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Justice and personality: Using integrative theories to derive moderators of justice effects ☆

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Abstract

Although organizational justice has been shown to have behavioral consequences, there remains a surprising amount of variation in how individuals react to fair and unfair treatment. The present study drew on three integrative theories in the justice literature—fairness heuristic theory, uncertainty management theory, and fairness theory—to identify personality traits that could explain such variation. From these theories, we identified trust propensity, risk aversion, and morality (rooted in circumplex models of personality) as potential moderators. A laboratory study provided some support for the prediction that the three traits moderate the effects of procedural, interpersonal, and distributive justice on task performance and counterproductive behavior. The moderating effects of the three traits explained more variance in the outcomes than moderators based in the justice literature (equity sensitivity, sensitivity to befallen injustice) or the five-factor model of personality. Taken together, the results suggest that the three integrative theories can inform the search for personality-based moderators of justice effects.

Keywords: Organizational justice; Fairness; Trust; Personality

Fair treatment impacts an organization's members in a number of ways. It provides evidence that organizational authorities are trustworthy, reducing fears of exploitation while enhancing the legitimacy of organizational actions (Lind, 2001; Tyler & Lind, 1992; Van den Bos, 2001a). Fair treatment also makes future events more predictable and controllable, reducing some of the uncertainty experienced in day-to-day working life (Lind & Van den Bos, 2002; Thibaut & Walker, 1975). Finally, fair treatment signals an adherence to moral and ethical standards on the part of authorities, potentially bringing more meaning to working life (Cropanzano, Byrne, Bobocel, & Rupp, 2001; Folger, 1998).

The members of an organization can evaluate fairness along a number of dimensions. *Distributive justice* refers to the perceived fairness of decision outcomes and is judged by gauging whether rewards are proportional to costs (Homans, 1961), whether outcomes adhere to expectations (Blau, 1964), and whether outcome/input ratios match those of a comparison other (Adams, 1965). *Procedural justice* refers to the perceived fairness of decision-making procedures and is judged by gauging whether procedures are accurate, consistent, unbiased, and correctable (Leventhal, 1980), and open to employee input (Thibaut & Walker, 1975). *Interactional justice* refers to the perceived fairness of the enactment or implementation of procedures (Bies & Moag, 1986) and has two subfacets. *Interpersonal justice* captures the sincerity and respectfulness of authority communication,

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while *informational justice* concerns the use of honest and adequate explanations for decisions (Colquitt, 2001; Greenberg, 1993a).

These justice dimensions have been associated with a number of behavioral reactions on the part of employees (for meta-analytic reviews, see Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001), including counterproductive behavior (Greenberg, 1990, 1993b, 2002; Skarlicki, Folger, & Tesluk, 1999) and task performance (Konovsky & Cropanzano, 1991; Van den Bos, Vermunt, & Wilke, 1996). However, meta-analytic results suggest that a substantial amount of variation exists in these relationships, and that moderators could explain much of that variation (Colquitt et al., 2001). Indeed, the relationships between the justice dimensions and performance are some of the most inconsistent effects in the literature.

The purpose of the present study was to identify personality-based moderators that could explain some of the inconsistencies in the effects of justice on task performance and counterproductive behavior. According to the interactional psychology perspective, behavior is determined by a complex interplay of personal and situational variables such that personality alters the cognitive construction of an individual's environment and shapes the meaning of the various responses to that environment (Schneider, 1983). Applied to the study of reactions to fair and unfair treatment, this perspective would acknowledge that personality alters individuals' perceptions of their treatment while also shaping the cognitive and behavioral reactions triggered by those perceptions. Thus, we focus on personality moderators of justice effects, though both personal and situational differences could potentially serve as boundary conditions.

If personality variables indeed are capable of explaining variation in justice reactions, the key question becomes which personality traits are most worthy of study. To make that critical choice, we drew on the set of theories that has been introduced in the justice literature over the past five years: fairness heuristic theory (Lind, 2001; Van den Bos, 2001a), uncertainty management theory (Lind & Van den Bos, 2002; Van den Bos & Lind, 2002), and fairness theory (Folger & Cropanzano, 2001). These theories represent what Colquitt, Greenberg, and Zapata-Phelan (2005) termed the "integrative wave" of the justice literature, described as "a phase in which scholars began building models and theories that examined the effects of multiple justice dimensions in combination" (p. 35). The theories are termed "integrative" because, unlike other theories that focus on only one type of justice (e.g., equity theory, Adams, 1965), the integrative theories consider multiple forms of justice in concert. Because these three integrative theories capture much of the current thinking on why justice matters to people and why it impacts their behavior, we reasoned that the mechanisms in those theories could highlight potentially impactful moderators. Moreover, given that Lind (2001) suggested that the most relevant dependent variables in fairness heuristic theory are those variables that capture the distinction between cooperative and antisocial behaviors, and Folger and Cropanzano (2001) argued that fairness theory can explain the presence versus absence of retaliatory behaviors, we felt that task performance and counterproductive behavior were appropriate outcomes for examining personality moderators of justice effects.

Past research on moderation of justice effects

Distributive justice research

Concerns about individual differences in justice reactions are not new. In one of the first reviews of the subject, Major and Deaux (1982) stated that research on individual differences in justice behavior could be divided into two categories: (a) individual differences in reward allocation decisions, and (b) individual differences in reactions to inequity. The authors noted that the study of personality moderators of equity reactions was relatively rare. However, such work was bolstered by the introduction of equity sensitivity (Huseman, Hatfield, & Miles, 1987), a construct intended to capture sensitivity to differences in outcome/input ratios. Equity sensitivity can be conceptualized as a continuum ranging from "Benevolents" to "Entitleds." Huseman et al. (1987) originally conceptualized Benevolents as individuals who prefer their outcome/input ratios to be less than a comparison other's (underreward) and Entitleds as individuals who prefer their outcome/input ratios to be greater than a comparison other's (overreward). King, Miles, and Day (1993) redefined Benevolents as having greater tolerance for underreward, with Entitleds having greater tolerance for overreward. In between Benevolents and Entitleds are "Equity Sensitives," who adhere to Adams's (1965) original conceptualization of equity reactions—experiencing distress when their ratios differ in either direction.

Procedural justice research

Though the introduction of procedural justice provided a potential new direction for research on personality moderators of justice effects, very few studies have pursued this direction. Early studies examined traits such as locus of control (Sweeney, McFarlin, & Cotton, 1991) and delay of gratification (Joy & Witt, 1992) but did not explore their moderating effects on attitudinal or behavioral reactions. However, subsequent studies have explored personality traits as moderators of both behavioral and attitudinal reactions to procedural justice. Schmitt and Dorfel (1999) found that sensitivity to befallen

injustice (SBI) moderated the relationship between procedural justice and self-reported health. Individuals high in SBI are expected to more frequently recall unjust events, become more angry about them, be more likely to be preoccupied by them, and have a stronger urge for punitivity (Schmitt, Neumann, & Montada, 1995).

Other studies have drawn from various theories to identify personality moderators of procedural justice effects such as self-esteem (Brockner et al., 1998) and exchange ideology (Witt, Kacmar, & Andrews, 2001), the latter reflecting an employee's expectation of (and likely response to) exchange relationships with his or her organization (Eisenberger, Cotterell, & Marvel, 1987). In addition, Hagedoorn, Buunk, and van de Vliert (2002) examined the belief in a just world as a moderator of procedural and distributive justice effects, and a recent study by Van den Bos, Maas, Waldring, and Semin (2003) found support for the moderating role of affect intensity on emotional reactions to procedural and distributive justice.

Interactional justice research

The introduction of interactional justice provided another new direction for research on personality moderators of justice effects. We are aware of only two studies that have explored moderators of such effects. Skarlicki et al. (1999) found that the combination of low interactional justice and low distributive justice was more likely to result in retaliation when individuals were high in negative affectivity and low in agreeableness. Heuer, Blumenthal, Douglas, and Weinblatt (1999) reported that interactional justice had a stronger effect on fairness perceptions for high esteem individuals, a result which provided support for the relational model of justice (Tyler & Lind, 1992).

Applying integrative justice theories to personality moderators of justice effects

The articles discussed in the prior section illustrate that scholars have begun to identify personality moderators of justice effects. However, two points should be noted about the extant literature. First, few studies have explored justice moderators with behavioral reactions, with outcomes instead consisting of either fairness perceptions (e.g., Joy & Witt, 1992; Sweeney et al., 1991) or attitudinal outcomes (e.g., Schmitt & Dorfel, 1999; Witt et al., 2001). Second, studies of moderators of procedural and interactional justice effects remain relatively rare, with more work focusing on distributive effects.

