

What fair procedures say about me: Self-construals and reactions to procedural fairness [☆]

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Received 3 June 2005

Available online 3 December 2007

Communicated by Jerald Greenberg

Abstract

Past research has revealed both positive and negative reactions when people receive unfavorable outcomes via fair decision-making procedures. In three laboratory experiments, we reconcile these findings by considering the role of people's self-identity. Our results suggest that the more that people base their self-identity on their relationships with others—as indexed by a strong interdependent self-construal—the more positively they react to an unfavorable outcome following from fair procedures. Conversely, the more that people base their self-identity on achievement—as indexed by a strong independent self-construal—the more negatively they react to an unfavorable outcome following from fair procedures. Moreover, these results were stronger when the situation primed interdependence and independence, respectively. Our research indicates that people interpret procedural fairness information in a manner that is consistent with defining aspects of the self.

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Keywords: Self-construal; Self-identity; Procedural fairness; Procedural justice; Justice; Fairness

Introduction

Past research has revealed the importance of employees' perceptions of the fairness of decision-making procedures (i.e., procedural justice) for a wide range of employee attitudes and behaviors (e.g., trust in leaders, outcome fairness and satisfaction ratings, citizenship behaviors; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Typically, the impact of procedural justice perceptions on employee reactions is more pronounced when employees receive unfavorable (versus favorable) outcomes (i.e., procedural justice and outcome favorability interact to influence reactions; Brockner & Wiesenfeld, 1996, 2005). Thus, when employees receive poor performance reviews or are passed up for desirable promotions, their attitudes and behaviors are particularly influenced by their perceptions of the procedures accompanying such outcomes.

[☆] This project was funded by a research award from the Social Sciences and Humanities Research Council of Canada (SSHRC) to the second author. Studies 1 and 2 were conducted as part of C. Holmvall's doctoral dissertation at the University of Waterloo; Study 3 was conducted at Saint Mary's University. Portions of the data were presented at: the 9th biennial meeting of the International Society for Justice Research, Stockholm, Sweden, June, 2002; the 63rd meeting of the Canadian Psychological Association, Vancouver, BC, June, 2002; the Nags Head Conference on the Justice Motive, Boca Raton, FL, December, 2002; and the 19th meeting of the Society for Industrial and Organizational Psychology, Chicago, IL, April, 2004. We thank Doug Brown, Greg Irving, and Tom Tyler for their helpful comments on an earlier draft of this manuscript. We also thank Erik Woody for his advice on statistical matters.

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As might be expected, the majority of research to date has found that people exhibit more *positive* reactions (e.g., greater perceptions of outcome fairness and trust) following unfavorable outcomes when they perceive decision-making procedures as fair (e.g., Folger, 1977; Lind & Tyler, 1988; Tyler & Lind, 1992), a pattern that has been labeled the “fair process effect” (Folger, Rosenfield, Grove, & Corkran, 1979). Several theories have been proposed to explain the positive effects of fair procedures (for reviews, see Cropanzano, Byrne, Bobocel, & Rupp, 2001; Van den Bos, 2005) including those that highlight the importance of fairness for maintaining interpersonal and intra-group relationships. Indeed, the fair process effect is consistent with several theories (e.g., the relational model of authority, Tyler & Lind, 1992; the group engagement model, Tyler & Blader, 2000, 2003; sociometer theory, Leary, Tambor, Terdal, & Downs, 1995) that maintain that fair procedures and treatment lead people to feel accepted and respected by important entities, which in turn enhances feelings of positive self-regard.

Several recent studies have, however, found that people can exhibit more *negative* reactions (e.g., reduced perceptions of outcome fairness, greater intentions to protest) when they receive unfavorable outcomes via fair procedures (e.g., Van den Bos, Bruins, Wilke, & Dronkert, 1999). In other words, research has demonstrated a reversal of the fair process effect, which, for ease of presentation, we term the “reverse fair process effect.” This pattern of results is consistent with attribution theory (Weiner, 1985a, 1985b). Specifically, compared with unfair procedures, fair procedures can lead people to feel relatively more personally responsible for outcomes, which, when the decision outcome is unfavorable (e.g., a poor performance review), may lead to diminished self-regard (e.g., Brockner, 2002; Brockner et al., 2003; Schroth & Shah, 2000).

The findings of past research thus present a paradox: Some studies have found that, when faced with an unfavorable outcome, people react positively to fair procedures, whereas other studies have found that people react negatively. In the present paper, we shed light on this paradox by beginning to elucidate when, and for whom, positive and negative reactions to fair procedures are likely to occur. Specifically, we argue that the nature of people’s reactions to fair procedures following unfavorable outcomes depends on the strength and salience of their interdependent and independent self-construals. We suggest that self-construals affect how positive self-regard is achieved, and thus whether fair procedures are interpreted by individuals as indicating acceptance by others or as indicating personal responsibility for outcomes. Our assertion that self-identity plays a fundamental role in reactions to fairness is consistent with recent theoretical work on fairness and the self (e.g., Blader & Bobocel, 2005; Brockner, 2002; Brockner

et al., 2003; Clayton & Opatow, 2003; Skitka, 2003). In the sections that follow, we outline relevant background theory and research on procedural fairness and on self-construals that serve as the basis for our hypotheses.

What makes people perceive decision-making procedures as fair or unfair?

Research suggests that people form fairness judgments about at least two aspects of the decision-making process: the structure of decision-making procedures and the quality of interpersonal treatment received from authorities (i.e., the social aspect of procedures). For example, to be perceived as fair, procedures should be structured to ensure that accurate information is used in decision making and that unfair decisions can be appealed (Leventhal, 1980). In addition, fairness perceptions are enhanced when leaders treat individuals with dignity and respect and provide them with adequate and timely explanations for decisions (Bies, 1987, 2001, 2005; Bies & Moag, 1986; Tyler, 1989; Tyler & Bies, 1990).

As reviewed elsewhere (e.g., Bies, 2005; Bobocel & Holmvall, 2001), justice researchers historically defined procedural justice broadly, including evaluations of both structural and social aspects of the decision-making process (e.g., Lind & Tyler, 1988; Tyler & Lind, 1992). More recently, researchers often use the label procedural justice to refer exclusively to the perceived fairness of decision-making structure, and they use the term interactional justice to refer to the fairness of the social aspects of procedures (e.g., Bies, 2001, 2005; Bies & Moag, 1986). Others (e.g., Colquitt, 2001; Greenberg, 1993) further separate the interactional justice construct into interpersonal justice (reflecting treatment with dignity and respect) and informational justice (reflecting adequate explanations for decisions). For simplicity and ease of discussing past research, we use the label “procedural justice” in the current paper to refer to both the structural and social aspects of procedures. Where it is necessary, however, we distinguish between these aspects of procedures when discussing the findings of past research.

In the current research, we focused on the social aspect of procedures; we examined this procedural component because it has received comparatively less research attention than its structural counterpart (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). Specifically, in three studies, we investigated how the quality of interpersonal treatment displayed by authorities when communicating negative outcomes impacts evaluations of the outcomes (i.e., outcome fairness and satisfaction judgments). Little research has examined the relations between quality of interpersonal treatment and these outcome judgments experimentally.

How does procedural fairness influence positive self-regard?

Cropanzano et al. (2001) developed a multiple needs framework that recognizes how fairness can meet people's needs for positive self-regard. Although some debate exists in the literature (e.g., see Heine, Lehman, Markus, & Kitayama, 1999), these and other researchers (e.g., Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004) suggest that the need for positive self-regard is universal; that is, all people seek to hold a positive view of the self. Yet, the manner in which positive views of the self are achieved and maintained may vary across individuals and cultures (e.g., Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, & Vevea, 2005). Cropanzano and colleagues (2001) note that there are at least two ways that procedural fairness may impact feelings about the self: (a) by influencing feelings of acceptance by important entities and (b) by influencing feelings of responsibility or accountability for negative outcomes. We review each of these perspectives below.

Fairness influences feelings of acceptance

Numerous theories, both those specific to procedural justice, and those within the broader social psychological literature, support the idea that procedural fairness can enhance positive self-regard because it suggests that one is accepted and valued by others. Indeed, the notion that self-identity is influenced by others' views is a premise central to many social psychological theories of the self, including social identity theory (Tajfel & Turner, 1979, 1986) and the looking glass self (Cooley, 1956; Mead, 1934). A more recent development is sociometer theory (e.g., Leary & Baumeister, 2000; Leary & Downs, 1995; Leary et al., 1995), which was advanced to explain the self-esteem motive. This theory suggests that the self-esteem system acts as a sociometer that monitors and reacts to perceived acceptance or rejection by others. Research testing the propositions of this theory supports the idea that acceptance or rejection by others impacts feelings of positive self-regard, even in one-shot encounters (Leary et al., 1995).

More specific to explaining procedural justice effects are relational models of justice (e.g., group value theory, Lind & Tyler, 1988; the relational model of authority, Tyler & Lind, 1992; the group engagement model, Tyler & Blader, 2000, 2003; the self-based model of cooperation, De Cremer & Tyler, 2005). In brief, these models suggest that fair treatment conveys positive information about the self by confirming that one is respected and valued by others; in turn, feeling respected and valued enhances positive self-regard (Tyler & Blader, 2003; Tyler, DeGoeij, & Smith, 1996). The social aspect of procedures (e.g., interpersonal fairness) is said to play a key role in relational models (e.g., Bies, 2001, 2005; Tyler &

Lind, 1992) and is particularly likely to carry information relevant to people's feelings of social acceptance (Tyler & Blader, 2003). Considerable research has amassed supporting relational explanations of procedural justice effects (for more thorough reviews, see De Cremer & Tyler, 2005; Tyler & Blader, 2000).

