiety) that interfere with goal pursuits, engaging in procedural justice behaviors places greater demands on their resources. There is also evidence suggesting that depletion is further accelerated for neurotics when goal regulation involves social interactions (Uziel & Baumeister, 2012), which is the case for exhibiting justice behaviors. Overall, research on motivational dispositions and skills (e.g., Elliot, 2006; Kanfer & Heggstad, 1997) suggests that the depleting effects of procedural justice behaviors will be weaker when actors are high in extraversion and stronger when they are high in neuroticism.

Hypothesis 3: The within-individual positive relation between procedural justice behavior and next-day resource depletion is less positive when extraversion is high (vs. low).

Hypothesis 4: The within-individual positive relation between procedural justice behavior and next-day resource depletion is more positive when neuroticism is high (vs. low).

Exhibiting interpersonal justice behavior is expected to decrease resource depletion (or, put differently, replenish actors’ resources), but the extent of change in actors’ resources depends on extraversion and neuroticism. Actors with high extraversion maintain an optimal pool of regulatory resources owing to their effective self-regulation habits and skills (e.g., pursuing interest-enhancing approach goals). Extraverts also require fewer resources for managing interactions with others, and so they experience less depletion and require less replenishment (e.g., Elliot, 2006; Kanfer & Heggstad, 1997). This suggests that actors with high extraversion may have less to gain from the replenishing effects of interpersonal justice behaviors because their self-regulation skills render them less sensitive to the resource-demanding nature of interpersonal activities. Extraverts therefore have less of a need for replenishment.

Neurotics, however, experience considerable change in their available resources when exercising self-control owing to their lack of effective self-regulation skills and strategies (Oertig et al., 2013; Roskes et al., 2013). Although the effects of depletion are more severe for them, neurotics also have more to gain when they exhibit constructive behaviors that build resources because they lack the skills that would otherwise counteract any resource deficiencies. Interpersonal justice behaviors may therefore produce greater change in regulatory resources for actors who have difficulty maintaining optimal amounts of such resources (i.e., those higher in neuroticism). In sum, the favorable self-regulation skills and resources associated with high extraversion and low neuroticism suggests that the negative (i.e., replenishing) effect of interpersonal justice behavior on resource depletion will be weaker when actors are high in extraversion and stronger when they are high in neuroticism.

Hypothesis 5: The within-individual negative relation between interpersonal justice behavior and next-day resource depletion is less negative when extraversion is high (vs. low).

Hypothesis 6: The within-individual negative relation between interpersonal justice behavior and next-day resource depletion is more negative when neuroticism is high (vs. low).

Consequences of Justice-Based Depletion and Replenishment

OCB consists of investing greater effort and resources on behalf of the organization and its members that go beyond in-role duties (Organ, 1988). Performing OCB requires self-regulatory resources because it typically entails voluntarily increasing one's workload and performing behaviors that do not necessarily benefit oneself (Bergeron, 2007). Because OCB requires expending resources that would otherwise be dedicated to in-role performance (e.g., Barnes et al., 2008), depleted employees conserve energy for future in-role activities (which contribute directly to performance evaluations and compensation decisions) by refraining from engaging in OCB. In line with this idea, DeWall, Baumeister, Gailliot, and Maner (2008) found that depletion reduced people's willingness to help others. A central premise of ego depletion theory is that the same pool of self-regulatory resources is used for all activities that require self-regulation (Baumeister et al., 1998). Thus, use of regulatory resources for one activity leaves fewer resources for other activities (Muraven & Baumeister, 2000). If so, then the depletion owing to justice behaviors should in turn affect actors' subsequent performance of OCB. Hence, we hypothesized the following:

Hypothesis 7: Within individuals, depletion of self-regulatory resources is associated with a decrease in OCB.

Hypothesis 8: Depletion mediates the relations of (a) procedural justice and (b) interpersonal justice with OCB.

Overview of the Present Study

Because justice behaviors vary daily (e.g., Loi et al., 2009), we used experience-sampling methodology (Wheeler & Reis, 1991) to collect data. All hypotheses were tested using lagged data (i.e., justice behaviors predicted regulatory resources on the following workday), which is beneficial for a number of theoretical and empirical reasons. First, doing so addresses recent calls to examine ego depletion effects across longer time intervals (Hagger et al., 2010). Most ego depletion research focuses on the immediate effects of acts of self-regulation on resource levels after only a few seconds or minutes have passed (the average is 10 min; Hagger et al., 2010). Our interest is in learning whether justice behaviors are associated with more enduring changes in resources that carry over to the next workday. If the depleting and replenishing effects of justice behaviors subside after only a few minutes, then the relevance of these effects is debatable. Second, lagged data help us to better tease apart the presumed causal order of variables at the within-person level (i.e., justice precedes depletion). Third, separating variables in time is one of the best remedies for minimizing common method variance (Johnson, Rosen, & Djurdjevic, 2011; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Finally, using lagged data enabled us to examine change in actors' regulatory resources by controlling for resources from the previous workday. Examining such change further alleviates ambiguity about the direction of causality (Scott & Barnes, 2011).