To move the literature examining personality moderators of justice effects forward, we believe it would be useful to establish a more direct linkage to the current state of theorizing in the justice literature. As noted above, fairness heuristic theory, uncertainty management theory, and fairness theory capture the current thinking about organizational justice issues. With their focus on multiple justice dimensions, these theories could hold potential for identifying personality moderators that cut across more than one type of justice. Creating a more direct linkage between research on moderators of justice effects and these integrative theories could have two primary benefits. First, the theories could be used to establish a conceptual framework that explains how and why a given trait could alter an individual's response to fair or unfair treatment. Second, the theories could be used to guide the critical question of which traits to examine next, given the potentially endless list of traits available for study.

A brief review of integrative justice theories

Fairness heuristic theory

Fairness heuristic theory, which grew out of earlier work on the relational model of justice (Tyler & Lind, 1992), suggests that individuals in organizations are continually faced with the "fundamental social dilemma" (Lind, 2001; Van den Bos, 2001a). Although cooperating with organizational agents can lead to better outcomes in the long term, it also raises the potential of exploitation. To cope with that dilemma, individuals use a "fairness heuristic"—a psychological shortcut used to decide whether to cooperate with authorities.

Lind (2001) argued that the fundamental social dilemma highlights the importance of trust, where trust is defined as a willingness to accept vulnerability to another based on positive expectations of that person's intentions and actions (Mayer, Davis, & Schoorman, 1995). Unfortunately, the trustworthiness of authorities can be difficult to judge, as it depends on assessments of unobservable concepts like integrity, benevolence, and ability. In contrast, fairness perceptions depend on relatively more observable phenomena such as met expectations (Blau, 1964), consistency of procedures (Leventhal, 1980), and respectfulness of communication (Bies & Moag, 1986). Thus, fairness heuristic theory argues that justice is used as a proxy for trust, with fair treatment signaling a trustworthy authority (Lind, 2001; Van den Bos, 2001a).

The theory suggests that the fairness heuristic is formed quickly during a "judgmental phase" using whatever fairness information is first gathered or is most interpretable. Once the heuristic has been formed, the theory argues that individuals will use it as a proxy for trust to guide day-to-day actions (see Van den Bos, Wilke, & Lind, 1998a, for empirical support), a period termed the "use phase" (Lind, 2001). Individuals continue to employ the heuristic until a "phase shifting event," such as a particularly important or unexpected

change at work, causes the individual to reconsider fairness levels and return to the judgmental phase.

Uncertainty management theory

In subsequent work, Lind and Van den Bos deemphasized uncertainty about trust per se, instead focusing on more general forms of uncertainty. For example, Van den Bos (2001b) asked participants to describe the emotions they typically feel when they are uncertain or not in control. Results showed that justice had a stronger effect on reactions when uncertainty was high than when uncertainty was low. Such studies led to the formal introduction of uncertainty management theory, which was cast as a successor to fairness heuristic theory (Lind & Van den Bos, 2002; Van den Bos & Lind, 2002).

Uncertainty management theory recognizes that many aspects of work and family life may contain uncertainty. According to the theory, fairness can remove trust-related uncertainty and mitigate the discomfort associated with other forms of uncertainty—even if they have nothing to do with authorities. The authors summarized this key tenet as follows: "What appears to be happening is that people use fairness to manage their reactions to uncertainty, finding comfort in related or even unrelated fair experiences…" (Lind & Van den Bos, 2002, p. 216).

Fairness theory

Fairness theory argues that individuals engage in counterfactual thinking to determine the fairness of a particular event and whether authorities should be blamed for that event (Folger & Cropanzano, 2001). More specifically, an individual makes three different counterfactual determinations: *would*, *could*, and *should*. An individual assesses what *would* have happened when he or she imagines plausible alternative states of being to the current situation. An individual assesses what *could* have happened when he or she determines whether events were under the discretion of an authority. When an individual assesses what *should* have happened, he or she considers whether the authority's behavior was morally appropriate.

According to the theory, individuals typically react to a decision-making event by first judging whether welfare has been reduced or threatened. If individuals determine that an injury has occurred, the next question is whether the authority can be blamed. That judgment of blame depends on the presence of other feasible alternatives, as authorities cannot be blamed if they had no control over their choice of actions. Folger and Cropanzano (2001) further suggested that blame can only be placed if some ethical principal of social conduct has been violated.

The characteristics of fairness theory can be distinguished from fairness heuristic theory and uncertainty management theory on a number of levels. First, the counterfactual thinking described in fairness theory is triggered by a discrete event, whereas the fairness heuristic is used and maintained across a number of events. Second, the process of judging fairness is more deliberate in fairness theory, relative to the almost subconscious shortcuts described in the other two theories. Third, the mechanisms that guide behavioral reactions are decidedly different. With its emphasis on blame, fairness theory is ideally suited to explaining counterproductive reactions (Folger & Cropanzano, 2001). In contrast, fairness heuristic theory's emphasis on cooperation makes it more relevant to explaining prosocial behaviors (Lind, 2001).

Which traits worthy of study can be derived from the integrative theories?

The integrative theories reviewed above can be used to create a conceptual framework that describes how and why a given personality trait could moderate the effects of certain justice dimensions. Each of the theories considers three distinct questions in some form: (a) Why do individuals care about justice—what triggers justice concerns in the first place? (b) How carefully and intensively do individuals ruminate on justice information once their concerns have been triggered? (c) What actions could individuals take once they believe that unfairness has been experienced? As summarized in Fig. 1, these three questions provide three different mechanisms that could be affected by an individual's personality.

Consider a personality trait that makes individuals more sensitive to justice, causes them to ruminate on justice information more deliberately, and increases the likelihood that they will react to injustice with some action. That trait should amplify the effects of justice on behavioral reactions, and that result should be fairly robust across contexts because it is being realized through three distinct mechanisms. Judge and Larsen (2001) used similar logic in their stimulus–organism–response (S–O–R) model of personality influences on job satisfaction. They argued that personality variables should have a significant effect on job satisfaction to the extent that they affect sensitivity to environmental stimuli, influence the cognitive and emotional processing of those stimuli within the organism, and heighten the likelihood of an eventual response. The subsequent sections of this manuscript review traits, derived from the integrative theories, that are likely to influence more than one of the mechanisms shown in Fig. 1.

Trust propensity

Given the central role of trust in fairness heuristic theory (Lind, 2001; Van den Bos, 2001a), trust propensity stands out as a personality variable that could moderate justice effects. Trust propensity is a generalized expectation about the trustworthiness of others (Mayer et al., 1995), which should impact all three of the mechanisms

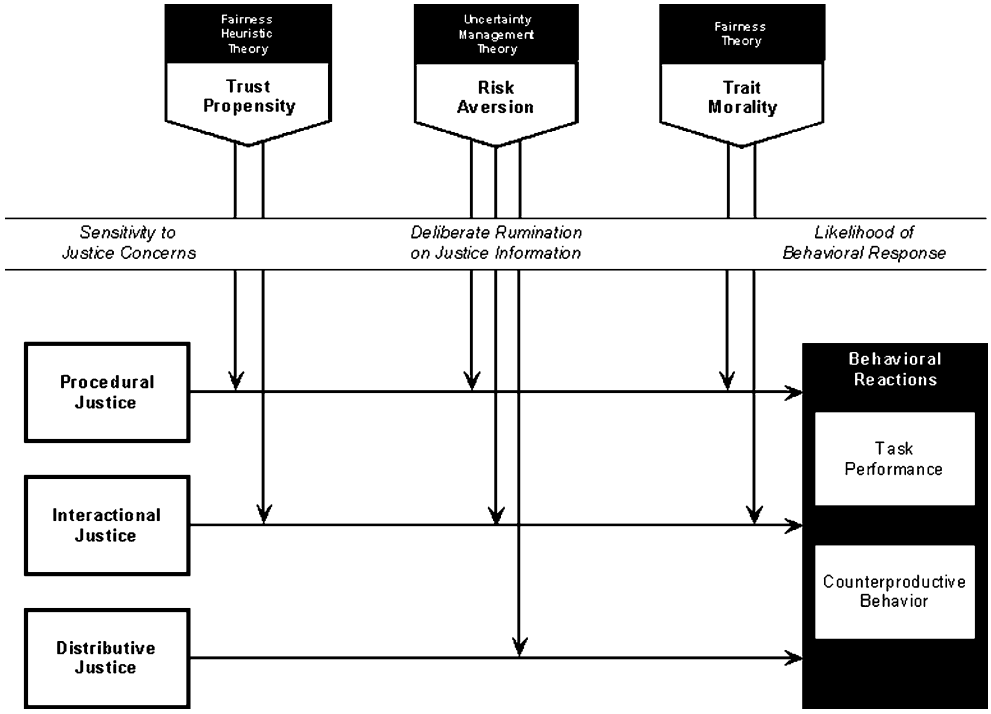

Fig. 1. Conceptual model of personality moderators of justice effects.

in Fig. 1. Suspicious individuals should attend more to their environment when forming trust judgments, and fairness concerns should be more easily triggered as suspicions about ability, benevolence, and integrity govern day-to-day interactions (Mayer et al., 1995). Suspicious individuals should also ruminate on fairness-relevant information more deliberately, as the use of the fairness heuristic continues until an important event causes a "phase shift" that bumps the individual back to the judgmental phase (Lind, 2001). The threshold for phase shifting should be lower for suspicious individuals given their generally wary reactions to stimuli. If so, individuals low in trust propensity will more frequently engage in careful analysis of justice information.