Overall then, the idea that procedural justice can affect views of the self positively is well founded. Research suggests, however, that procedural justice effects extend beyond self-focused feelings; fair procedures (both structural and social aspects) are associated with a broad array of positive attitudes and behaviors (for reviews, see Cohen-Charash & Spector, 2001; Colquitt et al., 2001). Though less research has examined the effect of the social aspects of procedures on evaluations of negative outcomes experimentally, there are a number of reasons to expect such an influence. As noted earlier, fair treatment enacted by an authority can enhance self-esteem by affirming that one's relationship with the authority is of high quality; feeling accepted and respected may, in turn, enhance cooperation with the authority's decisions (Tyler & Blader, 2003; Tyler & Lind, 1992).

Another explanation for why fair interpersonal treatment can influence outcome evaluations positively is demonstrated by Van den Bos (2003), who notes that affective states can be used as information in uncertain or ambiguous situations. Drawing on the social cognition and affect literature (e.g., Forgas, 1995; Forgas, 2002; Schwarz & Clore, 1983), Van den Bos (2003) suggests that, when evaluating the fairness of one's outcomes, people often do not have appropriate social comparison information to make clear judgments (see also Van den Bos, Lind, Vermunt & Wilke, 1997). Under such circumstances, individuals may use their current affective state as information in evaluating outcomes. In the context of the current studies, fair (versus unfair) interpersonal treatment may lead individuals to feel relatively more respected and, therefore, to experience greater self-esteem and positive affect; this affective state subsequently translates into more favorable outcome evaluations. Overall then, a large literature clearly supports the positive effects of fair interpersonal treatment for a wide array of employee reactions. However, fair interpersonal treatment, in the context of negative outcomes, may also have a dark side.

Fairness influences feelings of responsibility for outcomes

As Cropanzano et al. (2001) point out in their integrative framework, fair procedures can, somewhat paradoxically, lead to lowered self-regard, in particular when they are coupled with unfavorable outcomes (e.g., poor performance reviews). Specifically, fair procedures may lead people to feel personally responsible for unfavorable outcomes (e.g., people may make internal

attributions that their lack of ability led to the outcomes) which can threaten their sense of competence and diminish their self-regard. In contrast, unfair procedures may have a “nice aspect” (Van den Bos et al., 1999) by providing external attributions for unfavorable events (e.g., outcomes were due to biased or incompetent decision-makers), which can diminish the threat to the self (see also Brockner, 2002; Brockner & Wiesenfeld, 1996, 2005).

Several recent studies have demonstrated that the structural aspects of procedures can affect people’s attributions for negative outcomes (e.g., Brockner et al., 2003; Van den Bos et al., 1999). In addition, recent research by Leung, Su, and Morris (2001) demonstrated that the effect of procedural justice on attributions also extends to the social aspects of procedures. Specifically, Leung et al. found that, when an authority delivered negative feedback in a respectful (vs. disrespectful) manner, individuals were less likely to make negative dispositional attributions about the decision-making authority and were more likely to endorse the idea that inadequacies in their own performance caused the negative feedback. Similarly, Ployhart, Ryan, and Bennett (1999) found that personal and sensitive explanations for rejection decisions lowered self-perceptions, presumably because they led to more internal attributions for the negative event.

That structural aspects of decision-making procedures can impact attributions for outcomes is intuitive; however, it is less clear why social aspects of procedures (e.g., sensitivity) might have this effect. Although not directly tested in past research, sensitivity displayed during the communication of outcomes could translate into more internal attributions because sensitive treatment signals that the decision-making agent is trustworthy (e.g., Aryee, Budhwar, & Chen, 2002; Leung et al., 2001; see also Van den Bos, Wilke, & Lind, 1998), and hence that the decision-making procedures were fair. In line with this idea, research has shown that people use information about the fairness of the structure of decision procedures as a substitute for judging outcome fairness, when direct information about distributive justice (e.g., social comparison information) is lacking (e.g., Van den Bos et al., 1997). Taking this logic one step further, people may similarly infer the fairness of procedures from the quality of an authority’s interpersonal conduct, when direct information about the structure of decision-making procedures is lacking. In other words, when authorities communicate negative information about outcomes with interpersonal sensitivity, people may infer a fair decision-making structure. If so, they should also be likely to take personal responsibility for the outcome and, in turn, experience diminished self-regard.

In addition to demonstrating negative effects of procedural fairness on self-esteem (e.g., Ployhart et al.,

1999; Schroth & Shah, 2000; see also Brockner et al., 2003) and self-efficacy (Gilliland, 1994), this pattern has been shown on other dependent variables including outcome judgments (i.e., outcome fairness and satisfaction judgments and affective reactions to outcomes; Van den Bos et al., 1999).² The finding of a reverse fair process effect on outcome judgments may appear counterintuitive at first glance. There are several possible mechanisms—likely operating at an implicit level—that might explain why the experience of receiving a negative outcome via fair procedures could, under certain conditions, lead to these effects. Following from Van den Bos’ (2003) research on affect as information, the diminished evaluation of the self (e.g., Gilliland, 1994; Schroth & Shah, 2000) and dampened mood (e.g., Van den Bos et al., 1999) that may accompany the receipt of a negative outcome via fair procedures may be used as information to judge one’s outcomes. In other words, fair procedures may lead individuals to experience greater negative affect, which “colors” outcome evaluations. Another possibility is that the threat to self-esteem or self-efficacy, which occurs when people receive negative outcomes via fair procedures, engenders a denial process. In fact, there is a good deal of evidence in the broader psychological literature (e.g., Baumeister, Dale, & Sommer, 1998) that indicates that people often distort or reject information, such as negative feedback, that poses a threat to self-esteem. On the basis of this evidence, it is possible that, when people receive a negative outcome via fair procedures, they will reject or deny the outcome (perceive it as unfair or unsatisfactory) in an effort to protect the self.

Given the possible conflicting reactions to fair procedures, the question arises: What determines whether people react positively or negatively to an unfavorable outcome following fair procedures? We argue that the strength and salience of people’s self-construals lie at the heart of the answer.

Self-construals

Self-construals reflect the extent to which the self is defined as being intertwined and connected to others (an interdependent self-construal) and separate, unique, and autonomous from others (an independent self-construal). For example, Singelis (1994, p. 581) defined self-construals as a “constellation of thoughts, feelings, and actions concerning one’s relationship to others and the self as distinct from others.” Researchers (e.g., Brewer & Gardner, 1996; Gardner, Gabriel, & Lee, 1999; Singelis, 1994) argue that interdependent and independent self-construals represent orthogonal constructs

² The researchers (Study 2) used a composite index of outcome judgments comprising two items assessing outcome fairness and one item assessing outcome satisfaction.

such that, for all individuals, the self can be defined as both independent and interdependent.³

Individuals with a strong interdependent self-construal emphasize statuses, roles, and relationships, belonging and fitting in, and sacrificing for the group (Singelis, 1994). Positive self-regard is thought to be gained through connecting with others and fitting in (e.g., Hannover, Birkner, & Pöhlmann, 2006; Markus & Kitayama, 1991; Sedikides et al., 2003). Indeed, as noted by Lebra (1976, as cited by Markus & Kitayama, 1991), for those with an interdependent view of the self, social exclusion is likened to a nightmare.

Individuals with a strong independent self-construal emphasize internal abilities, validating internal attributes, and promoting one's own goals. Positive self-regard is gained through expressing the unique self and validating internal attributes (Singelis, 1994). Singelis, Triandis, Bhawuk, and Gelfand (1995) note that it is important to distinguish between two types of independent self-construal: horizontal individualism (where the self is defined as autonomous and there is acceptance of equality between individuals) and vertical individualism (where the self is defined as autonomous and there is acceptance of inequality between individuals).⁴ Vertical individualism represents the blending of individualist values and achievement orientation (Triandis, 1996); outperforming others is very important to those with a strong vertical independent self-construal (Singelis et al., 1995). Horizontal individualism, in contrast, does not explicitly link self-definition to achievement (Nelson & Shavitt, 2002). As noted earlier, we have reasoned that the reverse fair process effect is mediated by diminished feelings of self-efficacy or competence that result from receiving a negative outcome via fair procedures. Thus, we focus on vertical individualism in the current research because it most closely assesses individual differences in achievement based self-identity.

*Predicting attitudes and behavior from self-construals:
Person × situation interactions*

Research suggests that the strength of individuals' interdependent and independent self-construals have implications for attitudes and behavior (Markus & Kitayama, 1991). For example, Markus and Kitayama (1991) note that whether the self is defined as predominantly independent or interdependent—that is, which-ever self-construal is *most* developed—has been shown

to affect a wide array of emotions, motivation, and cognitions. In addition, situational cues—to the extent that they lead individuals to focus on their independent or interdependent self—can influence reactions. Evidence for this claim comes from studies showing that priming can shift the relative accessibility of self-construals; priming one self-construal (e.g., interdependent) makes the other (independent) less accessible (e.g., see Brewer & Gardner, 1996; Gardner et al., 1999; Trafimow, Triandis, & Goto, 1991).

It is clear then from past research that both individual differences in self-construals and situationally-induced shifts in identity salience impact behavior. What is less clear is how the two factors operate jointly. Some research suggests that, separate from the effects of situational priming, individual differences in the strength of self-construals may still exert an influence on behavior (e.g., see Trafimow et al., 1991). In line with this idea, and more closely focused on reactions to justice and injustice, Skitka (2003) proposed an Accessible Identity Model (AIM) of justice reasoning. She argues that in order to understand how people will react to justice, it is imperative to know which aspects of self-identity are accessible. That known, however, she also notes that the activated identity (e.g., interdependent or independent) will have little impact on behavior unless internalization of that identity is also high.

Based on the self-construal literature and the AIM model, we reasoned that the strength of people's self-construals (interdependent and independent) should predict behavior when the situation focuses them on the relevant, versus irrelevant, self-construal. Thus, individual differences in interdependent self-construal should predict behavior when interdependent (vs. independent) aspects of the self are made accessible. The obverse should be true for predicting behavior as a function of the strength of people's independent self-construal. In the next section, we combine the self-construal and procedural justice literatures to derive our hypotheses.