Method

Participants and Procedure

Our sample consisted of 82 managerial employees who were enrolled in an executive-style weekend MBA program. Participants voluntarily participated as part of a developmental class project. Of the 92 people who expressed an interest to participate, 82 completed sufficient surveys (we excluded 10 participants who completed three or fewer daily surveys). The final sample was composed of 65 men and 17 women, their average age was 33.4 years ($SD = 7.1$), and the majority identified themselves as White/Caucasian (78%), Asian (18%), or African American (1%). All participants had at least 5 years of managerial experience, and they worked mostly in engineering and manufacturing firms. Data were collected in two waves. The first wave was a one-time survey that assessed participant demographics and personality traits. The second wave consisted of pairs of morning and afternoon surveys that were administered daily for 10 consecutive work days. The morning survey, which was sent to participants at 6 a.m. every day, measured sleep quantity the previous night. The afternoon survey, which was sent at 4 p.m. each afternoon, measured justice behaviors, resource depletion, OCB, and workload for that day. On average, the morning survey was completed at 8:55 a.m. ($SD = 1.9$ hr), whereas the afternoon survey was completed at 5:46 p.m. ($SD = 2.0$ hr). The average time elapsed between the morning and afternoon surveys was 8.9 hr ($SD = 2.4$). We obtained a total of 562 matched morning and afternoon surveys out of a possible 820, yielding a response rate of 68.5%. Although we had daily observations for 82 participants, there were sufficient lagged data for only 79 participants. Thus, our final sample consisted of 362 lagged matched observations at Level 1 and 79 observations at Level 2.

Measures

Daily justice behaviors. We measured *daily procedural justice behavior* with three items adapted from Colquitt (2001) and Moorman (1991). The items are "How often did you seek input from others before making a decision today?"; "How often did you suppress personal biases when making a decision today?"; and "How often did you give others the opportunity to appeal a decision today?" We also used three items adapted from Colquitt (2001) and Moorman (1991) to measure *daily interpersonal justice behavior*. The items are "How often did you treat others in a polite manner today?"; "How often did you treat others with respect today?"; and "How often did you refrain from making improper remarks or comments today?" Each afternoon, participants indicated how often they performed the justice behaviors that day (from 1 [*Never*] to 6 [*Five or more times*]).² The average coefficient alpha across all days was .81 and .70 for procedural and interpersonal justice, respectively. Evidence for the validity of these daily justice measures is provided by published studies (e.g., Loi et al., 2009; Yang & Diefendorff, 2009).

² Note that we measured frequency of justice behaviors, thus low scores should not be equated with unfairness. Rather, low scores indicate that participants did not exhibit the behavior on that particular day, possibly because there were few opportunities to do so.

Daily depletion. Five items adapted from Twenge and colleagues (2004) and published by Christian and Ellis (2011) were used to measure resource depletion (e.g., “My mind feels unfocused right now” and “Right now, it would take a lot of effort for me to concentrate on something”). Participants indicated the extent to which the items captured how they felt at that moment using a 5-point scale (from 1 [*very slightly or not at all*] to 5 [*very much*]). The average coefficient alpha across all days was .91. Although it is common to use shorter scales to reduce the burden on participants in experience-sampling studies (Fisher & To, 2012), doing so may raise concern about the validity of shorter scales. To address this issue, we conducted a short pilot study in which the full 25-item depletion scale was administered to 84 employed participants via Mechanical Turk (Buhrmester, Kwang, & Gosling, 2011). The average age for this sample was 31.4 years ($SD = 10.8$), and the average hours worked per week was 41.5 ($SD = 5.95$). We measured depletion by asking respondents to express how they felt at that particular moment, which coincided with the end of their workday. Participants responded to the items using the same 5-point scale as in the primary study. Results indicated that scores on the short five-item scale ($\alpha = .90$) were highly correlated ($r = .93, p < .01$) with scores on the full 25-item scale ($\alpha = .97$). Thus, the short scale is a suitable substitute.

To further verify that scores on the short self-report scale reflect state depletion versus some other phenomenon (e.g., mood), we conducted a second pilot study. Specifically, 33 undergraduate students were administered the depletion items ($\alpha = .84$), along with short five-item measures of positive affect (PA; $\alpha = .78$) and negative affect (NA; $\alpha = .78$) adapted from Watson, Clark, and Tellegen (1988). Students rated the extent to which they were currently experiencing each emotion (e.g., “happy” and “interested” for PA, “sad” and “irritable” for NA). The students then completed a series of computer-based calculus, memory, and problem-solving activities, all of which required participants to focus attention on the focal task (i.e., completing calculus problems, memorizing material, and solving problems) while simultaneously blocking out distracting visual stimuli that were also presented. Similar activities, which require considerable self-control and focus, have been used previously to manipulate depletion (e.g., Alberts, Martijn, & de Vries, 2011; DeWall, Baumeister, Mead, & Vohs, 2011; Schmeichel, Vohs, & Baumeister, 2003). When done, we again administered to students the same measures of depletion ($\alpha = .85$), PA ($\alpha = .76$), and NA ($\alpha = .84$). Results indicated that scores on the depletion items increased after completing the cognitively demanding activities (from 1.76 to 3.20), $t(32) = 13.45, p < .01$, whereas there were no significant changes in PA (from 3.46 to 3.36), $t(32) = -0.74, ns$, nor in NA (from 2.30 to 2.21), $t(32) = -1.01, ns$. These findings indicate that the depletion of self-regulatory resources is independent of emotional states (DeWall et al., 2011; Muraven & Baumeister, 2000).

Daily OCB. To assess citizenship behavior, we adapted four items from the checklist developed by Fox, Spector, Goh, Bruursema, and Kessler (2012). Participants indicated the frequency with which they engaged in a number of citizenship behaviors that work day using a scale ranging from 1 (*Never*) to 6 (*Five times or more*). Example items are “Lent a compassionate ear when someone had a personal or work problem” and “Gave a co-worker encouragement or appreciation.” The average coefficient alpha across all days was .86.