Finally, individuals low in trust propensity should be more likely to respond to unfair treatment with behavioral repercussions. Lind (2001) noted that "the fairness heuristic is an imprecise algorithm for deciding what is the best thing to do" (p. 66). Relying on the heuristic during the use phase will inevitably cause individuals to gloss over daily or weekly fluctuations in actual fairness levels. Suspicious individuals, on the other hand, will be unlikely to gloss over such fluctuations. Their more careful and frequent analysis of actual fairness levels should allow their behaviors to be based on a cognitive ledger of treatment versus contributions.

Fairness heuristic theory deemphasizes the distinctions among the various justice dimensions, arguing that the timing and interpretability of fairness experiences is more relevant than their actual content. Nevertheless, we would argue that trust propensity will be more likely to moderate procedural and interactional justice effects, as opposed to distributive effects. Models in the trust literature explicitly recognize procedural principles like consistency, bias suppression, and ethicality as forms of integrity (Mayer et al., 1995). Those same models also recognize interactional principles like respectfulness, supportiveness, and openness as forms of benevolence (Mayer et al., 1995). In contrast, distributive principles have much less presence in trust theorizing. Trust propensity should therefore be more likely to impact the consideration of (and reaction to) procedural and interactional information because these justice dimensions tap trustworthiness issues to a greater extent. We therefore predicted:

Hypothesis 1. Propensity to trust moderates the effects of (a) procedural justice, and (b) interactional justice, on task performance and counterproductive behavior, such that the relationships are stronger for individuals low in trust propensity and weaker for individuals high in trust propensity.

Risk aversion

The shift from fairness heuristic theory to uncertainty management theory supplanted trust as a central concern in favor of more general uncertainty. In discussing the importance of uncertainty, Lind and Van den Bos (2002) suggested that "tolerance of risk" could be an important determinant of the importance of justice (p. 215). The personality variable that most closely captures such tolerance is *risk aversion*. Risk aversion is an

individual difference that captures differential attention to stimuli in potentially risky situations, along with the tendency to react to risk with anxiety and eventual withdrawal (e.g., Cable & Judge, 1994; Maehr & Videbeck, 1968). Though risk levels are, to a large extent, driven by situational characteristics, highly risk-averse individuals view and react to those situations differently than less risk-averse individuals.

Risk aversion should be associated with increased sensitivity to justice concerns. Because risk-averse individuals react to uncertainty with more anxiety, they should pay close attention to any environmental cues that can help them manage or mitigate such uncertainty (Lind & Van den Bos, 2002). That same sense of caution should prompt risk-averse individuals to resist relying on an "imprecise algorithm" like the fairness heuristic (Lind, 2001) in favor of a careful, reasoned analysis of authority behavior. The linkage between risk aversion and the likelihood of behavioral response is less straightforward. It seems likely that risk-averse individuals will respond to an injustice with a behavioral response that does not create a great deal of anxiety. Because risk averse individuals react to adverse stimuli with more frequent withdrawal (e.g., Cable & Judge, 1994; Maehr & Videbeck, 1968), passive forms of retaliation (like decreased effort or task performance) could be likely. Individuals' likelihood of engaging in more active retaliation (like counterproductive behavior) should depend on the risk involved in such acts. When the risk involved is low, counterproductive behavior should provide another means of retaliation for risk-averse individuals.

Our predictions for trust propensity were limited to procedural and interactional justice because of their special relevance to trust—does the same type of distinction need to be made for risk aversion? Van den Bos and Lind (2002) defined uncertainty quite broadly, framing it as the unpredictability of future events that deprives one of confidence about what to expect from the environment. Unfair procedures should create an especially high level of uncertainty because procedures have a systemic character—they remain in place over the long-term (Sweeney & McFarlin, 1993). Unfair treatment by an authority figure also has long-term implications on uncertainty, so long as the authority remains in his or her position for an extended period of time. In contrast, concerns about unfair outcome distributions are more short-term in orientation, as outcomes tend to have a discrete, episodic character. Nevertheless, distributive unfairness deprives an individual of confidence in how to behave and what to expect. Unfulfilled expectations (Blau, 1964), inconsistent social comparisons (Adams, 1965), and divergence in rewards and costs (Homans, 1961) prevent the development of the behavior-outcome contingencies that are endemic to so many models of volitional behavior (Kanfer, 1991). We therefore made risk aversion moderation predictions for all three justice dimensions:

Hypothesis 2. Risk aversion moderates the effects of (a) procedural justice, (b) interactional justice, and (c) distributive justice on task performance and counterproductive behavior, such that the relationships are stronger for individuals high in risk aversion and weaker for individuals low in risk aversion.

Morality

In the years since fairness theory was first introduced, a great deal of attention has focused on the *should* component of the theory, which captures whether an authority's actions have complied with moral or ethical principles. This attention can be seen in the "moral virtue" and "deontic" perspectives on justice, which argue that justice is valued because it signifies adherence to prevailing moral standards (Cropanzano et al., 2001; Folger, 1998, 2001; Folger, Cropanzano, & Goldman, 2005). The "deontic" term comes from the Greek word *deon*, meaning duty or obligation (Folger, 2001). Folger et al. (2005) argued that violations of moral principles can trigger "deontic anger," which may prompt retaliatory behaviors even when such actions are not rational (Folger et al., 2005).

Of course, there are likely to be individual differences in the degree to which individuals experience deontic anger, as well as their responses to such violations. Folger (1998) hinted that an individual's morality might be one variable that captures such variation. Within the personality literature, trait morality can be operationally defined as a combination of high agreeableness and high conscientiousness. Hofstee, de Raad, and Goldberg (1992) introduced an integration of the Big Five and circumplex approaches to trait structure. The authors described 10 different circumplex models, each of which illustrates various combinations (or blends) of two Big Five factors. Taken together, these 10 circumplex models were used to provide operational definitions for 540 specific traits. One of those traits was "moral", which was positioned in the high agreeableness, high conscientiousness area of one of the circumplex models (see also de Raad, Hendriks, & Hofstee, 1992). Other studies have similarly shown that trait morality, and related concepts such as trait integrity, seem to represent a blend of high agreeableness and high conscientiousness (Ones, 1994; Saucier & Goldberg, 1996).

The circumplex origin of trait morality is important in that the intersection of agreeableness and conscientiousness is believed to capture a behavior pattern not explainable by simple additive effects of those two Big Five dimensions. However, we should acknowledge that this trait-based version of morality differs from Kohlberg's (1984) conceptualization of the stages of moral development. A trait-based view emphasizes static or cross-sectional differences in morality across individuals, whereas Kohlberg's (1984) emphasis was on within-individual transitions over time (Walker, 2002). To highlight

this critical difference and reduce potential confusion, our manuscript intentionally uses the term "trait morality" when describing our moderator variable.

High levels of trait morality should be associated with increased sensitivity to justice concerns. From a moral virtue perspective, justice can help bring meaning to working life (Cropanzano et al., 2001; Folger, 1998). Highly moral individuals may be more likely to search for that meaning and should also be less likely to engage in unjust behaviors themselves. They should therefore react to others' instances of injustice with more deontic anger, leading to more deliberate rumination on justice-relevant information. In a fairness theory sense, moral individuals should have a heightened interest in the *should* counterfactual portion of the blame assessment process (Folger & Cropanzano, 2001).

The linkage between trait morality and the likelihood of behavioral response would seem to depend on the nature of the specific reaction. On the one hand, highly moral individuals are particularly likely to hold others responsible for their actions, as morality is associated with a tendency to ascribe responsibility (Zuckerman & Reis, 1978) and sanctions often follow from ascriptions of blame (Pizarro, Uhlmann, & Bloom, 2003). Moreover, Folger et al. (2005) suggested that retribution against the source of an injustice is itself a "moral remedy" that is consistent with social exchange theories of interaction (Blau, 1964). Bies and Tripp (1995) went so far as to describe revenge as a "moral imperative," noting that perpetrators of revenge often report a strong belief that they were "doing the right thing" (pp. 258–259).