Linking interdependent self construal and reactions to procedural justice

Individuals with a strong (vs. weak) interdependent self-construal gain self-worth and identity from feeling valued, respected, and accepted by others. Thus, they should be more sensitive to evidence of acceptance or rejection by others (including authorities) and therefore be particularly likely to draw social information from procedures. Given that fair procedures affirm people's social-identity, whereas unfair procedures may threaten it, those with a strong interdependent self-construal should react more favorably to fair (versus unfair) procedures following an unfavorable outcome; in other words, they should demonstrate a fair process effect. In addition, this pattern should be more pronounced

³ Most researchers use the terms independent and interdependent self-construals, and the terms individualism and collectivism, interchangeably.

⁴ Interdependence (or collectivism) can be similarly conceptualized as comprising vertical and horizontal aspects, but the distinction for interdependence is considered to be less important (see Singelis et al., 1995). As such, we do not make the distinction here.

when the situation activates an interdependent (versus independent) self-identity.

Hypothesis 1: There will be a 3-way interaction between interdependent self-construal, situational prime, and quality of treatment on reactions, as follows: When primed with interdependence, a 2-way interaction between interdependent self-construal and quality of treatment will emerge; the stronger people's interdependent self-construal, the more positively they will evaluate their outcomes following sensitive (versus insensitive) treatment. In contrast, when primed with independence, the 2-way interaction between interdependent self-construal and quality of treatment will be significantly weaker.

Some recent research supports the notion that those with a stronger interdependent self-construal are more likely to show the fair process effect. Brockner, Chen, Mannix, Leung, and Skarlicki (2000) demonstrated that the tendency for fair procedures to mitigate the adverse effect of receiving an unfavorable outcome on people's reactions (in this case behavioral intentions) was more pronounced in those with a predominantly interdependent (vs. independent) self-construal. Similarly, Brockner, De Cremer, Van den Bos, and Chen (2005) demonstrated that individuals with a strong (vs. weak) interdependent self-construal were more likely to exhibit the fair process effect on a variety of dependent variables (e.g., cooperation, positive affect) across a variety of contexts (e.g., reward allocations, negotiations). Johnson, Selenta, and Lord (2006) also investigated the role of the self-concept in justice reactions; these researchers also found a stronger fair process effect on a variety of employee attitudes for those with more relational or collective orientations.

We extend this previous work in a number of ways: First, we measure people's self-construals in advance of the study session to test whether self-construals predict reactions across time. More importantly, we extend previous research theoretically in two ways: We incorporate the role of independent self-construal, as elaborated below, in addition to that of interdependent self-construal in predicting reactions to unfavorable outcomes as a function of procedural fairness. We also investigate the joint (i.e., interactive) effects of situational priming and individual differences in justice reactions. This person \times situation approach is relatively unique in the justice literature (cf. Greenberg, 1983).

Linking-independent self construal and reactions to procedural justice

Individuals with a strong (vs. weak) independent self-construal gain positive self-regard through personal achievement and, more specifically, through out-

performing others. They should therefore be more sensitive to evidence of personal responsibility for unfavorable outcomes and thus should be more likely to draw attribution-relevant information from procedural justice. Given that fair procedures suggest personal responsibility for unfavorable outcomes, whereas unfair procedures provide an external attribution for outcomes, people with a strong independent self-construal should react more negatively to fair (versus unfair) procedures; in other words, they should exhibit a reverse fair process effect. Again, this pattern should be more pronounced when the situation primes or activates an independent (versus interdependent) self-identity.

Hypothesis 2: There will be a 3-way interaction between independent self-construal, situational prime, and quality of treatment on reactions, as follows: When primed with independence, a 2-way interaction between independent self-construal and quality of treatment will emerge. Specifically, the stronger people's independent self-construal, the more negatively they will evaluate their outcomes following sensitive (versus insensitive) treatment. In contrast, when primed with interdependence, the 2-way interaction between independent self-construal and quality of treatment will be significantly weaker.

Overview of studies

We conducted three laboratory-based experiments to test our hypotheses. We began with a workplace vignette (Study 1), designed to test Hypothesis 1 (involving interdependent self-construal). We did not examine Hypothesis 2 (involving independent self-construal) because we did not expect the vignette to be sufficiently threatening to induce the kind of processes speculated to underlie the reverse fair process effect (see earlier discussion).

In Study 2, we tested Hypotheses 1 and 2 using a more involving laboratory paradigm. In both Studies 1 and 2, we assessed participants' outcome fairness judgments as the main dependent variable. We chose outcome fairness judgments because (a) this has traditionally been one of the most frequently studied dependent variables in the justice literature, and (b) past research has demonstrated both the fair process effect (e.g., Folger, 1977; Van den Bos et al., 1997) and the reverse fair process effect (Van den Bos et al., 1999) on outcome fairness judgments.

In Study 3, we sought to replicate Hypothesis 2 using a different outcome evaluation, namely outcome satisfaction. We also investigated process: We examined whether the reverse fair process effect on outcome satisfaction is mediated by state self-esteem.

Study 1

Method

Participants and design

One hundred and eighteen undergraduate students (60 males & 58 females) enrolled in an introductory psychology course at a mid-sized Canadian university participated in return for either partial course credit or a financial remuneration of \$7. Participants' mean age was 20.5 years ($SD = 3.06$). Participants were randomly assigned to one condition of the 2 (prime: interdependent vs. independent) \times 2 (quality of treatment: sensitive vs. insensitive) factorial design.

Procedure

Assessment of individual differences. The strength of participants' interdependent self-construal was measured using Singelis' (1994) 12-item scale, which was included in a larger mass-testing booklet distributed to all introductory psychology students at the beginning of the university term. Sample items include "It is important for me to maintain harmony within my group," and "My happiness depends on the happiness of those around me." Responses to the items were made on a 7-point Likert scale (with endpoints labeled "strongly disagree" and "strongly agree"). Higher scale scores reflect a stronger interdependent self-construal.

Pre-test of the priming manipulation. We conducted a pre-test of our priming manipulation based on findings by Haberstroh, Oyserman, Schwarz, Kühnen, and Ji (2002). Noting that attentiveness to others is more characteristic of those with a strong interdependent (vs. independent) self-construal (see Oyserman, Coon, & Kimmelmeier, 2002), Haberstroh et al. reasoned that those with a strong interdependent self-construal should be more likely to pay attention to the norms of cooperative conversational conduct. Thus, when presented with two partially redundant questions, those with a strong interdependent self-construal should recognize that the speaker is requesting new information with the second question and as such should draw on different information when responding. Haberstroh et al. found evidence for their reasoning. When asked the questions: "how satisfied are you with your studies" and "how satisfied are you with your life as a whole," the responses of students from an interdependent culture (China) were less correlated than the responses of students from an independent culture (Germany).

Drawing on Haberstroh et al.'s (2002) results, we tested the effectiveness of our priming manipulation. Forty-five university students (21 females & 24 males) were randomly assigned to complete one version of the prime (interdependent or independent), which took the form of a scrambled sentence task adapted from Bargh,

Chen, and Burrows (1996). Participants were given 15 sentences to unscramble; 10 sentences contained key words reflecting the priming manipulation; five sentences were fillers and were constant across priming conditions. The prime words were chosen based on definitions of interdependent and independent self-construals drawn from cultural research (e.g., Markus & Kitayama, 1991; Singelis, 1994; Triandis, 1996). The independent prime words were: I, me, mine, compete, own, individual, distinct, freedom, separated, and independent. The interdependent prime words were: we, us, ours, cooperate, share, group, similar, team, connected, and dependent. Following the prime, students responded to the school and life satisfaction questions used in Haberstroh et al.'s study and outlined above.

Our results suggest that the prime was successful in shifting the relative accessibility of interdependent and independent aspects of the self. Specifically, there was no significant correlation between the school and life satisfaction questions when primed with interdependence, $r(24) = -.10$, $p > .10$, whereas these questions were significantly correlated when primed with independence, $r(21) = .65$, $p < .001$. As predicted, the correlation between the two items was significantly greater in the independent prime, as compared with the interdependent prime, condition, $z = 2.05$, $p < .05$ (one-tailed).

Main study. About one month after the assessment of individual differences in interdependent self-construal, a random subset of students was recruited to participate in a study about attitudes in the workplace. To prevent suspicion regarding the priming task (which may appear unrelated to a study on workplace attitudes), participants were told that the purpose of the session was to pre-test a number of unrelated tasks for potential use in future studies. Participants received a booklet containing the priming manipulation (see preceding *Pre-test* section) followed by a workplace scenario in which they were asked to imagine themselves as an employee who applied for a desirable promotion in their current organization. In the scenario, participants meet with their supervisor, Pat, who tells them that they did not receive the promotion. This initial description was followed by the quality of treatment manipulation.⁵ In the sensitive treatment condition, participants read the following:

"During your meeting with Pat, he invites you to express any concerns you have about the decision and is very sensitive to your feelings. Moreover, when you express concern about the decision, he offers to cancel his lunch plans so that he can spend more time with you to talk about your concerns."

⁵ In all studies, our manipulation of fair (vs. unfair treatment) included an aspect of respect (vs. disrespect) and the promise (vs. refusal) of providing more information or an explanation.

In contrast, in the insensitive treatment condition, participants read the following:

“During your meeting with Pat, he does not invite you to express any concerns you have about the decision nor is he sensitive to your feelings. Moreover, when you express concern about the decision, he tells you that he doesn’t have time to talk to you about your concerns because he wants to go for lunch.”

Following the scenario, participants completed the dependent measures. When doing so, they were asked to think about how they would respond if they were the employee in question.