Personality traits. We measured *extraversion* ($\alpha = .89$; e.g., “I feel comfortable around people”) and *neuroticism* ($\alpha = .84$; e.g., “I get stressed out easily”) with eight items each from the International Personality Item Pool (Goldberg et al., 2006). Participants responded to these items via a 5-point scale (from 1 [*Very Inaccurate*] to 5 [*Very Accurate*]).

Control variables. We controlled for daily sleep quantity and workload in all models because they are associated with the replenishment and depletion, respectively, of regulatory resources (Baumeister, 2003; Dorrian, Baulk, & Dawson, 2011; Sonnentag, Binnewies, & Mojza, 2008). Sleep quantity was measured using one item developed by Buysse, Reynolds, Monk, Berman, and Kupfer (1989): “How many hours of actual sleep did you get last night (this may be different than the number of hours you spent in bed)?” Daily workload was assessed using three items developed by Ilies and colleagues (2007). Participants responded to the items (e.g., “Today I had problems with the workload”) via a 5-point scale (from 1 [*Strongly Disagree*] to 5 [*Strongly Agree*]). The average coefficient alpha for workload across all days was .86.

Analytical Strategy

To account for the nested nature of our data, we conducted analyses using hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002). At Level 1 were the repeated daily observation of procedural and interpersonal justice behaviors, depletion, sleep quantity, and workload. At Level 2 were the single assessments of extraversion and neuroticism. In line with recommendations by Hofmann, Griffin, and Gavin (2000), we centered all Level 1 variables at the participants’ means and grand-mean centered all Level 2 predictors. Note that all regression analyses involved lagged data, such that depletion and daily workload were lagged by 1 day. Thus, resource depletion experienced on a given day was regressed on justice behaviors performed the previous day, controlling for previous day’s resource depletion, previous night’s sleep quantity, and current-day’s workload. Given that we control for previous day’s resource depletion in all analyses, our results represent relations of procedural and interpersonal justice behaviors with *change* in participants’ level of resource depletion from one day to the next.

Results

Reported in Tables 1 and 2 are the means, standard deviations, and correlations at the within- and between-person levels. In order to establish the appropriateness of using HLM to test our hypotheses, we first examined the amount of within-individual variance in all our Level 1 variables. As shown in Table 3, the within-individual variance in our Level 1 variables was considerable (ranging from 34% to 64%), thus justifying the use of HLM. Of particular interest is the within-individual variance in justice behaviors (54% and 57% for procedural and interpersonal justice, respectively), which suggests that the frequency of exhibiting fair behaviors varies day-to-day. Thus, there is merit in adopting a within-actor justice perspective.

Tests of the Hypotheses

Main effects. Hypotheses 1 and 2 predicted that procedural justice behavior would be associated with an increase in resource

Table 1
Within-Individual Descriptive Statistics and Correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Procedural justice	2.90	.98	—					
2. Interpersonal justice	4.30	.87	.32**	—				
3. Resource depletion	1.87	.61	.01	-.05	—			
4. Sleep quantity	6.36	.77	-.08	-.03	-.23**	—		
5. Next-day workload	2.58	.92	.00	.08	.01	-.07	—	
6. Next-day resource depletion	1.80	.61	.11*	-.04	-.11**	-.10	.08	—
7. Next-day OCB	2.76	1.19	.25**	.04	.07	.03	.21**	-.13*

Note. $N = 362$. All variables are within-individual variables. The variables were centered at the person level before the within-person correlations were computed. The means and standard deviations are based on between-person scores. OCB = organizational citizenship behavior.

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

depletion, whereas interpersonal justice behavior would be associated with a decrease in resource depletion. To test these hypotheses, we regressed resource depletion on previous day's justice behavior, controlling for the effects of previous day's resource depletion, previous night's sleep quantity, and current-day's workload. As shown in Table 4, HLM results were consistent with predictions. Procedural justice behavior was associated with an increase in depletion ($b_{10} = .11, p = .05$), whereas interpersonal justice behavior was associated with a decrease in depletion ($b_{20} = -.11, p < .05$). Compared with the null model, this model explained 36.8% of the within-person variance in depletion, with procedural and interpersonal justice together explaining 17% of the within-person variance in depletion.

Cross-level interactions. Hypotheses 3 and 4 predicted that the within-individual relations between daily procedural justice behavior and depletion would be moderated by extraversion and neuroticism. On the basis of the results of the HLM regressions summarized in Table 5, however, no support was found for these hypotheses. Neither extraversion ($b_{11} = -.10, ns$) nor neuroticism ($b_{12} = .06, ns$) moderated the relation of procedural justice behavior with depletion. Thus, the increases in depletion associated with engaging in procedural justice behavior appear to be robust, regardless of actors' standing on these personality traits.

Hypotheses 5 and 6 concern the moderating effects of extraversion and neuroticism on the within-individual relations of interpersonal justice behavior with resource depletion. Support was

obtained for both of these hypotheses (see Table 5). The cross-level moderating effect of extraversion was significant ($b_{21} = .14, p < .05$), such that the negative relation between interpersonal justice behavior and resource depletion is weaker for employees who are high (vs. low) in extraversion (see Figure 1). The cross-level moderating effect of neuroticism was also significant ($b_{22} = -.18, p < .05$), revealing that the negative association of interpersonal justice behavior with depletion is stronger for employees who are high (vs. low) in neuroticism (see Figure 2). Pseudo R^2 values indicated that extraversion and neuroticism explained 27% of the variance in the random slope of interpersonal justice.