On the other hand, individuals high in trait morality should be very resistant to the prospect of engaging in counterproductive behaviors like theft or retaliation. Indirect support for this assertion can be drawn from a series of studies by Turillo, Folger, Lavelle, Umphress, and Gee (2002). The studies gave participants the opportunity to either self-sacrificially punish an individual who had exhibited unfair intentions in a past phase of the study, or self-sacrificially reward an individual who had exhibited fair intentions. Punishments and rewards occurred using a payout matrix, where participants chose their own payout while also allocating payouts to others. Importantly, the results of one of the studies revealed that participants decided to punish past transgressions only when those actions did not harm the payouts received by other current participants. The authors wrote, "These results support our reasoning that individuals will only engage in retributive justice to punish unfairness in the past when, by doing so, they are not themselves being unfair in the present." (p. 852). Because a counterproductive response means "being unfair in the present," a moral individual should be more likely to respond to injustice with less task-related effort as opposed to more overt forms of retaliation. A reduction in performance can amount to a brand of "civil disobedience" that is relatively harmless to others. As a result, our hypotheses for trait morality are limited to task performance.

As with the other integrative theories, fairness theory emphasizes the commonalities among the different forms of justice rather than the differences. For example, the *would* counterfactual considers an event's aversiveness, with no particular importance given to whether the event is distributive, procedural, or interactional in nature (Folger & Cropanzano, 2001). The *could* counterfactual assesses whether other sequences of events or actions might have been feasible, again with little emphasis on modalities of justice. However, discussions of the *should* counterfactual and writings on the moral virtue and deontic approaches to justice do seem to prioritize procedural and interactional justice violations (Folger, 1998, 2001; Folger & Cropanzano, 2001). Procedural and interactional justice rules, such as bias, ethicality, respectfulness, and honesty seem more "morally charged" than distributive concepts like met expectations, reward-cost proportionality, and outcome/input ratio comparisons. Indeed, in Folger's (2001) "deontic differentiation" of distributive, procedural, and interactional justice (pp. 22–25), he speculated that moral accountability for justice tends to grow stronger in ascending order from distributive to procedural to interactional (see also Turillo et al., 2002). We therefore made moderation predictions for only the latter two dimensions of justice:

Hypothesis 3. Trait morality moderates the effects of (a) procedural justice and (b) interactional justice on task performance, such that the relationships are stronger for individuals high in trait morality and weaker for individuals low in trait morality.

Alternative approaches to moderation of justice effects

Though the hypotheses advanced in Fig. 1 are derived from the three theories that form the core of the so-called "integrative wave" of the justice literature (Colquitt et al., 2005), there are other potential approaches to the study of moderation of justice effects that have been used in past research. One approach is the study of personality traits that are specifically designed to moderate justice effects, as in the cases of equity sensitivity (Huseman et al., 1987) and sensitivity to befallen injustice (SBI; Schmitt et al., 1995). Both traits might have moderating potential, though research on equity sensitivity is limited to distributive justice effects and research on SBI has yet to extend beyond the tests by Schmitt and colleagues (e.g., Schmitt & Dorfel, 1999; Schmitt et al., 1995). We therefore included equity sensitivity and SBI so that their moderating effects could be compared to the effects of trust propensity, risk aversion, and trait morality.

A second alternative approach to moderation of justice effects is the five-factor model of personality

(Costa & McCrae, 1992; Goldberg, 1990). The "Big Five" dimensions of conscientiousness, agreeableness, neuroticism, openness to experience, and extraversion subsume many of the narrow traits shown in Fig. 1. The Big Five may also moderate justice effects, as research by Skarlicki et al. (1999) showed that agreeableness and neuroticism moderated the effects of specific justice combinations. However, as Hogan and Roberts (1996) noted, broad traits are not always best suited for narrow predictions, and the reaction to an injustice is clearly a more specific criterion relative to day-to-day job performance. Nevertheless, we also included the Big Five as alternative moderators of justice effects to provide a second frame of comparison for the effects predicted in Fig. 1.

Method

Sample

Participants were 238 undergraduates from a large, southeastern university recruited from an introductory management course. Females composed 45% of the sample. In exchange for participation, participants were given course credit and earned a $5 cash prize.

Procedure

Upon entering the laboratory, participants were seated at one of five tables. Each table had a pen holder containing seven expensive-looking pens. The tables were arranged so that participants' views of one another were obstructed during the session. The experimenter provided a cover story, informing participants that the purpose of the study was to validate assessment tools that would be used in the future hiring of research assistants. Included in these assessment tools were a proofreading task and a reading comprehension task, and participants were told that their performance on the first of these (the proofreading task) would determine whether they would receive a $5 cash prize. Participants were told that around 66% of the participants would perform well enough to receive the cash prize. This instruction ensured that all participants began the experiment with the same expectations for being rewarded.

Participants were then told that they could choose a pen to use during the study and that they could keep the pen they chose. They were then given seven minutes to complete the proofreading task, which contained a passage describing various types of work groups (e.g., formal, informal, virtual). Next, the experimenter informed participants that he would leave the room to grade the tasks and then would return to give the participants feedback on their performance. During the grading period, participants completed a questionnaire assessing the Big Five, risk aversion, trust, and equity sensitivity, which contained the following instructions: "This questionnaire assesses various aspects of your personal and general attitudes. Please answer the questions in each section as honestly as you can." Unless otherwise noted, all items on all questionnaires utilized a 5-point scale, where 1 = *Strongly Disagree* and 5 = *Strongly Agree*.

After 10 min, the experimenter called each participant individually to another room to deliver the justice manipulations. Procedural, distributive, and interactional justice were then manipulated by the experimenter via eight possible statements, resulting in a $2 \times 2 \times 2$ between-subjects design with participants randomly assigned to conditions. Table 1 provides the exact wording of the justice manipulations. The procedural manipulation varied Leventhal's (1980) accuracy and consistency criteria for justice in a manner similar to Van den Bos, Bruins, Wilke, and Dronkert (1999). Interactional justice was manipulated using the interpersonal justice subfacet, which captures the sincerity and respectfulness of authority communication (Colquitt, 2001; Greenberg, 1993a). The remainder of this manuscript uses the interpersonal justice label in the interest of precision. Specifically, the manipulation var-

Table 1
Summary of justice manipulations

Justice dimension	Level	Text of manipulation
Procedural	High	In the past, I've always graded the whole proofreading task in order to be as accurate and consistent as possible. So I took the time to carefully grade all the paragraphs that you corrected.
	Low	In the past, I've always graded the whole proofreading task in order to be as accurate and consistent as possible. I didn't do that here though. I finished grading everyone else's but ran out of time on yours, so I just graded the last paragraph.
Interpersonal	High	I understand that students are very busy, and there's a lot of other things you could be doing right now besides helping us out. We really appreciate your time. Thanks a lot.
	Low	Whatever. I don't give a damn whether you get paid or not. That's the way it is. I've got better things to do than grade these things.
Distributive	High	Anyway, (*from that one paragraph/based on those paragraphs*) I have determined that you should be paid.
	Low	Anyway, (*from that one paragraph/based on those paragraphs*) I have determined that you should not be paid.

ied the respect and rudeness components of the construct (Bies & Moag, 1986). Distributive justice was manipulated by meeting or not meeting participants' expectations about the receipt of the $5 reward, similar to the approach used by Greenberg (1993b) and Van den Bos, Wilke, Lind, and Vermunt (1998b). Participants were either paid immediately, thereby meeting expectations, or were told they would not be paid, thereby failing to meet expectations.

Next, participants were given 10 min to complete a reading comprehension test, which served as the measure of task performance. This test consisted of a short passage describing carpal tunnel syndrome followed by eight questions which required participants to examine the specific details and main points of the passage to obtain the correct answers. Using reading comprehension as a measure of task performance is appropriate in this context because the test was designed to be largely effort-driven as opposed to ability-driven. The questions were not difficult but did require a careful perusal of the passage on the part of the participant. Specifically, we included a brief paragraph at the end of the passage that corrected previous statements. To answer the questions correctly, participants had to take the time to carefully read the entire passage. Participants then completed a final questionnaire that contained items for the manipulation checks, sensitivity to befallen injustice, and trait morality.

Near completion of the final questionnaire, the experimenter interrupted and stated: "Um, I have to make a phone call. When you guys are done just leave your questionnaire on your desk and you're free to go. Oh, also: I know I read from the script earlier that you could keep the pen, but we're running some more sessions and it looks like we're getting a little low. So, if you would not keep the pen I'd appreciate it." The experimenter then left the room, giving participants the opportunity to take pens from the pen holder. The set up of the room prevented participants from being able to access the pen containers of others, so they could only take pens from their individual pen holder. When participants exited the room, the experimenter asked each one to wait for the others. Once all had exited, the experimenter then brought the participants into another room to debrief them about the true nature of the experiment. Finally, participants who did not receive the $5 during the study were paid.