Measures: Manipulation check and dependent variable

The following item, rated on 7-point Likert scale (with endpoints labeled “strongly disagree” and “strongly agree”), checked the manipulation of quality of treatment: “I would think that Pat is a sensitive and understanding supervisor.” Participants’ perceptions of outcome fairness were measured with the item: “Pat’s decision not to promote you was . . .”, where the corresponding endpoints on a 7-point scale were labeled “not at all fair” and “very fair.”

Results

Predictor characteristics

On the basis of a reliability analysis using the larger sample of students who completed the interdependent self-construal scale in the mass-testing booklet ($N = 266$), one item was deleted from the scale, resulting in a Cronbach’s alpha for the 11-item scale of .60.⁶ The mean of the scale was 4.84 ($SD = .66$). The reliability estimate for the scale is somewhat low, but not atypical of estimates reported by other researchers (see Singelis, 1994; Singelis et al., 1995).

Description of primary moderation analyses

We used simultaneous moderated multiple regression to test our hypothesis. As recommended by Aiken and West (1991), we effect-coded quality of treatment condition (sensitive = 1 and insensitive = -1) and priming condition (interdependent = 1 and independent = -1) and centered the continuous variable (i.e., interdependent self-construal) before computing relevant interaction terms. Unstandardized regression coefficients from the regression analyses are presented because standardized regression coefficients are not interpretable when

analyses contain interaction terms (see Aiken & West, 1991, pp. 40–43).

We conducted a moderation analysis on the dependent variable (outcome fairness item) and on the quality of treatment manipulation check item. For each dependent variable, we tested for the three-way interaction between interdependent self-construal, quality of treatment condition, and prime condition. Participant gender and payment method (credit vs. financial) were entered as control variables in all analyses.

Quality of treatment manipulation check

As expected, only a significant main effect of quality of treatment condition was found on the manipulation check item ($B = 1.92, p < .001$). The supervisor was perceived to be more sensitive and understanding in the sensitive treatment (vs. insensitive treatment) condition, indicating that the quality of treatment manipulation was perceived as intended.

Outcome fairness

Table 1 presents the unstandardized regression weights from the analysis testing Hypothesis 1. As seen in the table, a significant main effect of quality of treatment condition was found ($B = .52, p < .01$); the promotion decision was perceived to be more fair when the supervisor displayed sensitive (versus insensitive) treatment. A significant 2-way interaction between prime condition and interdependent self-construal was also found ($B = -.39, p < .05$). Consistent with the self-construal literature, the strength of participants’ interdependent self-construal had a stronger effect on outcome fairness ratings within the interdependent (vs. independent) prime condition. A significant 2-way interaction between interdependent self-construal and quality of treatment condition also emerged ($B = .51, p < .01$); the stronger participants’ interdependent self-construal, the more the quality of treatment displayed by the supervisor influenced their outcome fairness ratings. Specifically, those with a stronger interdependent self-construal perceived the promotion decision as more fair when the supervisor displayed sensitive (vs. insensitive) treatment toward the employee.

As hypothesized, these lower-order effects were qualified by a significant 3-way interaction between interdependent self-construal, quality of treatment, and prime ($B = .38, p < .05; R^2 = .03$).⁷ To test our hypothesis, we examined the two-way interaction between interdependent self-construal and quality of treatment within each prime condition. Thus, within each prime condition, we entered the main effect terms for interdependent

⁶ The item “I often have the feeling that my relationships with others are more important than my own accomplishments” was deleted from the interdependent self-construal scale. Across studies, decisions to delete items were based on the results of scale reliability analyses, which were conducted prior to testing the hypotheses.

⁷ Following Pedhazur (1997), we conducted an outlier analysis, which led us to delete one case (standardized residual of 3.2).

Table 1
Study 1: Unstandardized regression coefficients (*B*s) for the simultaneous regression of outcome fairness on the study predictors

Predictor	<i>B</i>	<i>SE B</i>
Control variables		
Gender	.07	.24
Payment method	.22	.25
Independent variables and interaction terms		
Quality of treatment	.52**	.12
Prime	.01	.12
Interdependent self-construal	-.18	.19
Quality of treatment × prime	.05	.12
Quality of treatment × interdependent self-construal	.51**	.19
Prime × interdependent self-construal	-.39*	.19
Quality of treatment × prime × interdependent self-construal	.38*	.19

Note. $N = 118$. R^2 for the quality of treatment × prime × interdependent self-construal interaction = .03. R^2 for the full model including control variables = .28.

* $p < .05$.

** $p < .01$.

self-construal and quality of treatment condition, as well as the corresponding 2-way interaction term.

Interdependent prime condition ($N = 59$). As in the overall analysis, results of the analysis within the interdependent prime condition revealed a significant main effect of quality of treatment ($B = .59, p < .001$). A main effect for interdependent self-construal also emerged; the stronger participants' interdependent self-construal, the less fair they perceived the promotion decision ($B = -.60, p < .01$).

As expected, however, these main effects were qualified by a significant 2-way interaction between participants' interdependent self-construal and quality of treatment ($B = .86, p < .001; R^2 = .19$). Fig. 1 illustrates the pattern of results. Following Aiken and West (1991), we tested the simple effect of quality of treatment at one standard deviation above and below the centered inter-

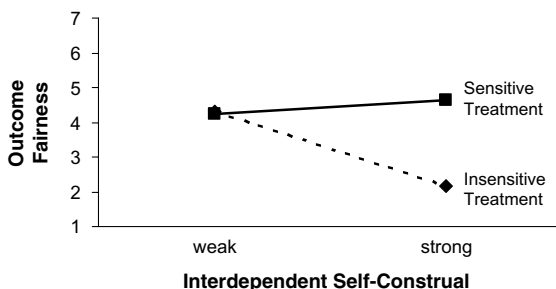


Fig. 1. Graph depicts the 2-way interaction between quality of treatment and interdependent self-construal within the interdependent prime condition (Study 1). Values for strong and weak interdependent self-construal are chosen at one standard deviation above and below the centered scale mean, respectively.

dependent self-construal mean (reflecting strong and weak interdependent self-construals, respectively); quality of treatment was dummy-coded. When rating the fairness of the negative outcome, individuals with a strong (vs. weak) interdependent self-construal were more influenced by the quality of treatment displayed by the supervisor. Specifically, they perceived the promotion decision as significantly more fair when the supervisor displayed sensitive (versus insensitive) treatment, exhibiting the fair process effect ($B = 2.44, p < .001$). As expected, a fair process effect did not occur for those with a weak interdependent self-construal ($B = -.07, p > .10$).

Independent prime condition ($N = 59$). As in the overall analysis, results of the analysis within the independent prime condition revealed a significant main effect of quality of treatment ($B = .47, p < .05, R^2 = .10$). However, as expected, the 2-way interaction between interdependent self-construal and quality of treatment was not significant ($B = .13, p > .10$); thus, the strength of participants' interdependent self-construal did not influence outcome fairness judgments in the independent prime condition.

Discussion

In Study 1, we found that the more that individuals base their self-identity on their relationships with others—that is, the stronger their interdependent self-construal—the more fair they perceive a negative outcome following sensitive versus insensitive treatment by an authority. However, this effect was qualified by the situation such that it occurred only when interdependent—but not independent—aspects of the self were made accessible.

The findings from this first study thus indicate not only *who* is more likely to react positively to fair (vs. unfair) procedures, but also, importantly, *when* this is most likely to be true. Our findings indicate that the effect of people's interdependence motives on their reactions to procedural fairness can be mitigated in situations that make independent motives accessible. Importantly, whereas this latter finding is consistent with past research in the psychological literature on self-construals (e.g., see Brewer & Gardner, 1996; Trafimow & Smith, 1998; Trafimow et al., 1991), it has not yet been demonstrated in the fairness literature.

There are some limitations to Study 1. First, we used a scenario-based paradigm in which participants were asked to speculate about how they would respond if they were the employee described in the scenario. This methodology may be criticized because individuals may not be able to accurately predict how they would actually respond in a similar situation (Wilson & Nisbett,

1978). Thus, one would have greater confidence in our results if they were replicated using an experimental paradigm in which participants are the direct recipients of the negative outcome. Second, we used a single item to measure perceptions of outcome fairness; from a measurement standpoint, a multiple-item measure would be preferable.

Study 2

The purposes of Study 2 were twofold. First, we sought to replicate the results of Study 1 using an improved methodology as outlined above. Second, we extended Study 1 by examining the link between individual differences in independent self-construal and reactions to procedural fairness (Hypothesis 2). Specifically, we expected that those with a stronger independent self-construal would perceive a negative outcome as *less* fair following sensitive (vs. insensitive) treatment. However, we expected this pattern to be more pronounced when the situation makes independent (vs. interdependent) aspects of the self accessible, providing a conceptual replication of Study 1.

Method

Participants and design

One hundred and seventeen undergraduate students (44 males & 73 females) enrolled in an introductory psychology class at a mid-sized Canadian university participated in the study in exchange for partial course credit. The mean age was 19 years ($SD = 1.56$). Participants were randomly assigned to one condition of the 2 (prime: interdependent vs. independent) \times 2 (quality of treatment: sensitive vs. insensitive) factorial design. Although there were more female than male participants, the proportion of women to men was approximately equal across conditions.

Procedure

Assessment of individual differences. The strength of participants' interdependent and independent self-construals were measured in a larger mass-testing booklet distributed to all introductory psychology students at the beginning of the school term. As in Study 1, we used Singelis' (1994) 12-item scale to measure interdependent self-construal. We used Singelis et al.'s (1995) 8-item scale to measure vertical independent self-construal. Sample items include: "It annoys me when other people perform better than I do" and "Winning is everything". Responses to items in each measure were made on a 7-point Likert scale (from "strongly disagree" to "strongly agree"). Higher scale scores on each scale reflect stronger interdependent and independent self-construals, respectively.