Hypothesis 7 stated that there would be a negative association between depletion of self-regulatory resources and OCB. To test this hypothesis, we regressed next-day OCB on next-day depletion of self-regulatory resources controlling for daily workload because daily workload is likely to affect both depletion of resources as well as frequency of OCB (e.g., Eatough, Chang, Miloslavac, & Johnson, 2011). Shown in Table 6 and consistent with Hypothesis 7, resources depletion had a negative effect on OCB ($b = -.21, p < .05$). Compared with the null model, this regression explained 10.5% of the within-person variance in next-day OCB, of which 6.5% was attributable to regulatory resources.

Hypotheses 8a and 8b posited that depletion would mediate the effects of procedural and interpersonal justice behaviors with next-day OCB. To ascertain whether these mediated effects were statistically significant, we followed recommendations by Bauer,

Table 2
Between-Individual Descriptive Statistics and Correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Procedural justice	2.90	.98	—							
2. Interpersonal justice	4.30	.87	.55**	—						
3. Resource depletion	1.87	.61	-.12	-.07	—					
4. Sleep quantity	6.36	.77	.13	.05	-.08	—				
5. Next-day workload	2.58	.92	.08	-.11	.38**	-.04	—			
6. Next-day depletion	1.80	.61	-.03	-.05	.90**	-.11	.42**	—		
7. Next-day OCB	2.76	1.19	.78**	.40**	-.08	.15	.14	-.04	—	
8. Extraversion	3.46	.59	-.01	.13	-.20	.13	-.21	-.26*	.15	—
9. Neuroticism	2.65	.78	.00	.02	.16	.00	.11	.11	.04	-.07

Note. $N = 79$. Variables 1 through 7 are within-individual variables. Variables 8–10 are between-individual variables. Correlations are based on between-individual scores. To achieve this, all Level 1 variables (Variables 1 through 7) were aggregated to the individual level. OCB = organizational citizenship behavior.

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

Table 3
Parameter Estimates and Variance Partitioning of Null Models for Level 1 Variables

Variable	Intercept b_{00}	Within-individual variance (e^2)	Between-individual variance (r^2)	Percentage of within-individual variance
Procedural justice	2.90**	0.98	0.83	54
Interpersonal justice	4.29**	0.83	0.62	57
Sleep quantity	6.37**	0.74	0.45	62
Resource depletion	1.86**	0.43	0.30	59
Next-day workload	2.59**	0.43	0.66	39
Next-day resource depletion	1.82**	0.47	0.27	64
Next-day OCB	2.77**	0.62	1.22	34

Note. Level 1 $n = 362$. OCB = organizational citizenship behavior.

** $p < .01$.

Preacher, and Gil (2006) for testing mediation (1-1-1) in multilevel models. To remain consistent with our other analyses, we included the same control variables as in the regressions establishing the main effects of justice behaviors on depletion (e.g., see Table 4) and assessed mediation simultaneously for procedural and interpersonal justice in Mplus (Muthén, & Muthén, 2008). Similar to recent work (e.g., Wang et al., in press), we also conducted Monte Carlo simulations with 20,000 replications to obtain confidence intervals around each indirect effect. Monte Carlo simulations are appropriate because they produce confidence intervals that account for the nonnormal sampling distribution of the indirect effect (Preacher, Zyphur, & Zhang, 2010; Wang et al., in press). The estimate for the indirect effect of procedural justice on OCB was $-.025$, and the biased-corrected 95% confidence interval did not include zero $[-.06, -.003]$. The estimate of the indirect effect for interpersonal justice was $.024$, and the confidence interval did not include zero $[.006, .052]$. Thus, both Hypothesis 8a and 8b were supported because the indirect effects of procedural and interpersonal justice on OCB via depletion were significant.³

Supplementary Analyses

Our focus in this study was on possible depleting and replenishing effects of justice behaviors on regulatory resources, and our findings indicate that engaging in procedural and interpersonal justice behaviors were associated with increases and decreases, respectively, in next-day's resources. However, a reverse relation might also exist; that is, sufficient regulatory resources may be needed in order to exhibit justice behaviors. We therefore ran

supplementary analyses in which the justice behaviors were regressed on previous-day's resource depletion, controlling for previous-night's sleep quantity and current-day's workload. However, previous-day's resource depletion did not predict procedural justice behavior ($b = .08$, ns) or interpersonal justice behavior ($b = .04$, ns). These results suggest that although justice behaviors predict the availability of self-regulatory resources the following day, whether or not employees engage in such behaviors is less dependent on regulatory resources. Additionally, we conducted supplementary analyses to examine possible reverse relationships involving OCB. Specifically, we tested whether OCB predicted next-day depletion and next-day justice behaviors. Results indicated that OCB was not associated with next-day depletion ($b = .03$, ns), nor was it associated with next-day procedural justice ($b = .12$, ns) and next-day interpersonal justice ($b = -.08$, ns). Overall, these analyses indicate that although justice behaviors appear to impact subsequent resource depletion and OCB, the reverse is not true.