Integrative theory traits

Trust propensity

We measured trust propensity using 5 items from the International Personality Item Pool (2001). The items included: "I trust others," "I trust what people say," "I am wary of others (R)," "I suspect hidden motives in others (R)," and "I distrust people (R)." Coefficient α for this scale was .81.

Risk aversion

Risk aversion was also assessed using 6 items from the International Personality Item Pool (2001). Items included: "I enjoy being reckless (R)," "I take risks (R)," "I seek danger (R)," "I seek adventure (R)," I would never go hang-gliding or bungee jumping," and "I would never make a high risk investment." Coefficient α for this scale was .82.

Trait morality

This trait was measured using 6 items from the International Personality Item Pool (2001). The items included: "I would never cheat on my taxes," "I turn my back on others (R)," I scheme against others (R)," "I act at the expense of others (R)," "I respect the privacy of others," and "I respect authority." Coefficient α for this scale was .86.

Confirmatory factor analysis

We conducted a confirmatory factor analysis on the measures of the three integrative theory traits to determine whether the items seemed to be tapping three distinct constructs. We included a reverse-wording factor with loadings on the items worded in the opposite direction from the majority of the scale, given that responses to these sorts of items can be influenced by careless respondents (Schmitt & Stults, 1985). The trait morality scale was balanced in wording, so the items reflecting a lack of morality were loaded onto the wording factor. We also allowed the errors for the two "I trust…" items to covary as their item similarity resulted in an observed correlation significantly higher than the model reproduced correlation. The results of a three-factor model provided an acceptable fit to the data ($\chi^2(108) = 174.50$; CFI = .954; RMR = .048; RMSEA = .052). The loadings for the three personality factors were all statistically significant and averaged as follows: trust propensity (.62), risk aversion (.63), and trait morality (.59). The correlations among the three latent variables were moderate in magnitude, with an absolute average of .25. Taken together, these results support the assertion that the scales are measuring three distinct factors.

Alternative moderators

Equity sensitivity

We measured equity sensitivity using the 5-item scale developed by King and Miles (1994). Participants were asked to divide 10 points between two opposing statements by "giving the most points to the choice that is *most* like you and the fewest points to the choice that is *least* like you." All five items began with the phrase "In any organization I might work for:" An example item is "It would be more important for me to (A) get from the organization or (B) give to the organization." The instrument was scored by adding items reflecting

Entitledness; thus high scores represent a high sensitivity to perceived underreward. The potential range of scores was zero to 50. Coefficient α for this scale was .77.

Sensitivity to Befallen injustice

We measured SBI using the 10-item scale developed by Schmitt and Maes (2000). A sample item is: "It bothers me when others receive something that ought to be mine." Coefficient α for this scale was .87.

Big Five dimensions

We measured the five-factor model using the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991), with dimensions as follows: neuroticism (eight items, e.g., "I can be moody," $\alpha = .86$), extraversion (eight items, e.g., "I have an assertive personality," $\alpha = .89$), openness to experience (10 items, e.g., "I am curious about many things," $\alpha = .86$), agreeableness (nine items, e.g., "I have a forgiving nature," $\alpha = .75$), and conscientiousness (eight items, e.g., "I do a thorough job," $\alpha = .80$).

Outcome measures

Task performance

Task performance was assessed by scoring each participant's answers to the reading comprehension test. Task performance ranged from a possible score of zero (no correct answers) to eight (all answers correct).

Counterproductive behavior

We measured counterproductive behavior by the number of pens taken from each participant's pen holder upon leaving the experiment (pen holders held seven pens in total). Counterproductive behavior ranged from 0 (no pens taken) to 3 (the maximum number of pens taken by a participant). The act of taking a pen when asked not to do so likely taps two different counterproductive behaviors that range in severity. At its most severe, taking a pen represents a form of theft. At its least severe, taking a pen represents a form of intentional noncompliance with an authority figure.

Manipulation checks

We assessed whether participants perceived the justice manipulations as intended using three items for each dimension of organizational justice. The procedural justice items included "The grading procedures used on the proofreading task seemed accurate." ($\alpha = .94$). The interpersonal justice items included "The experimenter spoke to me with sincerity and respect." ($\alpha = .97$). The distributive justice items included "I received the $5 reward for the proofreading task." ($\alpha = .96$). We also verified that the manipulations affected perceptions of fairness by including the following four-item global fairness perceptions scale (e.g., "In general, this was a fair experiment") ($\alpha = .96$).

Results

Manipulation checks

A MANOVA with the three manipulation check scales as dependent variables revealed significant main effects for all three manipulations ($F = 903.40$, $p < .001$, for distributive justice; $F = 36.24$, $p < .001$, for interpersonal justice; $F = 10.10$, $p < .001$, for procedural justice) with no interaction effects. ANOVA results showed that the distributive manipulation had a strong effect on the distributive check ($F = 2724.93$, $p < .001$, $\eta^2 = .92$, $M = 4.67$ vs. 1.21) and weaker effects on the procedural ($F = 20.85$, $p < .001$, $\eta^2 = .08$, $M = 3.17$ vs. 2.50) and interpersonal checks ($F = 23.03$, $p < .001$, $\eta^2 = .09$, $M = 3.99$ vs. 3.33). The interpersonal manipulation had a strong effect on the interpersonal check ($F = 92.65$, $p < .001$, $\eta^2 = .29$, $M = 4.25$ vs. 2.84), a weaker effect on the procedural check ($F = 6.13$, $p < .01$, $\eta^2 = .03$, $M = 2.99$ vs. 2.58), and no effect on the distributive check ($F = .12$, $p = .73$, $\eta^2 = .00$, $M = 2.77$ vs. 2.85). The procedural manipulation had a strong effect on the procedural check ($F = 30.56$, $p < .001$, $\eta^2 = .12$, $M = 3.20$ vs. 2.36), a weaker effect on the interpersonal check ($F = 10.42$, $p < .001$, $\eta^2 = .04$, $M = 3.89$ vs. 3.33), and no effect on the distributive check ($F = .40$, $p = .53$, $\eta^2 = .00$, $M = 2.84$ vs. 2.76). All three manipulations also influenced global perceptions of fairness, explaining a total of 17% of the variance ($F = 16.07$, $p < .001$). Unique effects were as follows: distributive justice ($B = .67$, $p < .001$), procedural justice ($B = .28$, $p < .05$), and interpersonal justice ($B = .54$, $p < .001$).

The ANOVA results above indicate some spillover, with a manipulation of one form of justice affecting checks of another, which is likely due to attempting orthogonal manipulations of variables that are so highly correlated on a perceptual level (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). However, the degree of spillover does not seem serious enough to impair an unambiguous evaluation of the experiment's results (Perdue & Summers, 1986). The F values for the intended effects were 53 times stronger than the F values for the unintended effects, and the η^2 values for the intended effects were 12 times stronger than η^2 values for the unintended effects. Nevertheless, we statistically controlled for all spillover by partialling out the contaminating variance from each justice manipulation. For example, we partialled out the shared variance between the procedural manipulation and the interpersonal check by regressing the latter onto the former and using the residual as the new procedural manipulation variable. This process resulted in a completely "clean" set of ANOVA results. We should emphasize that this form of

statistical control did not alter the tests of any of our hypotheses but is presented here to provide as clear a picture of our results as possible.

Results for integrative theory traits

Table 2 provides the descriptive statistics and zero-order correlations among the variables. The moderated regressions used to test our hypotheses are shown in Table 3. The first two steps assess the main and interactive effects of the justice manipulations, which did not have main or interactive effects on task performance, with the main effects falling within the confidence intervals from Colquitt et al.'s (2001) meta-analytic review. The justice manipulations did have significant main and interactive effects on counterproductive behavior, consistent with past research (Greenberg, 1990, 1993b, 2002), with the procedural and distributive manipulations reducing counterproductive behavior (though the latter effect only approached significance at $p < .07$). The interaction effects showed that the combination of low procedural justice and either low interpersonal or low distributive justice created particularly high counterproductive behavior levels. The third step of the regressions assesses the main effects of the three personality traits, with none reaching statistical significance.