Pre-test of the priming manipulation. We used a different priming manipulation in Study 2 to ensure that our previous results would generalize to a different operationalization. Again, we pre-tested the efficacy of the priming manipulation by drawing on the work of Haberstroh et al. (2002). The methodology for the pre-test was almost identical to that reported in Study 1, so we provide only minimal detail here.

Forty-four undergraduate students (28 males and 16 females) were randomly assigned to complete one version of the prime (interdependent or independent). Following the prime, participants responded to the school and life satisfaction questions outlined in Study 1. As before, we expected a weaker correlation for participants primed with interdependence relative to those primed with independence. The priming manipulation was a self-reflection task adapted from Trafimow et al. (1991). In each prime condition, participants were asked to spend 2 or 3 minutes thinking about their responses to the prime questions and an additional 3 or 4 minutes writing down their responses. Participants in the interdependent prime condition were asked to think and write about what they have *in common* with their friends and family and what their friends and family expect from them; participants in the independent prime condition were asked to think and write about what makes them *different* from their friends and family and what they [the participants] expect from themselves.

Our results supported the efficacy of the priming manipulation in shifting the relative accessibility of interdependent and independent aspects of the self. Specifically, there was no significant correlation between the school and life satisfaction questions when primed with interdependence, $r(23) = .02$, $p > .10$, whereas these questions were significantly correlated when primed with independence $r(21) = .57$, $p < .01$. As predicted, the correlation between the two items was significantly greater in the independent prime, as compared with the interdependent prime, condition, $z = 1.94$, $p < .05$ (one-tailed).⁸

Main study. About one month following pre-testing, a random sample of participants was recruited to take part in a two-phase study about decision-making under time pressure. Upon arrival to the laboratory, participants (who completed the study in groups of two) were informed of the purpose of the study and were told that, as a performance incentive, they could earn up to five tickets for a \$100 cash draw based on their performance on a decision-making test. All tasks (except for complet-

⁸ Following Pedhazur (1997), we conducted an outlier analysis, which led us to delete one case. The standardized residual for this case was almost twice that of the next highest case (2.5 vs. 1.3) and the studentized deleted residual was in excess of 3.

ing the dependent variables) were conducted on the computer.

In Phase 1, participants were taken to individual computer rooms. They were told that their computer terminals were linked through a network to the graduate student in charge of the study, who was ostensibly working in a nearby control room. They were also told that their responses on the decision-making test would be transmitted to the graduate student who would grade their tests and send them feedback over the network. Participants were led to believe that, after they had completed the computer portion of the study and a questionnaire (containing our dependent measures) they would then meet with the graduate student and the other participant to discuss decision-making processes. We wanted participants to believe that they would meet with the graduate student so that (a) they would be more likely to care about how they performed on the decision-making test, and (b) the performance feedback provided by the graduate student (which comprised our quality of treatment manipulation) would be more meaningful. Phase 2 of the study did not actually occur.

For the main part of the study, participants completed a challenging decision-making test followed by the priming task.⁹ The priming task was ostensibly included to occupy participants while the graduate student was grading their test. Specifically, participants were told that we were pre-testing the task for use in future studies, and thus that it was unrelated to the current study. Following the priming task, participants received performance feedback from the graduate student. Across conditions, participants were told that they earned two tickets for the draw. They were also told that, on average, participants run so far had been awarded three tickets. Thus, two tickets should be perceived as a negative outcome.

The quality of treatment manipulation was operationalized during the delivery of the feedback, as follows. In the sensitive treatment condition, participants were told:

“I have now completed grading your test. Unfortunately you will only receive two tickets for the draw. I can understand that this might be a bit disappointing and I would be happy to answer any questions you have at

the end of the study. Thank you very much for your contribution to our research, I greatly appreciate it.”

In contrast, in the insensitive treatment condition, participants were told:

“I have now completed grading your test. You only get two tickets for the draw. You’re probably disappointed but I can’t do anything about that. I don’t see any point in giving you any more details.”

After receiving their feedback, participants were instructed to complete the questionnaire (containing our dependent measures) located in a sealed envelope on their desks.¹⁰ They were then probed for suspicion, thoroughly debriefed, and thanked for their participation (the same procedure was also used in Study 3).

Measures: Manipulation check and dependent variable

The following item was used to check the manipulation of quality of treatment: “To what extent did the graduate student deliver your performance feedback in a kind and sensitive manner.” Responses were made on a 7-point Likert scale (ranging from “not at all” to “to a great extent”). Three items (rated on a 7-point Likert scale) were used to assess participants’ perceptions of outcome fairness. The items were: “How fair is the number of tickets you will receive” (from “not at all fair” to “very fair”), “How justified is the number of tickets you will receive” (from “not at all justified” to “very justified”) and “I deserved the number of tickets I received” (from “strongly disagree” to “strongly agree”). Responses to the three items were averaged to form a composite where a higher score reflects greater perceived outcome fairness.

Results

Predictor and dependent variable characteristics

On the basis of reliability analyses conducted on the larger sample of students who completed the self-construal scales in mass-testing ($N = 1235$), one item was deleted from the interdependent self-construal scale; all items in the independent self-construal scale were retained.¹¹ Table 2 shows the descriptive statistics and intercorrelations between the individual difference measures from participants in the main study ($N = 117$). The reliability estimates for both self-construal scales reached conventional levels (alphas $> .70$; Nunally,

⁹ We created a lengthy and difficult test, which participants would be unable to complete in the allotted 15 min. Our goal was to ensure that participants could not easily gauge their own performance, so that the negative feedback (e.g., 2/5 tickets) would be believable. All but eight participants failed to complete the test. The data from those eight people who did complete the test (distributed across conditions) were deleted from the analyses. In addition, when probed for suspicion at the end of the study, two participants expressed suspicion regarding the nature of the study, and thus we also deleted their data.

¹⁰ For Studies 2 and 3, participants were simply told at the outset that they would complete various measures during the course of the session. Therefore, we did not provide extensive explanation for the dependent measures in these studies.

¹¹ The item “I respect people who are modest about themselves” was deleted from the interdependent self-construal scale based on a reliability analysis.

Table 2

Study 2: Means, standard deviations, and intercorrelations among the individual difference variables and dependent variable

Variable	<i>M</i>	<i>SD</i>	Correlations		
			1	2	3
1. Interdependent self-construal	4.78	.75	(.73)		
2. Independent self-construal	3.87	1.09	.05	(.83)	
3. Outcome fairness	4.89	1.02	.12	-.12	(.60)

Note. *N* = 117. Internal consistency reliabilities are given in parentheses on the diagonal. Items in all scales were measured on 7-point scales. All scales are coded such that higher numbers reflect more of the construct.

1970) and the scales were uncorrelated, confirming that interdependent self-construal and independent self-construal (measured as vertical independence) are orthogonal constructs. The reliability of the outcome fairness composite is presented in Table 2 in addition to the intercorrelations with the self-construal scales. Although the reliability for the three-item outcome fairness composite is somewhat lower than conventional ($\alpha = .60$), the findings presented in the results section are similar regardless of whether all three items are retained or whether only the two best items are retained (α for the best two-item index = .67).

Description of data analytic methods

As in Study 1, we used simultaneous moderated multiple regression to test our hypotheses. We effect-coded quality of treatment condition (sensitive = 1 and insensitive = -1) and prime condition (interdependent = 1 and independent = -1) and centered the continuous variables (i.e., interdependent and independent self-construals) before computing relevant interaction terms. The unstandardized beta weights are again presented when reporting the findings.

To replicate the results of Study 1, we expected a 3-way interaction between interdependent self-construal, situational prime, and quality of treatment (Hypothesis 1). We also expected a 3-way interaction between independent self-construal, situational prime, and quality of treatment (Hypothesis 2). To test our hypotheses, we conducted a fully specified moderation analysis, as follows, on both our measure of outcome fairness and the quality of treatment manipulation check item. We entered the main effect terms for interdependent self-construal, independent self-construal, quality of treatment condition, and prime condition, along with the six 2-way interaction terms, the four 3-way interaction terms, and the four-way interaction term. In all analyses, gender and performance were included as control variables.

Quality of treatment manipulation check

As expected, only a significant main effect of quality of treatment condition emerged such that

participants were more likely to perceive that the graduate student delivered the performance feedback in a kind and sensitive manner in the sensitive treatment condition, as compared with the insensitive treatment condition ($B = 1.41$, $p < .001$) indicating that the quality of treatment manipulation was perceived as intended.

Outcome fairness

Table 3 presents the unstandardized regression weights for the predictors in the analysis. Results revealed a significant 2-way interaction between independent self-construal and quality of treatment on outcome fairness ratings ($B = -.22$, $p < .05$); participants with a strong (vs. weak) independent self-construal perceived their outcome as *less* fair when the graduate student delivered their feedback in a sensitive, relative to an insensitive, manner.

In line with Hypothesis 2, this interaction was qualified by a significant 3-way interaction between independent self-construal, quality of treatment, and situational

Table 3

Study 2: Unstandardized regression coefficients (*B*s) for the simultaneous regression of outcome fairness on the study predictors (fully-specified moderated regression model)

Predictor	<i>B</i>	<i>SE B</i>
Control variables		
Gender	-.11	.20
Performance	-.02	.04
Independent variables and interaction terms		
Quality of treatment	-.12	.10
Prime	.08	.10
Interdependent self-construal	.17	.14
Independent self-construal	-.16	.10
Quality of treatment × prime	.09	.10
Quality of treatment × interdependent self-construal	.07	.13
Quality of treatment × independent self-construal	-.22*	.09
Prime × interdependent self-construal	.03	.13
Prime × independent self-construal	.14	.10
Interdependent self-construal × independent self-construal	-.18	.12
Quality of treatment × prime × interdependent self-construal	.30*	.13
Quality of treatment × interdependent self-construal × independent self-construal	-.24†	.12
Prime × interdependent self-construal × independent self-construal	.07	.12
Quality of treatment × prime × independent self-construal	.19*	.09
4-way interaction	.03	.13

Note. *N* = 117. R^2 for the quality of treatment × prime × interdependent self-construal interaction = .04; R^2 for the quality of treatment × prime × independent self-construal interaction = .03. R^2 for the full model with control variables = .24.