Discussion

The primary purpose of this study was to advance justice theory by drawing from ego depletion theory and adopting a within-person approach from the perspective of actors. Consistent with this approach, we observed meaningful intraindividual fluctuations

Table 4
Relations of Justice Behaviors With Resource Depletion

Predictor	Criterion: Next-day resource depletion		
	<i>B</i>	<i>SE</i>	<i>t</i>
Intercept (b_{00})	1.82	0.069	26.32**
Procedural justice (b_{10})	0.11	0.054	1.97*
Interpersonal justice (b_{20})	-0.11	0.044	-2.48*
Sleep quantity (b_{30})	-0.14	0.052	-2.71*
Resource depletion (b_{40})	-0.19	0.082	-2.28*
Next-day workload (b_{50})	0.16	0.082	1.94

Note. $N = 362$. All Level 1 predictors were centered at persons' means. Coefficients (*B*s) are unstandardized effect sizes.

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

³ Although we did not hypothesize moderated mediation, in post hoc analyses we estimated the indirect effects of interpersonal justice on OCB for high (+1 *SD*) and low (-1 *SD*) values of extraversion and neuroticism using the same technique suggested by Bauer et al. (2006) and Wang et al., (in press) for assessing indirect effects in multilevel models in Mplus. To be consistent, we included the same control variables as in the regressions establishing the main effects of justice behaviors on depletion (see Table 4), and assessed the moderated indirect effects simultaneously for both moderators. For extraversion, we found that the indirect effect of interpersonal justice on OCB via depletion was not different from zero for high levels (indirect effect = $.004$; 95% CI $[-.022, .032]$), but significant for low levels of extraversion (indirect effect = $.044$; 95% CI $[.005, .096]$). The effect difference for high versus low extraversion was $-.04$ (95% CI $[-.095, -.002]$), suggesting that the indirect effect of interpersonal justice on OCB is significantly stronger for low versus high extraversion. For neuroticism, we found that the indirect effect of interpersonal justice on OCB was not different from zero for low levels (indirect effect = $-.004$; 95% CI $[-.039, .025]$), but significant for high levels of neuroticism (indirect effect = $.053$; 95% CI $[.006, .115]$). The difference of the indirect effects for high versus low neuroticism was $.057$ (95% CI $[.002, .136]$), suggesting that the indirect effect of interpersonal justice on OCB was significantly stronger for high versus low levels of neuroticism.

Table 5
Moderating Effects of Neuroticism and Extraversion on the Relations of Justice Behaviors With Resource Depletion

Predictor	Criterion: Next-day resource depletion		
	<i>B</i>	<i>SE</i>	<i>t</i>
Intercept (b_{00})	1.82	0.067	27.05**
Level 2 predictors			
Extraversion (b_{01})	-0.23	0.121	-1.91 [†]
Neuroticism (b_{02})	0.09	0.090	1.03
Level 1 predictors			
Procedural justice (b_{10})	0.11	0.059	1.83 [†]
Interpersonal justice (b_{20})	-0.12	0.039	-3.19*
Sleep quantity (b_{30})	-0.14	0.057	-2.44*
Resource depletion (b_{40})	-0.24	0.080	-2.97*
Next-day workload (b_{50})	0.15	0.082	1.82 [†]
Cross-level predictors			
Extraversion × Procedural Justice (b_{11})	-0.10	0.092	-1.05
Extraversion × Interpersonal Justice (b_{21})	0.14	0.060	2.24*
Neuroticism × Procedural Justice (b_{12})	0.06	0.084	0.66
Neuroticism × Interpersonal Justice (b_{22})	-0.18	0.060	-3.04*

Note. Level 1 $n = 362$. All Level 1 predictors were centered at persons' means; Level 2 variables were grand-mean centered. Coefficients (*Bs*) are unstandardized effect sizes.

[†] $p < .01$. * $p < .05$. ** $p < .01$.

in justice behavior. Indeed, over half of the variance in procedural justice (54%) and interpersonal justice (57%) was within person. This finding underscores the important fact that justice is dynamic: The frequency of actors' justice behaviors varies day to day. Unfortunately, the overwhelming majority of the justice literature has focused on between-person effects, which ignores the considerable amount of within-person variance. It is therefore important for researchers to address this oversight and develop justice theory in this direction. Furthermore, within-person approaches should not be restricted to examining only interpersonal justice, which has been the trend thus far. Although actors have greater discretion over interpersonal justice, there are daily fluctuations in procedural justice behavior as well. Within-person investigations should therefore broaden their coverage to include multiple types of justice and also consider the possible costs of justice behaviors for actors. Examining both interpersonal and procedural justice is

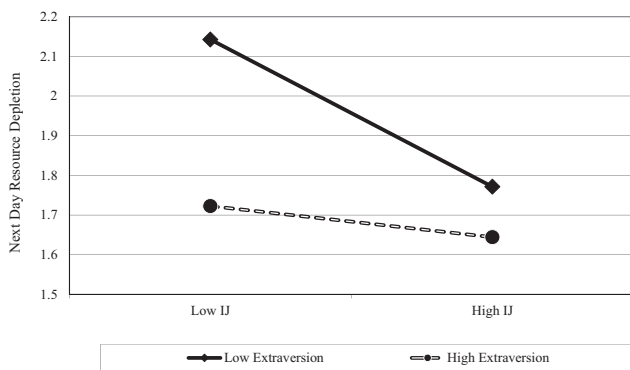


Figure 1. Cross-level moderating effect of extraversion on the interpersonal justice–resource depletion relationship. IJ = interpersonal justice.