The fourth step of the regressions enters the justice × personality product terms used to test the hypotheses. Consistent with the recommendations of Cohen, Cohen, West, and Aiken (2003), we mean-centered all moderators before computing the product terms. The set of justice × personality product terms explained significant incremental variance in both task performance and counterproductive behavior. Hypothesis 1a and b predicted stronger effects for procedural and interpersonal justice on task performance and counterproductive behavior when trust propensity was low. The interpersonal justice × trust propensity interaction approached significance for task performance, with the pattern in the predicted direction ($p < .07$, see Fig. 2). Though not predicted, the results also revealed a similar interaction with distributive justice for task performance ($p < .06$, see Fig. 2). A significant interpersonal justice × trust propensity interaction was also observed for counterproductive behavior, but was opposite to

Table 3
Moderated regression results for trust propensity, risk aversion, and trait morality

Regression step	Task performance			Counterproductive behavior		
	R^2	ΔR^2	β	R^2	ΔR^2	β
1. Procedural Justice (PJ)	.00	.00	.05	.05*	.05*	−.19*
Interpersonal Justice (IJ)			.02			−.08
Distributive Justice (DJ)			.00			−.12**
2. PJ × IJ	.01	.01	−.05	.10*	.06*	.20*
PJ × DJ			−.04			.15*
IJ × DJ			−.09			.07
3. Trust Propensity	.03	.02	.00	.11*	.01	−.02
Risk Aversion			.11			.04
Trait Morality			−.10			−.06
4. PJ × Trust Propensity	.12*	.09*	−.01	.23*	.12*	−.11
IJ × Trust Propensity			−.14**			−.21*
DJ × Trust Propensity			−.14**			−.05
PJ × Risk Aversion			.14*			−.22*
IJ × Risk Aversion			−.05			−.19*
DJ × Risk Aversion			−.06			−.08
PJ × Trait Morality			−.11			.11
IJ × Trait Morality			.25*			−.02
DJ × Trait Morality			.24*			−.00

Note. $n = 238$. ΔR^2 values may not sum exactly to R^2 values due to rounding error.
* $p < .05$, two-tailed.
** $p < .10$, two-tailed.

Table 2
Descriptive statistics and zero-order correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Procedural Justice	.00	.49	—													
2. Interpersonal Justice	.00	.49	−.09	—												
3. Distributive Justice	.00	.48	−.08	−.12	—											
4. Trust Propensity	3.79	.54	.05	.01	−.05	—										
5. Risk Aversion	3.08	.66	−.00	.12	.08	.09	—									
6. Trait Morality	4.15	.46	.04	.10	.00	.47*	.40*	—								
7. Equity Sensitivity	22.45	6.12	−.06	.07	.04	−.23*	.08	−.22*	—							
8. SBI	2.92	.65	.11	−.01	.06	−.32*	.07	−.21*	.19*	—						
9. Conscientiousness	4.04	.53	−.03	.02	−.03	.35*	.09	.40*	−.28*	−.12	—					
10. Agreeableness	3.84	.50	−.05	.06	−.03	.51*	.12	.43*	−.24*	−.28*	.28*	—				
11. Neuroticism	2.80	.73	.08	−.05	−.03	−.45*	.17*	−.17*	.11	.39*	−.33*	−.34*	—			
12. Openness	3.64	.67	−.08	.07	−.08	.16*	−.10	.17*	−.12	−.14*	.21*	.23*	−.13*	—		
13. Extraversion	3.58	.72	−.01	−.10	−.01	.41*	−.10	.14*	−.14*	−.05	.20*	.22*	.24*	.13*	—	
14. Task Performance	6.17	1.42	.05	.01	−.00	.03	.05	−.05	.09	−.04	.07	.08	−.14	.10	.03	—
15. Counterproductive Behavior	.10	.30	−.18*	−.05	−.10	−.03	−.04	−.10	.06	.07	−.12	−.02	.03	−.01	−.08	−.01

Note. $n = 237$. SBI = Sensitivity to Befallen Injustice.
* $p < .05$, two-tailed.

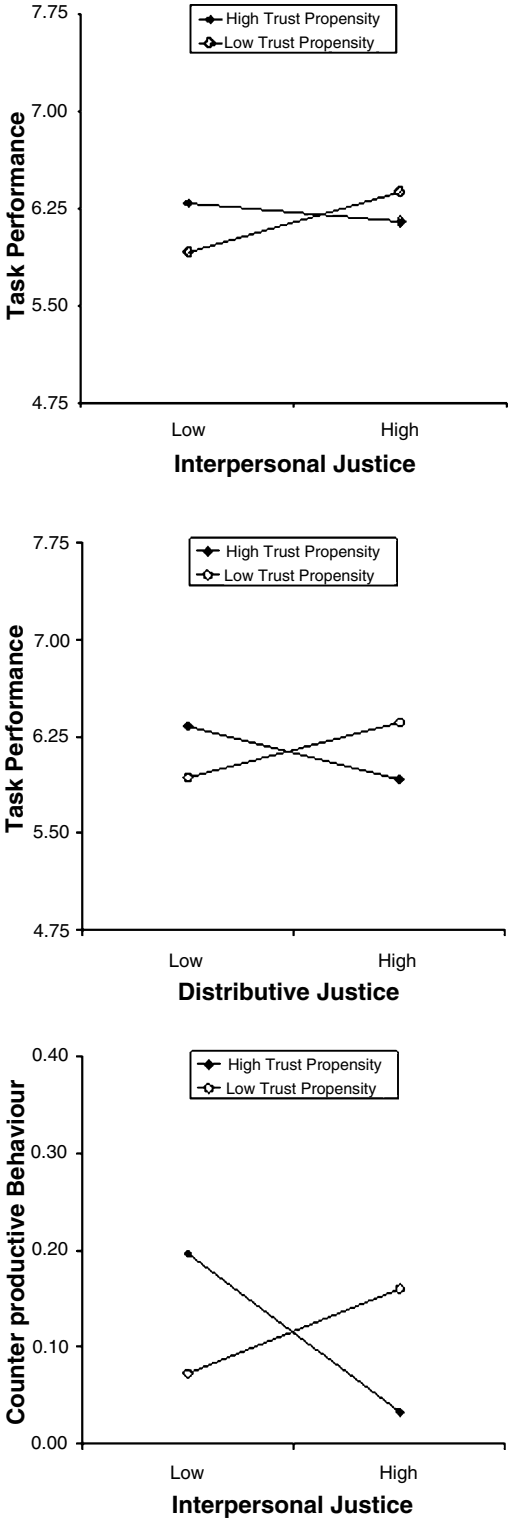

Fig. 2. Justice × trust propensity interactions for task performance and counterproductive behavior.

predictions. The effect of interpersonal justice on counterproductive behavior was stronger for trusting individuals. Neither of the procedural justice interactions reached statistical significance.

Hypothesis 2a–c predicted stronger effects for procedural, interpersonal, and distributive justice on task performance and counterproductive behavior when risk aversion was high. The procedural justice × risk aversion interaction was significant for both task performance and counterproductive behavior, with the patterns in the predicted direction (see Fig. 3). A significant interpersonal justice × risk aversion interaction was also observed for counterproductive behavior, again in the predicted direction (see Fig. 3). In all three cases, the beneficial effects of fair treatment were stronger for indi-

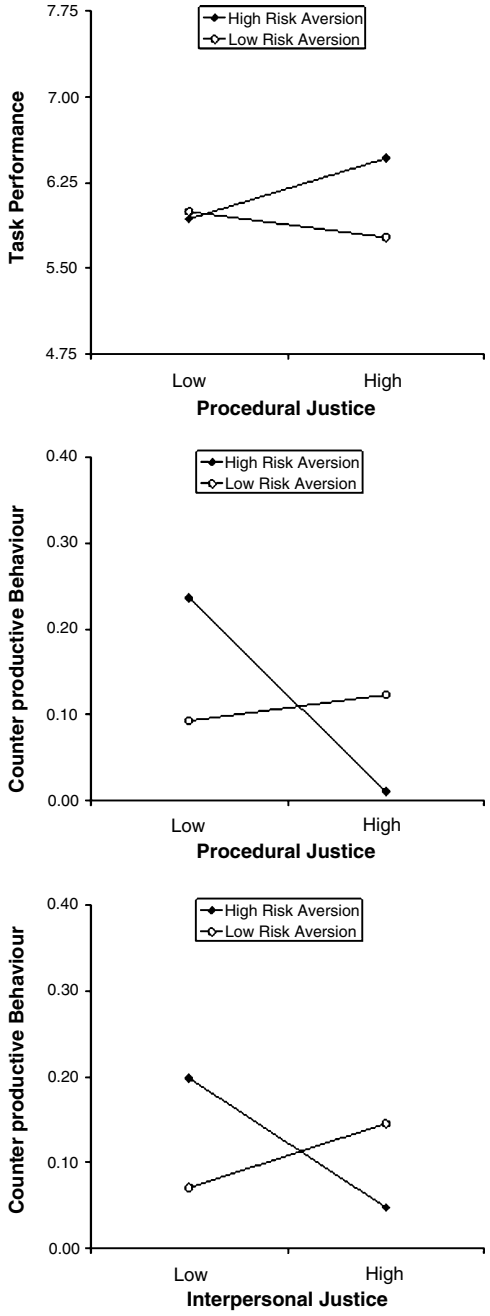

Fig. 3. Justice × risk aversion interactions for task performance and counterproductive behavior.