* $p < .05$.

† $p = .06$.

prime ($B = .19, p < .05; R^2 = .03$). In line with Hypothesis 1, a significant 3-way interaction between interdependent self-construal, quality of treatment, and situational prime also emerged ($B = .30, p < .05; R^2 = .04$).¹²

To test the hypothesized patterns, we examined the 2-way interactions between self-construals (either interdependent or independent) and quality of treatment within each prime condition. Specifically, within each prime condition, we entered the main effect terms for interdependent self-construal, independent self-construal, and quality of treatment along with the three 2-way interaction terms (interdependent self-construal \times independent self-construal, interdependent self-construal \times quality of treatment, and independent self-construal \times quality of treatment). We present results relevant to each of our hypotheses below.

Within prime analyses evaluating Hypothesis 1

Interdependent prime condition ($N = 58$). As expected, a significant interaction between quality of treatment and interdependent self-construal emerged ($B = .41, p < .05; R^2 = .09$). As seen in Fig. 2 (top panel), those with a strong interdependent self-construal perceived the negative outcome as significantly more fair when the graduate student delivered the performance feedback in a sensitive, as compared with an insensitive, manner ($B = .67, p < .05$). Thus, those with a strong interdependent self-construal exhibited the fair process effect. In contrast, the simple effect of quality of treatment for those with a weak interdependent self-construal was not significant ($B = -.53, p > .10$); these individuals failed to exhibit the fair process effect. Similar to Study 1, all simple effects were tested at one standard deviation above and below the centered scale mean, and quality of treatment was dummy coded. Moreover, gender, performance and the opposite self-construal (in this case, independent self-construal) were included as control variables in the simple effects analyses.

Independent prime condition ($N = 59$). As expected, and consistent with Study 1, the interaction between participants' interdependent self-construal and quality of treatment was not significant in the independent prime condition ($B = -.20, p > .10$).

Within prime analyses evaluating Hypothesis 2

Interdependent prime condition ($N = 58$). As expected, the regression analysis within the interdependent prime condition revealed a non-significant interaction between independent self-construal and quality of treatment ($B = -.04, p > .10$).

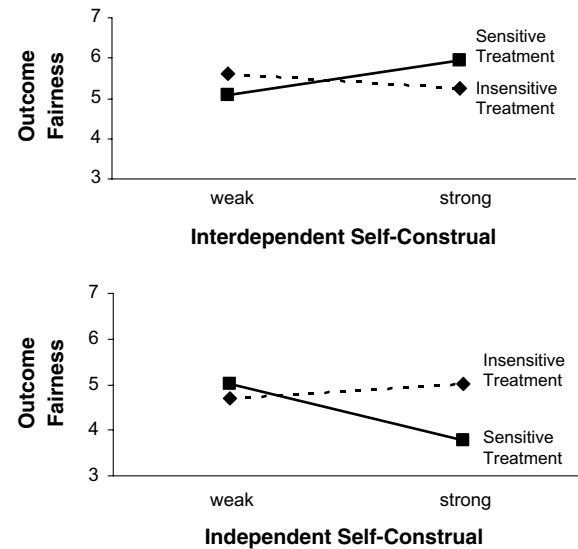


Fig. 2. The top panel depicts the 2-way interaction between quality of treatment and interdependent self-construal within the interdependent prime condition (Study 2). The bottom panel depicts the 2-way interaction between quality of treatment and independent self-construal within the independent prime condition (Study 2). Values for strong and weak levels of self-construal (either interdependent or independent) are chosen at one standard deviation above and below their centered scale means, respectively.

Independent prime condition ($N = 59$). The regression analysis within the independent prime condition revealed a marginally significant effect of quality of treatment ($B = -.24, p = .09$); participants perceived their outcome as less fair following sensitive, relative to insensitive, treatment. As expected, a significant interaction between independent self-construal and quality of treatment also emerged ($B = -.39, p < .05, R^2 = .10$). As seen in Fig. 2 (bottom panel), those with a strong independent self-construal perceived their outcome as significantly less fair following sensitive, relative to insensitive, treatment ($B = -1.24, p < .01$). Thus, those with a strong independent self-construal exhibited a reverse fair process effect. In contrast, those with a weak independent self-construal were not affected by the quality of treatment manipulation when assessing outcome fairness ($B = .33, p > .10$).

Discussion

Replicating Study 1, we found that the more individuals define themselves through their relationships with others—as indexed by a stronger interdependent self-construal—the more likely they are to exhibit the fair process effect. However, again, this effect was qualified by the situation such that it occurred only when interdependent—but not independent—aspects of the self were made accessible.

Our results also revealed that the more individuals define themselves in terms of their achievement and competitiveness—as indexed by a stronger independent

¹² Following Pedhazur (1997), we conducted an outlier analysis, which led us to delete one case (standardized residual of 2.95).

self-construal—the more likely they are to exhibit a *reverse* fair process effect. Similar to interdependent self construal, this effect was qualified by the situation such that it occurred only when independent—but not interdependent—aspects of the self were made accessible.

The reverse fair process effect on outcome fairness ratings found in the current study replicates and extends work by Van den Bos et al. (1999), who found a similar deleterious effect of fair procedures on outcome fairness ratings. Our research extends the work by Van den Bos et al. in two main ways: First, we found that the deleterious effect of fair procedures was stronger among those who define themselves through outperforming others; second, the effect of individual differences in self-identity was mitigated by the situation (i.e., by priming interdependence).

In light of the novelty of our independent self-construal findings, in a third study, we sought to replicate this pattern of results on a different dependent variable, namely, outcome satisfaction judgments. In addition, we sought to gather support for the mechanism underlying the reverse fair process effect on outcome evaluations. In line with previous research that suggests that fair procedures can lead to diminished self-regard when coupled with an unfavorable outcome (e.g., Gilliland, 1994; Schroth & Shah, 2000), we expected the reverse fair process effect on outcome judgments exhibited by those with a strong independent self-construal to be mediated by state self-esteem. In other words, we expected that those who strongly base their self-identity on outperforming others would experience lower self-esteem when they receive an unfavorable outcome via fair (vs. unfair) procedures which, in turn, would lead them to evaluate their outcome more negatively.

Study 3

Method

Participants and design

One-hundred and six undergraduate students (82 females and 24 males) from a small Canadian University participated in the study in exchange for partial course credit. The mean age was 20.48 years ($SD = 2.13$). Participants were randomly assigned to one condition of the 2 (prime: interdependent vs. independent) \times 2 (quality of treatment: sensitive vs. insensitive) factorial design. Although there were more female than male participants, the proportion of females to males was approximately equal across experimental condition.

Procedure

Session 1: Assessment of individual differences. Prior to participating in the main study session, we assessed participants on a number of individual difference variables. We

measured the strength of participants' independent self-construal with Singelis et al.'s (1995) 8-item scale (see Study 2 *Assessment of individual differences* for sample items). We also measured participants' trait self-esteem to allow us to control for initial differences on this dimension. Drawing on Rosenberg's (1965) self-esteem measure, we created six bipolar items on which participants rated their feelings about themselves in general (e.g., negative about myself vs. positive about myself, dissatisfied with myself vs. satisfied with myself, worthless vs. worthwhile). The measure used a 7-point scale and only the endpoints were labeled. So as not to arouse suspicion on the nature of these measures (specifically, on their connection to participants' responses in the main study), we also included some filler scales (e.g., measures of decision-making strategy) that were more germane to our cover story.

Session 2: Main study. Approximately one to two weeks following Session 1, participants took part in the main study in small groups. This session was very similar to that of Study 2; thus, we present only a brief outline of the procedures used.

Participants were given a cover story for the study: They were told that we were interested in examining decision-making under time pressure and that there were two phases to the study. In phase one, they would complete a decision-making test and a filler task; in phase two, they would meet with the graduate student in charge of the study for a general discussion of decision-making processes. In contrast to Study 2 in which the majority of tasks were presented via a computer, all tasks and manipulations in Study 3 were presented on paper.

Participants were led through the informed consent process, after which they completed a challenging decision-making test. Following the completion of the test (and ostensibly to occupy participants while the graduate student working in a nearby lab graded their work) participants completed the priming manipulation. The priming task was a self-reflection exercise adapted from Trafimow et al. (1991) and was identical to that used in Study 2 (see *Pretest of the priming manipulation* section). After participants completed the priming task, they were given their performance feedback. All participants were told that they would receive only one ticket for the cash draw (out of a possible five). To enhance perceived negativity of the outcome, participants were informed earlier in the session that on average others had received three tickets.

Quality of interpersonal treatment was manipulated in the written delivery of the performance feedback. Specifically, in the sensitive treatment condition, participants were told:

“Unfortunately, based on your performance, you'll only get one ticket for the draw. I can understand that this is

a bit disappointing and I'd be happy to answer any questions you may have at the end of the study. Thanks so much for taking part in the study, I really appreciate it."

In contrast, participants in the insensitive treatment condition were told:

"Based on your performance, you'll only get one ticket for the draw. You're probably disappointed but there's not much I can do about that. There's not really any point in giving you any more details. Thanks for coming out anyway."

After receiving their feedback, participants were asked to complete a questionnaire with the manipulation check and dependent measures.