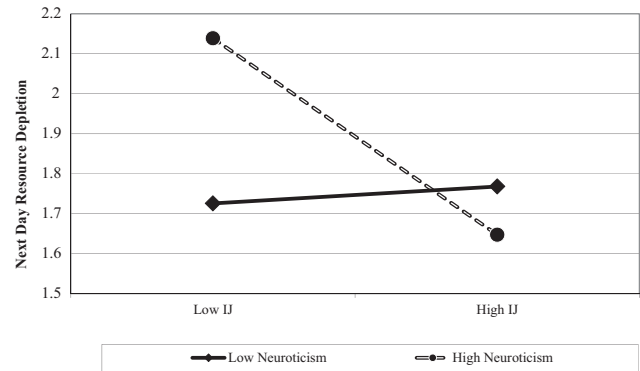


Figure 2. Cross-level moderating effect of neuroticism on the interpersonal justice–resource depletion relation. IJ = interpersonal justice.

important because, as we show in the present study, they have opposing relations with changes in actors' regulatory resources.

In contrast to previous research focusing solely on the beneficial effects of justice, our results indicate that procedural justice behaviors—which entail navigating potentially complex issues in a manner that suppresses the potential biasing effects of self-interest and favoritism toward ingroup members—is draining, leaving employees with fewer available resources. This reveals that there is a cost to engaging in procedural justice behavior. Given the numerous negative organizational outcomes associated with resource depletion, such as increases in deviant behavior (Barnes et al., 2011; Christian & Ellis, 2011; Thau & Mitchell, 2010) and reductions in OCB (as we showed in this study), it is potentially dangerous to overlook the costs of procedural justice. Indeed, companies that encourage procedurally just behavior from their employees in an attempt to create positive work environments may inadvertently (and ironically) create a different set of problems owing to diminished self-control.

Not all justice behaviors, however, are depleting. Unlike procedural justice, interpersonal justice behaviors—which involve positive interactions with colleagues—appear restorative. Exhibiting interpersonal justice behaviors were predicted to be associated with an increase in actors' subsequent regulatory resources because such behaviors involve fewer rules and deliberation than procedural justice and because they represent rewarding positive

Table 6
Relations of Resource Depletion With OCB

Predictor	Criterion: Next-day OCB		
	<i>B</i>	<i>SE</i>	<i>t</i>
Intercept (b_{00})	2.77	0.132	20.93**
Procedural justice (b_{10})	0.21	0.044	4.73**
Interpersonal justice (b_{20})	-0.06	0.056	-1.12
Sleep quantity (b_{30})	0.05	0.043	1.27
Resource depletion (b_{40})	0.04	0.068	0.61
Next-day workload (b_{50})	0.30	0.056	5.35**
Next-day resource depletion (b_{60})	-0.21	0.064	-3.25*

Note. $N = 362$. All Level 1 predictors were centered at persons' means. Coefficients (*Bs*) are unstandardized effect sizes. OCB = organizational citizenship behavior.

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

interactions for actors. Although engaging in interpersonal justice behaviors may initially consume resources (e.g., in order to show respect and regulate emotions), there is an immediate return that more than offsets the initial consumption of resources. In contrast to procedural justice, there is little to no cost for organizations to encourage interpersonally fair behaviors, which benefit not only actors but also recipients (Judge et al., 2006; Loi et al., 2009), thus producing a win-win scenario for both parties.

Furthermore, we found that depletion of self-regulatory resources hindered performance of OCB and that depletion mediated the effects of procedural and interpersonal justice behaviors on next-day OCB. This finding is significant for two main reasons. First, most management research using ego depletion theory has focused on negative outcomes of depletion like unethical and deviant behaviors (Barnes et al., 2011; Christian & Ellis, 2011). Regulatory resources are needed for prosocial behaviors too, which indicates that ego depletion theory extends beyond undesirable acts. Second, our results are noteworthy because they suggest that fair interpersonal events at work are beneficial not only because they replenish actors and elicit favorable attitudes in recipients but also because the savings in regulatory resources spill over into next-day OCB, which provides further benefits to actors, recipients, and organizations (Podsakoff, Whiting, Podsakoff, & Blume, 2009).

Given our focus on self-regulation, we examined two personality traits—extraversion and neuroticism—that impact actors' goal-striving skills and strategies (Kanfer & Heggstad, 1997; Lanaj et al., 2012). Specifically, we found that the replenishing effects of interpersonal justice behaviors are weakest for extraverts and strongest for neurotics. The former effect was predicted because high levels of extraversion help employees develop more functional self-regulatory habits and skills, enabling acts of self-control to be outsourced to more automatic and less resource-demanding processes (Kanfer & Heggstad, 1997). Extraverts also tend to pursue approach goals (Lanaj et al., 2012), which provide clearer direction for behavior and lessen the need for self-control (Johnson et al., 2013; Thoman et al., 2011). Thus, extraverts are saddled with smaller deficits in their regulatory resources, and therefore have less to gain from then replenishing effects of exhibiting interpersonal justice behaviors. Actors with low levels of extraversion, however, benefit more from the resource-replenishing consequences of engaging in interpersonal justice behaviors, which is consistent with the pattern of results in Figure 1.