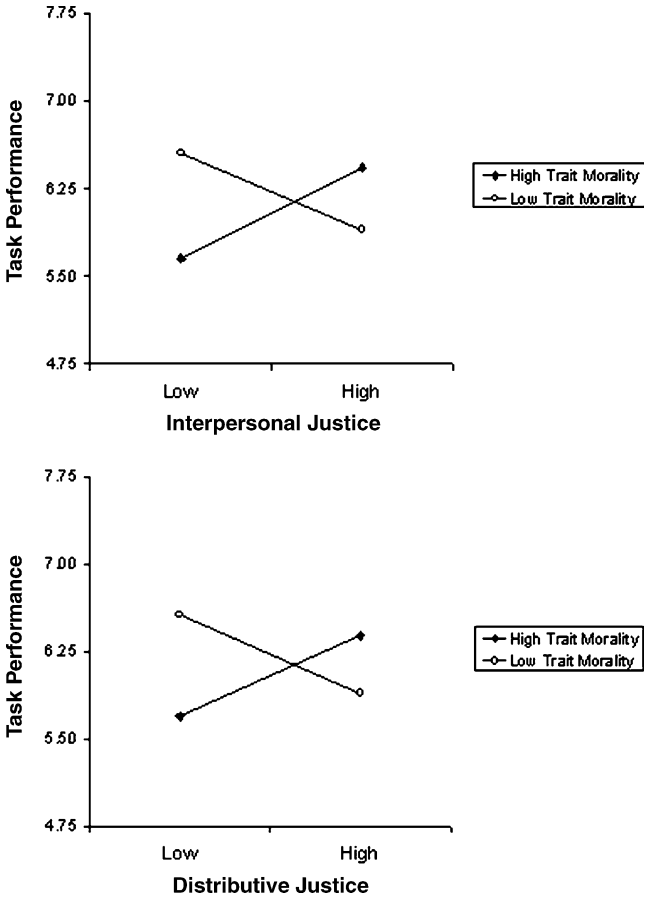

Fig. 4. Justice × trait morality interactions for task performance.

viduals who were highly risk-averse. Contrary to predictions, neither of the distributive justice interactions was significant.

Hypothesis 3a and b predicted stronger effects for procedural and interpersonal justice on task performance when trait morality was high. The interpersonal justice × trait morality interaction was significant for task performance, with the pattern in the predicted direction (see Fig. 4). Though not predicted, the results also revealed a similar interaction with distributive justice for task performance (see Fig. 4). In both cases, the effects of fair treatment on task performance were more positive for individuals high in trait morality. Contrary to predictions, the procedural justice interaction was not statistically significant.

Results for alternative approaches to moderation of justice effects

Table 4 provides the moderated regression results for equity sensitivity and SBI. The first two steps reproduce the justice manipulation results from Table 3. The third step examines the main effects of the two traits, and neither had significant effects. The fourth step examines the justice × personality product terms, and the step was not

Table 4
Moderated regression results for equity sensitivity and sensitivity to Befallen Injustice

Regression step	Task performance			Counterproductive behavior		
	R^2	ΔR^2	β	R^2	ΔR^2	β
1. Procedural Justice (PJ)	.00	.00	.05	.05*	.05*	−.19*
Interpersonal Justice (IJ)			.02			−.08
Distributive Justice (DJ)			.00			−.12**
2. PJ × IJ	.01	.01	−.05	.10*	.06*	.20*
PJ × DJ			−.04			.15*
IJ × DJ			−.09			.07
3. Equity Sensitivity	.03	.02	.11	.12*	.01	.04
SBI			−.08			.11
4. PJ × Equity Sensitivity	.05	.02	−.01	.15	.03	−.13
IJ × Equity Sensitivity			.10			.06
DJ × Equity Sensitivity			−.01			−.07
PJ × SBI			−.06			−.06
IJ × SBI			−.08			.02
DJ × SBI			−.09			−.01

Note. $n = 238$. ΔR^2 values may not sum exactly to R^2 values due to rounding error.
* $p < .05$, two-tailed.
** $p < .10$, two-tailed.

Table 5
Moderated regression results for Big Five dimensions

Regression step	Task performance			Counterproductive behavior		
	R^2	ΔR^2	β	R^2	ΔR^2	β
1. Procedural Justice (PJ)	.00	.00	.05	.05*	.05*	−.19*
Interpersonal Justice (IJ)			.02			−.08
Distributive Justice (DJ)			.00			−.12**
2. PJ × IJ	.01	.01	−.05	.10*	.06*	.20*
PJ × DJ			−.04			.15*
IJ × DJ			−.09			.07
3. Conscientiousness	.04	.03	.01	.13*	.02	−.12
Agreeableness			.02			.01
Neuroticism			−.15			.01
Openness			.08			−.01
Extraversion			−.02			−.08
4. PJ × Conscientiousness	.10	.06	.00	.20*	.07	.05
IJ × Conscientiousness			.00			−.10
DJ × Conscientiousness			−.03			.04
PJ × Agreeableness			−.07			−.13
IJ × Agreeableness			−.15			−.18
DJ × Agreeableness			.04			−.09
PJ × Neuroticism			.04			.00
IJ × Neuroticism			−.03			−.04
DJ × Neuroticism			−.06			−.10
PJ × Openness			−.00			.06
IJ × Openness			.18			.05
DJ × Openness			.01			.02
PJ × Extraversion			.05			.10
IJ × Extraversion			−.04			.02
DJ × Extraversion			.02			.07

Note. $n = 238$. ΔR^2 values may not sum exactly to R^2 values due to rounding error.
* $p < .05$, two-tailed.
** $p < .10$, two-tailed.

significant for either task performance or counterproductive behavior. Table 5 presents the moderated regression results for the five-factor model. As with the other personality traits, the third step of the regressions revealed no main effects of the Big Five dimensions on task performance or counterproductive behavior. The fourth step examines the justice × personality product terms, and the step was not significant for either task performance or counterproductive behavior.

Discussion

Taken together, our results illustrate that the integrative theories that have emerged within the justice literature over the past five years can be fruitful sources of potential moderators of justice effects. Although fairness heuristic theory, uncertainty management theory, and fairness theory were not created for the express purpose of identifying personality moderators, the traits examined here flow neatly from the core propositions of each theory. The significant interactions for trust propensity, risk aversion, and trait morality were observed across types of justice, supporting the replicability of the effects. With the exception of trait morality, the interactions were also observed for both task performance and counterproductive behavior. The task performance effects are notable, as the interactions help to clarify the inconsistent results in past studies of justice and performance (Cohen-Charash & Spector, 2001; Colquitt et al., 2001).

Of the moderators examined in our study, risk aversion yielded the most promising results, as it amplified the beneficial effects of both procedural and interpersonal justice. Indeed, it was the only trait examined in our study that altered procedural effects. Risk aversion was also the only trait that moderated both task performance and counterproductive behavior effects in the predicted manner. In contrast, risk aversion did not alter the effects of distributive justice on either task performance or counterproductive behavior. Although uncertainty management theory deemphasizes the differences among the justice dimensions (Lind & Van den Bos, 2002; Van den Bos & Lind, 2002), it may be that distributive justice is less relevant to the management of uncertainty than procedural or interpersonal justice because it is more episodic, particularly when referenced to a one-time outcome or decision event.

With regards to trust propensity, given that justice is used as a proxy for trust, we reasoned that justice would have less value to individuals who trusted "by default," instead taking on more importance to the dispositionally suspicious. Indeed, our results showed that the effects of interpersonal and distributive justice on task performance were more positive for individuals lower in trust propensity. Those effects aside, two other aspects of our trust propensity results were contrary to predictions. First, trust propensity failed to moderate procedural justice effects on either task performance or counterproductive behavior, which is somewhat surprising because many procedural justice rules (e.g., consistency, bias suppression, and ethicality) overlap conceptually with the integrity dimension of trustworthiness (Leventhal, 1980; Mayer et al., 1995). It may be that trust propensity would emerge as a significant moderator of procedural justice effects in field settings, where long-term relationships are prevalent. Second, the effects of interpersonal justice on counterproductive behavior were actually stronger for individuals high in trust propensity, opposite to the task performance results. This result may be akin to findings by Brockner, Tyler, and Cooper-Schneider (1992) that individuals who were highly committed to an organization experienced greater negative reactions as a result of unfair treatment than those less committed. That is, "the higher they are, the harder they fall" (Brockner et al., 1992). However, given that the results for task performance were in the opposite pattern, rather than non-significant, this explanation may not be adequate. Future research is needed to provide insight into explaining these conflicting results.