Measures

Manipulation check and dependent variables. One item assessed the efficacy of our quality of treatment manipulation: "To what extent did the graduate student deliver your performance feedback in a kind and sensitive manner?" The item was rated on a 7-point scale with endpoints labeled "not at all" (1) and "to a great extent" (7). Outcome satisfaction was assessed with two items rated on 7-point scales: "How satisfied are you with the number of tickets you will receive?" (ranging from "not at all satisfied" to "very satisfied"), and "The number of tickets I will receive is": "bad" (1) to "good" (7).

Self-esteem was measured with four items drawn from Heatherton and Polivy's (1991) state self-esteem scale. Sample items include: "I feel confident about my abilities" and "I feel that I have less scholastic ability right now than others" (reverse keyed). Items were rated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). All scales were coded such that higher numbers reflect more of the construct.

Results

Predictor and dependent variable characteristics

Table 4 displays the descriptive statistics and intercorrelations among the individual difference and dependent measures ($N = 106$).¹³ On the basis of a reliability analysis, one item was deleted from the independent self-construal scale.¹⁴ The reliability estimates for all of

Table 4

Study 3: Means, standard deviations, and intercorrelations among the individual difference and dependent variables

Variable	<i>M</i>	<i>SD</i>	Correlations			
			1	2	3	4
1. Independent self-construal	3.95	1.27	(.87)			
2. Trait self-esteem (pre-test)	5.17	1.20	-.02	(.92)		
3. Outcome satisfaction	3.22	1.60	.10	-.04	(.70)	
4. State self-esteem (main session)	4.84	1.38	.08	.25*	.49**	(.87)

Note. $N = 106$. Internal consistency reliabilities are given in parentheses on the diagonal. Items in all measures were assessed on 7-point scales. All scales are coded such that higher numbers reflect more of the construct.

* $p < .05$.

** $p < .01$.

the scales reached conventional levels (alphas $\geq .70$; Nunally, 1970).

Description of data analytic methods

We conducted a number of analyses to test our hypotheses. First, we tested for the three-way interaction between independent self-construal, prime, and quality of treatment on our dependent variables (outcome satisfaction & self-esteem) and on the quality of treatment manipulation check. Second, we conducted within-prime analyses to test for the predicted pattern of results. Finally, within the independent prime condition, we followed the procedures outlined by Baron and Kenny (1986; see also Muller, Judd, & Yzerbyt, 2005) to evaluate whether the interaction between independent self-construal and quality of treatment on outcome satisfaction is mediated by self-esteem.

Analysis to test for the predicted three-way interaction

As in our previous studies, we used simultaneous moderated multiple regression to test our hypotheses. We effect-coded quality of treatment condition (sensitive = 1 and insensitive = -1) and prime condition (interdependent = 1 and independent = -1) and centered the continuous variable (i.e., independent self-construal) before computing relevant interaction terms. The unstandardized beta weights are presented when reporting the findings. In all analyses, gender and performance were included as control variables. In the state self-esteem analysis, trait self-esteem (measured in Session 1) was entered as an additional control variable.

Quality of treatment manipulation check

As expected, a significant main effect of quality of treatment condition emerged such that participants were more likely to perceive that the graduate student delivered the performance feedback in a kind and sensitive manner in the sensitive treatment condition, as compared

¹³ The data from six participants were deleted for various reasons (resulting in a final N of 106): suspicion or questionable response patterns on the self-report dependent measures (3); problems with the decision-making test (2); failure to correctly indicate that they had received one ticket (1).

¹⁴ The item "Without competition, it is not possible to have a good society" was deleted from the independent self-construal scale based on a reliability analysis.

with the insensitive treatment condition ($B = 1.35, p < .001$). Thus, the quality of treatment manipulation was perceived as intended. A significant effect of participant gender also emerged ($B = -1.09, p < .01$) such that men perceived the treatment by the graduate student as more sensitive overall than did women. In addition, a significant effect of independent self-construal emerged ($B = -.38, p < .01$); those with a stronger independent self-construal perceived the treatment as less sensitive overall.

Outcome satisfaction

Table 5 presents the unstandardized regression weights for the predictors in the regression analysis. Results revealed a significant effect of gender ($B = -.87, p < .05$); overall, men were more satisfied with the number of draw tickets they received compared to women. A significant interaction between situational prime and quality of treatment also emerged ($B = .36, p < .05$). The pattern revealed that, within the interdependent prime condition, sensitive (versus insensitive) treatment led to greater outcome satisfaction; the obverse pattern emerged within the independent prime condition (i.e., sensitive treatment led to lower outcome satisfaction). As expected, this two-way interaction was qualified by a significant 3-way interaction between quality of treatment, prime, and independent self-construal ($B = .26, p < .05, R^2 = .04$). To

evaluate the patterns specified in Hypothesis 2, we examined (as follows) the 2-way interactions between independent self-construal and quality of treatment within each prime condition.

Independent prime (N = 51). As expected, a significant independent self-construal \times quality of treatment interaction emerged ($B = -.36, p < .05, R^2 = .09$); the pattern of the interaction is depicted in Fig. 3 (top panel). Those with a strong independent self-construal exhibited a reverse fair process effect; they were significantly less satisfied with their outcome when they received sensitive (versus insensitive) treatment ($B = -1.89, p < .01$). In contrast, those with a weak independent self-construal showed similar levels of outcome satisfaction regardless of the interpersonal treatment received ($B = .25, p > .10$). Similar to Study 2, all simple effects were tested at one standard deviation above and below the centered independent self-construal scale mean, and quality of treatment was dummy coded.

Interdependent prime (N = 55). There was no effect of independent self-construal in the interdependent prime condition. Only a significant main effect of gender emerged ($B = -1.11, p < .05$), such that men were more satisfied with their unfavorable outcome compared to women.

State self-esteem

Results of the regression analysis revealed a significant effect of participant gender ($B = -.60, p = .05$).

Table 5
Study 3: Unstandardized regression coefficients (*B*s) for the simultaneous regressions of outcome satisfaction and state self-esteem on the study predictors

Variable	Dependent Variable			
	Outcome satisfaction		State self-esteem	
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>SE B</i>
Control Variables				
Gender	-.87*	.36	-.60†	.31
Performance	-.03	.07	-.02	.06
Trait self-esteem (pre-test)			.29**	.11
Main variables				
Independent self-construal	.06	.13	.04	.11
Quality of treatment	-.03	.15	.08	.13
Prime	-.11	.15	.07	.12
Independent SC \times quality of treatment	-.12	.13	-.12	.11
Independent SC \times prime	.22	.13	.15	.11
Quality of treatment \times prime	.36*	.15	.42**	.13
Independent SC \times quality of treatment \times prime	.26*	.13	.22*	.11

Note. $N = 106$. R^2 for the 3-way interaction predicting outcome satisfaction = .04; R^2 for the full outcome satisfaction model with control variables = .17. R^2 for the 3-way interaction predicting self-esteem = .03. R^2 for the full self-esteem model with control variables = .25.

* $p < .05$.
** $p < .01$.
† $p = .05$.

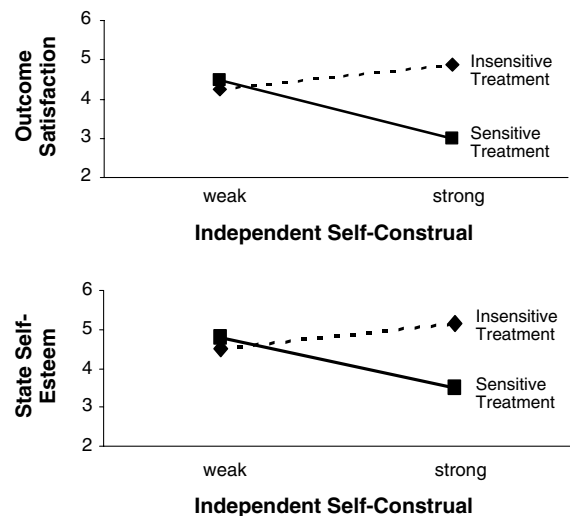


Fig. 3. The top panel depicts the 2-way interaction between quality of treatment and independent self-construal on outcome satisfaction within the independent prime condition (Study 3). The bottom panel depicts the 2-way interaction between quality of treatment and independent self-construal on state self-esteem within the independent prime condition (Study 3). Values for strong and weak levels of independent self-construal are chosen at one standard deviation above and below the centered scale mean, respectively.

Overall, men reported higher state self-esteem than women. A significant main effect of trait (pre-test) self-esteem also emerged ($B = .29, p < .01$). The higher participants' trait self-esteem prior to the study, the higher their state self-esteem was following the unfavorable outcome. A significant prime \times quality of treatment interaction also emerged ($B = .42, p < .01$) and mirrors the pattern found on outcome satisfaction ratings. Specifically, within the interdependent prime condition, sensitive (vs. insensitive) treatment led to greater state self-esteem; the obverse was true within the independent prime condition (i.e., sensitive treatment led to lower state self-esteem). As expected, this effect was qualified by a significant 3-way interaction between independent self-construal, prime, and quality of treatment ($B = .22, p < .05; R^2 = .03$). To test Hypothesis 2, we again examined (as follows) the 2-way interactions between independent self-construal and quality of treatment within each prime condition.

Independent prime ($N = 51$). As expected, the 2-way interaction between quality of treatment and independent self-construal was significant ($B = -.33, p < .05; R^2 = .10$); the pattern is depicted in Fig. 3 (bottom panel). Those with a strong independent self-construal exhibited a reverse fair process effect; they reported significantly lower state self-esteem ($B = -1.68, p < .01$) when the graduate student treated them with sensitivity (vs. insensitivity). In contrast, those with a weak independent self-construal reported similar levels of state self-esteem regardless of the interpersonal treatment they received from the graduate student ($B = .30, p > .10$).

Interdependent prime ($N = 55$). A significant main effect of trait self-esteem emerged ($B = .55, p < .01$); higher trait self-esteem was associated with higher state self-esteem following the negative outcome. In addition, there was a significant main effect of quality of treatment ($B = .58, p < .01; R^2 = .15$); participants reported greater state self-esteem when they were treated with sensitivity (as compared with insensitivity). These findings mirror Studies 1 and 2 in that priming an interdependent focus promoted relatively more positive reactions to fair treatment.