With respect to the latter moderation effect, high levels of neuroticism cause people to avoid challenging situations and, as a result, miss out on opportunities to develop their self-regulatory skills (Kanfer & Heggstad, 1997). Acts of self-control therefore place a high burden on the resources of neurotics (Oertig et al., 2013). Neurotics also tend to operate with smaller pools of available resources owing to their pursuit of avoidance goals (Lanaj et al., 2012), requiring them to monitor and respond to all real and imagined threats (Carver & Scheier, 1998). Even when successful, self-regulation via avoidance goals is stressful and leaves people depleted (Elliot, 2006; Johnson et al., 2013; Roskes et al., 2013). Thus, neurotics have more to gain when they exhibit constructive behaviors that build resources (e.g., interpersonal justice) because they lack the skills that would otherwise help them maintain an optimal amount of regulatory resources. Consistent with this logic, we observed that interpersonal justice behaviors were more replen-

ishing for actors high (vs. low) in neuroticism. Taken together, these findings indicate that as justice theory advances, researchers ought to consider not only between-individual effects and within-individual effects but also cross-level effects between the two. This enriching of justice theory will help close the gap between overlooked areas of research and the complexity of justice in the workplace.

Interestingly, extraversion and neuroticism did not moderate associations of procedural justice behavior with subsequent regulatory resources. This finding suggests that the depleting effects of exhibiting procedural justice behaviors may be universal and difficult to buffer. If so, then it becomes especially important to ensure that other sources of resource replenishment are available to actors who are charged with regularly enacting procedural justice. Possible ways that these depleting effects might be offset are via the restorative effects of, for example, getting adequate sleep (Barnes, 2012), practicing daily self-affirmation (Schmeichel & Vohs, 2009), and maintaining optimal blood glucose levels (Gailiot et al., 2007). Future research ought to examine the efficacy of these and other interventions for replenishing the regulatory resources of employees. Regardless of what remedy is used, though, a necessary first step is for companies to recognize the depletion that coincides with being procedurally fair.

Strengths, Limitations, and Future Directions

Our study has several strengths that should be noted. First, our research design enabled us to examine dynamic, within-person effects. By collecting multiple observations per participants, we were able to test our model via a more granular approach to time than previous justice research. Moreover, our analyses (by centering at the participant's mean) parsed out any constructs that vary between individuals and often serve as either noise or confounds in between-person justice research. Future research using such designs is critical to extending the justice literature.

A second strength is that we tested an integrated theoretical framework informed by ego depletion theory and well-established self-regulation frameworks (Elliot & Thrash, 2002; Kanfer & Heggstad, 1997) to examine the moderating effects of extraversion and neuroticism. This is a strength of our study because little attention has been devoted to individual differences that may buffer or enhance the resource-demanding nature of interpersonal events at work. Future research that examines other individual differences is needed.

Our study is, however, limited in some respects. First, all of the variables in our study were measured via self-reports. This raises the concern that some observed relations may be vulnerable to common method variance. However, this concern is attenuated for three reasons. One reason is that group-mean centering and the examination of within-individual effects parses out any general response tendencies that participants may have. A second reason is that the predictor and criterion measures were spaced in time, which is effective for minimizing common method variance (Johnson et al., 2011). A third reason is that we observed significant cross-level interactions, and theoretical and empirical evidence suggests that interactive effects cannot be artifacts of common method variance (Evans, 1985; Siemsen, Roth, & Oliveira, 2010). Nevertheless, future research that includes data from nonself sources would be informative. For example, depletion could be

inferred from performance on self-control tasks (e.g., Alberts et al., 2011) or physiological markers of depletion (e.g., Gailliot et al., 2007; Yang, Bauer, Johnson, Groer, & Salomon, 2013).

Although we supported our predictions regarding the depleting and replenishing effects of justice behaviors, various mechanisms that drive such effects were proposed. However, we did not disentangle the effects of these possible mechanisms, which is a second limitation of our study. With respect to procedural justice behaviors, such behaviors may be depleting because they are not aligned with supervisors' natural inclinations. For example, treating everyone consistently requires that supervisors set aside differences in relationship quality across subordinates, and giving voice to subordinates requires that supervisors relinquish control and power. If so, then the depleting effects of procedural justice behaviors would be especially strong for supervisors with a high need for power or autonomy. In contrast, depleting effects may be weaker for supervisors with high conscientiousness. Conscientiousness is a motivational trait that facilitates self-regulation because it encompasses the qualities of responsibility and perseverance (Kanfer & Heggstad, 1997; Lanaj et al., 2012; Wallace & Chen, 2006), thereby lessening the demands of aligning one's behavior with external rules and obligations. Supervisors high in conscientiousness would therefore require fewer regulatory resources to act in accordance with procedural justice rules.

Another possible mechanism underlying the depleting effects of procedural justice involves the uncertainty of such behaviors—uncertainty regarding how best to enact the rules and how subordinates will respond to them. Part of this uncertainty owes to the fact that allocation decisions involving procedural justice are relatively infrequent, and thus supervisors lack sufficient experience with procedural justice rules (Scott et al., 2009). If uncertainty is responsible for the depleting effects of procedural justice behaviors we observed, then such effects should be lessened for supervisors who are comfortable with uncertainty (e.g., those with a high tolerance for ambiguity or low need for cognitive closure; Sedikides, De Cremer, Hart, & Brebels, 2010). Experience or familiarity with enacting procedural justice behaviors would also be expected to decrease the effects of procedural justice behaviors on depletion. In order to address this limitation, future research is needed that teases apart the mechanisms underlying the depleting effects of procedural justice behaviors. Moderator variables like the ones reviewed above (e.g., need for power, need for cognitive closure) would shed light on whether procedural justice behaviors are depleting due to the unconventional nature of the rules or the uncertainty surrounding them (or both).