The third moderator examined in our study was trait morality. Using a trait-based form of the variable drawn from trait models of personality (de Raad et al., 1992; Hofstee et al., 1992), we found that the effects of interpersonal and distributive justice on task performance were more positive for individuals high in trait morality. In contrast, trait morality did not moderate the effects of procedural justice on task performance, contrary to our predictions. Folger (2001) argued that the moral accountability of justice tends to grow in ascending order from distributive to procedural to interactional. Thus, although distributive justice does have moral relevance (Folger, 1998, 2001), one would have expected the procedural interaction effects to be stronger than the distributive. It may be that our findings might have differed had we manipulated procedural rules that were more morally charged than accuracy and consistency, such as bias suppression or ethicality (Leventhal, 1980).

To gauge the significant effects for risk aversion, trust propensity, and trait morality, we explored two alternative approaches to moderation of justice effects. First, we examined two traits introduced by justice scholars: equity sensitivity and SBI. Both traits failed to moderate the effects of justice, and their moderating effects were much weaker than those of the three integrative theory traits. However, it should be noted that equity sensitivity was never intended to moderate the effects of procedural or interpersonal justice. Similarly, the content of SBI, as measured using Schmitt and Maes's (2000) scale, is decidedly distributive in nature, with the "befallen injustice" usually consisting of others receiving more of something of value. It therefore remains unclear how relevant SBI is to procedural and interpersonal justice.

Second, we investigated the traits of the Big Five; however, results were weaker compared to the results for the three integrative theory traits, with the justice × Big Five product terms explaining less variance in the outcomes overall. Although Skarlicki et al.'s (1999) results found significant interactions with Big Five variables, their results involved three-way interactions rather than the two-way effects explored in our study. Still, it is notable that 6 years have passed since Skarlicki et al.'s (1999) study was published without further published work on justice × Big Five interactions. It may be that such work has been conducted but yielded non-significant results, creating a potential file drawer problem.

Practical implications

Our results offer a number of practical implications. Task performance and counterproductive behavior clearly are important outcomes in any organization, as both impact bottom-line costs. Our results add to past research linking justice dimensions to those behaviors (Greenberg, 1990, 1993b, 2002; Konovsky & Cropanzano, 1991; Van den Bos et al., 1996). Inaccurate and inconsistent procedures, disrespectful interpersonal treatment, and unexpectedly low rewards impacted counterproductive behavior and task performance, though often in an interactive rather than main effect fashion.

Although justice principles can be trained (e.g., Skarlicki & Latham, 1996), training initiatives often fail because of a lack of awareness of specific person and organizational variables that impact training effectiveness. The "person analysis" phase of the training needs assessment is used to identify participant characteristics that make training more or less effective, whereas the "organization analysis" explores contextual variables that can do the same. Our results could inform the person analysis, suggesting that justice training interventions would have particularly strong effects when the leaders participating in the training oversee units with predominantly suspicious, cautious, and moral individuals. However, organizations do not typically collect data on trust propensity, risk aversion, and trait morality, and it would be difficult to characterize an entire unit on such personality traits. Our results might therefore inform the organization analysis, as justice trainers could consider contextual cues that trigger or amplify concerns about distrust, uncertainty, or moral issues.

Limitations

As in many laboratory studies, the framing of instructions, the sequence of measurement, and the timing of measurements could impact the generalizability of results. For example, Harrison, McLaughlin, and Coalter (1996) showed that measures that reference fairness concepts are susceptible to scale ordering and context effects. Our personality measures, some of which themselves referenced justice concepts, may be susceptible to such biases. Context effects could also have accounted for the small amount of manipulation spillover that occurred among the justice manipulation checks. Although we removed this contamination by residualizing the affected manipulations, a procedural remedy is usually preferred over a statistical one. In addition, our distributive justice manipulation varied fulfillment of expectations rather than outcome/input ratio comparisons. Although expectation fulfillment matches Blau's (1964) conceptualization of distributive justice and has been used extensively in past research (Greenberg, 1993b; Van den Bos et al., 1998b), that type of manipulation may have constrained equity sensitivity's effects, given that it is based on Adams's (1965) theorizing.

Other limitations center on the measures of some of our variables. Van den Bos et al. (1998a) showed that knowledge of trust moderated the effects of justice, with justice being more impactful when trust was uncertain. Our measure of trust propensity is incapable of separating trust uncertainty from trust valence, as suspicious individuals may either be uncertain about the trustworthiness of others or be certain that trustworthiness is lacking. In addition, our measure of counterproductive behavior could be interpreted in two ways: as intentional noncompliance with authority (one of the less serious forms of the construct) and outright theft (one of the more serious forms of the construct). Our results for counterproductive behavior may therefore fail to generalize to contexts where the retaliation is clearly serious in nature (e.g., theft of actual money).

Finally, the most serious limitation of our study centers on our trait morality measure. Recall that we chose to define morality as an intersection of high agreeableness and high conscientiousness (Hofstee et al., 1992). However, there are some interpretational ambiguities in trait models, mostly due to the presence of measurement error. For example, the adjectives "conscientious" and "agreeable" do not themselves fall squarely on the circumplex poles used to define those respective Big Five factors. Such ambiguities may hinder the construct validity of adjectives like "morality" that reside at the intersection of the conscientiousness and agreeableness poles. Although future work can clarify many of these issues, there remains a limited amount of research on the Big Five circumplex. Moreover, it is important to note that Hofstee et al.'s (1992) model does not focus on morality per se, instead describing a large number of traits that represent blends of multiple Big Five factors.

It is also important to note that the results for our circumplex form of morality cannot be generalized to other forms of the construct, such as a Kohlbergian stage

approach. As stated previously, a trait approach differs from a stage approach in that the former emphasizes differences across individuals while the latter emphasizes differences within individuals over time (Walker, 2002). However, it may be that stage models such as Kohlberg's would also be useful for examining moderating effects of justice (for an example, see Greenberg, 2002). Future researchers utilizing such an approach would benefit from using appropriate stage measures such as the Defining Issues Test 2 (Rest, Narvaez, Thoma, & Bebeau, 1999).

Suggestions for future research

Perhaps the most fruitful area for future research concerns one additional limitation of our study. Our conceptual model in Fig. 1 includes three different mechanisms through which personality traits could moderate justice effects: sensitivity to justice concerns, deliberate rumination on justice information, and likelihood of behavioral response. Our study did not assess those mechanisms, however. It therefore remains an empirical question whether those mechanisms do explain moderation effects at all, or whether only one or two of the processes is necessary for interactions to emerge.

Although our study was fairly comprehensive in its coverage of multiple justice dimensions and its inclusion of several personality traits, some gaps in our coverage highlight other areas for future research. For example, the "belief in a just world" may be relevant to the *should* counterfactual and to the mechanisms in Fig. 1. It may be that individuals with strong just world beliefs attend more to justice because they, like moral individuals, are more concerned with fairness in general. However, it may also be that individuals with strong just world beliefs attend less to issues of fairness because they believe that things will "work out" in the end.

Future research should also explore personality moderators in conjunction with the other sub-facet of interactional justice: informational justice. We did not include informational justice in the present study for both practical and conceptual reasons. Practically speaking, including informational justice would have doubled the number of experimental conditions in an already complex study. Conceptually, we felt that some of our personality traits were more relevant to interpersonal justice, given that it is morally charged and holds special relevance to the integrity and benevolence forms of trustworthiness (Folger, 2001; Mayer et al., 1995). However, informational justice is germane to the *could* and *should* portions of fairness theory (Folger & Cropanzano, 2001; Shaw, Wild, & Colquitt, 2003) and its effects could be moderated by traits that capture the likelihood of asking "why?" questions (e.g., curiosity, need for cognition).

Future research should also explore personality moderators of the two-way justice interactions often observed in the justice literature. Skarlicki et al.'s (1999) results showed that neuroticism and agreeableness moderated the interaction between distributive and interactional justice, while Hagedoorn et al.'s (2002) showed that just world beliefs moderated the interaction between distributive and procedural justice. Such work allows justice scholars to assess the generalizability of such interactions across personality types. It may be that more complex interactions could help explain some of the unexpected patterns in our two-way results. For example, some of the interactions were symmetric in nature, with fair treatment resulting in lower performance or more counterproductive behavior at certain personality patterns. Although such patterns are surprising in the context of two-way interactions, they may make more sense in conjunction with higher-order interaction patterns.

Finally, it is important to point out that the interactions observed in our study could be interpreted in a different way—that justice dimensions moderate the relationships between personality traits and counterproductive behavior and task performance. The significant product terms can be interpreted in either fashion, as can the plots represented in the figures. It may be that organizational justice can be used to clarify inconsistent behavioral effects within the trust propensity, risk aversion, or morality literatures. For example, unfair treatment may be relevant to the principle of trait activation (e.g., Tett & Gutterman, 2000), with fairness violations creating situational cues that enhance the likelihood of trait expression. To our knowledge, the justice dimensions have rarely been cast as moderators in past research, leaving open a potentially fruitful area for future theorizing and empirical study.

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