Similarly, multiple mechanisms were proffered in regards to the replenishing effects of interpersonal justice behaviors. For example, such behaviors may be replenishing because they create positive social interactions that are rewarding for both parties and build social capital that can be withdrawn in the currency of social support when needed, and because they elicit positive emotions in both recipients and actors (via emotional contagion). Social rewards and support and positive emotions have all been found to replenish regulatory resources (Baumeister et al., 2007; Muraven & Slessareva, 2003). Similar to the case of procedural justice, it may be possible to disentangle these mechanisms by a focused examination of moderator variables. If the replenishing effects of interpersonal justice are due to social rewards and support, then effects should be stronger for supervisors who are especially

sensitive to such rewards and support. This suggests that variables like need for belonging (Gillespie & Greenberg, 2005) and relational or collective identity (Johnson et al., 2006) would be potential moderators to consider. If the replenishing effects are due to positive emotions, then variables that impact people's emotional reactivity (Watson et al., 1988) and susceptibility to emotional contagion (Doherty, 1997) should emerge as significant moderators. In sum, future research that identifies the active ingredient(s) underlying the replenishing effects of interpersonal justice, and the depleting effects of procedural justice would build on our study's findings and make a meaningful contribution to the justice literature. Doing so would also provide guidance to practitioners who are interested in reducing the negative side effects of acting fair because interventions could be tailored to specific mechanisms.

A third limitation is that we did not capture who the supervisors interacted with when enacting procedural and interpersonal justice behaviors. For example, supervisors may have felt replenished if interpersonal justice behaviors tended to involve interactions with liked (vs. disliked) subordinates. Interactions with liked subordinates may also have elicited more interpersonal justice behaviors from supervisors. However, if interacting with liked subordinates is responsible for replenishing effects, then acts of procedural justice would also be expected to have replenishing effects if interactions primarily involved liked subordinates. This pattern of results is not consistent with what we observed, though (i.e., interpersonal justice behavior was replenishing, whereas procedural justice behavior was depleting). In reality, relationship quality can vary greatly from one subordinate to the next (Erdogan & Bauer, 2010; Liden, Erdogan, Wayne, & Sparrowe, 2006), and supervisors often spend significant time interacting with problematic subordinates (Yukl, 2010). Thus, it is unlikely that all justice-related interactions involved liked subordinates. Unfortunately, we did not measure likability and therefore cannot rule out its possible biasing effects. Controlling for likability is a needed step in subsequent studies. Future research could also adopt a finer grained approach by tracking the recipients of justice behaviors and examining whether characteristics of subordinates (e.g., agreeableness) or supervisor–subordinate relationships (e.g., high-quality exchange) moderate the depleting and replenishing effects of supervisors' justice behaviors.

A final limitation involves our exclusion of distributive and informational justice behaviors. We selected procedural and interpersonal justice because they embody the structural and social aspects of justice, respectively (Greenberg, 1993), that managers have the most discretion over (Scott et al., 2009). This is not to say that distributive and informational behaviors are irrelevant for regulatory resources. In fact, making and justifying unpopular decisions may also be depleting. There is a need, then, to build upon these initial findings by examining the resource demands of exhibiting other types of justice behavior.

As discussed above, one needed direction for future research is to disentangle the mechanisms underlying the depleting and replenishing effects of justice behaviors. Doing so entails a closer examination of possible moderator and mediator variables of the justice behavior–regulatory resource link. To this end, we highlighted several variables (e.g., the needs for autonomy, cognitive closure, and belonging, and susceptibility to emotional contagion) that may prove useful in this regard. There are, however, other

ways to build on the present study. A second avenue for future research would be to take a step back and examine daily antecedents of justice behavior. In supplementary analyses of our data, we found that although justice behaviors predict the availability of regulatory resources the following day, whether or not managers engage in such behaviors appears to be less dependent on regulatory resources. However, over half of the variance in both types of justice behavior was at the within-person level of analysis. Thus, there are clearly other day-level antecedents of daily justice behavior awaiting discovery. For example, cognitive and affective phenomena such as daily instrumentality beliefs, self-construals (e.g., self-esteem and identity), and mood may predict justice behaviors (Scott et al., 2009). Future research that develops theory and conducts empirical tests of daily predictors is needed in order to identify such antecedents.

A final avenue for future research would be to examine other outcomes of justice behavior that follow from the ones observed in this study. We found that engaging in procedural justice behaviors depletes actors' available regulatory resources. Future research could examine more distal outcomes of this effect, such as unethical behavior and organizational deviance (e.g., Barnes et al., 2011; Christian & Ellis, 2011). Researchers might also consider negative effects of procedural justice behaviors that are not tied to resource depletion. For example, enacting procedural justice by giving others voice and ensuring representativeness is time-consuming, which delays decisions and may lead to missed opportunities for actors. Adhering to the consistency rule of procedural justice may also create problems for actors (Patient, 2011). For example, showing consistent treatment to ingroup and outgroup members may weaken actors' relationships with ingroup members if these members expect preferential treatment. However, we found that engaging in interpersonal justice behaviors replenished actors' resources, which helped fuel their citizenship behaviors. Future research can identify additional beneficial effects of engaging in interpersonal justice behaviors and its associated replenishing effects. For example, the replenishing effects of interpersonal justice behaviors may extend to other resource-dependent, constructive behaviors like innovation and adaptability. These and other ideas are possible when researchers adopt within-person and actor-centric approaches for examining organizational justice, as we did in the present study.

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