Mediation analyses

We followed the procedures outlined by Baron and Kenny (1986) to evaluate whether the independent self-construal \times quality of treatment interaction on outcome satisfaction found in the independent prime condition is mediated by state self-esteem. Demonstrating mediation requires that three conditions are met. First, there must be a significant effect of "X" (in this case, the interaction between independent self-construal and quality of treatment) on the outcome variable ("Y": in

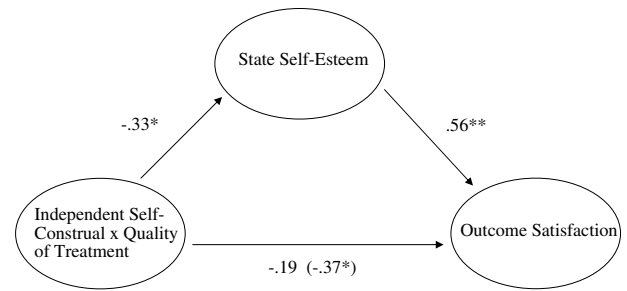


Fig. 4. Path analysis depicting the mediating role of state self-esteem in the independent self-construal \times quality of treatment interaction on outcome satisfaction judgments. Numbers on the paths are unstandardized betas. The total effect of the interaction on outcome satisfaction is given inside the parentheses; the direct effect (i.e., after controlling state self-esteem) is given outside the parentheses. * $p < .05$, ** $p < .01$. $N = 51$. A Sobel test of the indirect effect of the interaction on outcome satisfaction was significant ($z = -1.99, p < .05$).

this case, outcome satisfaction). Second, there must be a significant effect of "X" on the mediator ("M": in this case, state self-esteem). Third, the mediator must predict the outcome, when "X" is controlled, and the effect of "X" on "Y" (controlling for the mediator) should be substantially reduced. Finally, a test of the indirect effect of "X" on the outcome variable (for example, using a Goodman or Sobel test) should be significant. In all regression analyses, the main effects of independent self-construal and quality of treatment, in addition to the control variables, were treated as covariates.¹⁵

Results of the mediation analysis are depicted in Fig. 4. Findings from the first two regression analyses satisfied the first two conditions of mediation: the independent self-construal \times quality of treatment interaction significantly predicted outcome satisfaction ($B = -.37, p < .05$) and state self-esteem ($B = -.33, p < .05$). In the final analysis, in which outcome satisfaction was regressed on our control variables, the main effects of independent self-construal and quality of treatment, their interaction term, and state self-esteem (the mediator), a significant main effect of state self-esteem on outcome satisfaction emerged ($B = .56, p < .01$) and the independent self-construal \times quality of treatment interaction was rendered non-significant ($B = -.19, p > .10$). These results suggest that state self-esteem fully mediated the effect of the independent self-construal \times quality of treatment interaction on outcome satisfaction. As an additional test of mediation, we assessed the indirect effect of the independent self-construal \times quality of treatment interaction on outcome satisfaction using a Sobel test. Results of this analysis were significant ($z = -1.99, p < .05$) providing further confirmation of mediation.

¹⁵ Mediation results are similar regardless of whether trait self-esteem (measured at time 1) is or is not included as a control variable. For simplicity, we present the results with initial self-esteem controlled.

Discussion

Replicating Study 2, we found that the more individuals define themselves in terms of their achievement and competitiveness—as indexed by a stronger independent self-construal—the more likely they were to exhibit a *reverse* fair process effect on outcome judgments. And, again, we found that this effect was qualified by the situation such that it occurred only when independent—but not interdependent—aspects of the self were made accessible.

Our research also begins to address the mechanism mediating the reverse fair process effect on outcome judgments. Specifically, we found that those with a strong independent self-construal reacted more negatively to an unfavorable outcome following fair procedures because of diminished self-esteem. Presumably, then, among those with a strong independent self-construal, fair treatment increased feelings of personal responsibility for the negative outcome, which in turn led to diminished self-regard.

General discussion

When, and for whom, do fair procedures lead to positive or negative reactions?

When people receive unfavorable outcomes via fair decision-making procedures, they can exhibit at least two reactions: People may react positively, because fair procedures communicate to them that they are accepted and respected by others, which can *enhance* feelings of positive self-regard. In contrast, people may react negatively, because fair procedures imply that they are personally responsible for their negative outcomes, which can *diminish* feelings of positive self-regard (e.g., Brockner, 2002).

Despite the fact that both positive and negative reactions to fair procedures have been documented, little research has examined when, and for whom, such reactions are more likely to occur. Our research is consistent with the idea that both individual differences and situational cues influence whether people display relatively more positive or negative reactions. In fact, our research suggests that people may interpret procedural fairness information in a manner that is consistent with defining aspects of the self. Those who base their self-identity on their relationships with others (i.e., those with strong interdependent self-construals) may be more likely to extract social information from procedures, leading them to react more favorably when procedures indicate that they are socially accepted (i.e., when procedures are fair) versus when procedures indicate that they are rejected (i.e., when procedures are unfair). In contrast, those who base their self-identity on outperforming oth-

ers (i.e., those with strong independent self-construals) may be more likely to extract attribution-relevant information from procedures, leading them to react more negatively when procedures indicate personal responsibility for negative events (i.e., when procedures are fair) versus when procedures provide external attributions for negative events (i.e., when procedures are unfair).

Our research also suggests that the situation may promote relatively more positive or negative reactions to fair procedures by influencing which aspect of people's self-identity is salient. In effect, situations may make interdependent motives (e.g., understanding whether one is valued in the eyes of others) and independent motives (e.g., understanding one's level of responsibility for negative outcomes) more or less salient to an individual at a given time and thus may impact how fair and unfair procedures are interpreted.

From a theoretical standpoint, our results support multiple needs perspectives (e.g., Cropanzano et al., 2001) of justice reasoning. Specifically, our findings suggest that social acceptance or belongingness needs, and achievement needs, may influence interpretations of, and reactions to, justice and injustice. Although the role of social-identity needs in justice processes has received substantial theoretical and research attention, researchers are only more recently recognizing the role of achievement-related concerns (e.g., Cropanzano et al., 2001; Skitka, 2003). Our findings suggest that it is important to incorporate these latter needs into justice frameworks to fully understand justice processes. The current work also supports Skitka's (2003) Accessible Identity Model (AIM) of justice reasoning. Specifically, we found that the impact of procedural fairness on people's reactions to unfavorable outcomes depends both on the strength of people's self-identities as well as on their cognitive accessibility. Consistent with the AIM, priming one aspect of self-identity (e.g., social) had little impact on reactions unless internalization of the identity was also high.

Most previous attempts to understand when positive versus negative reactions to procedural fairness occur have focused on the nature of the dependent variable. In particular, it has been noted that the fair process effect is most likely to emerge on measures of support for decisions, decision-makers, and the organization, whereas the reverse fair process effect is most likely to emerge on measures of self-evaluation, such as self-esteem (e.g., Brockner, 2002; Brockner et al., 2003). Our research indicates that it is also important to consider the nature of people's self-identity in predicting how they will interpret, and react to, procedural fairness. Our data thus add to an emerging literature acknowledging the fundamental role of the self in justice processes. Our results are particularly novel as they are, to our knowledge, the first to incorporate individual differences in achievement-based needs (i.e., independent

self-construal) for understanding reactions to procedural fairness in the context of unfavorable outcomes.

Limitations of the current research

Our research provides important insight into when, and for whom, positive or negative reactions to fair procedures are likely to occur; yet, some limitations of our work should be noted. First, all three of our studies utilized laboratory-based, experimental research designs. We chose such designs to maximize internal validity and therefore allow for causal statements among our variables. The generalizability of our findings, however, is unknown. For example, by their nature, laboratory paradigms may be criticized for being somewhat contrived or unnatural and, when poorly designed, results can be affected by demand characteristics. Our research is strengthened by our use of elaborate cover stories and psychologically involving paradigms (especially in Studies 2 and 3). We also used a detailed funnel debriefing process (adapted from Bargh et al., 1996; see also Page, 1969) to assess participant suspicion. Importantly, it is unlikely that our findings are due to demand characteristics in light of the complex 3-way interactions revealed between individual differences, situational prime, and procedural justice; this argument is strengthened by the fact that we assessed individual differences in self-identity well in advance of the main study sessions. Thus, we are confident that our results are valid, and optimistic that they would generalize to other research paradigms both in the laboratory and in work settings. Nevertheless, future research is necessary to ensure this conclusion.

Second, the interdependent self-construal scale (Singelis, 1994) revealed lower internal consistency across our studies than might be preferred (Study 1: $\alpha = .60$; Study 2: $\alpha = .73$). Nonetheless, this is likely due more to heterogeneity in the measure (for a discussion see Singelis et al., 1995) than to invalidity; in short, the measure of interdependent self-construal we used did predict reactions—measured several weeks later—in a theoretically meaningful manner.

Third, the current series of studies do not directly examine the psychological mechanisms underlying our observed effects. Given that people with a strong interdependent self-construal are, by definition, concerned with their relationships and interconnectedness with others, whereas those with a strong vertical independent self-construal are, by definition, concerned with their individual achievement, our findings are consistent with the idea that social-identity processes may underlie the fair process effect and that attributional processes may underlie the reverse fair process effect. Future research is, however, needed to examine underlying mechanism directly.

Even if we assume that an attributional mechanism underlies the reverse fair process effect found in the cur-

rent series of studies, one might ask why the manipulation of sensitivity (our operationalization of procedural justice) affected outcome attributions. As noted in the introduction, one possibility is that sensitive treatment leads employees to view leaders as trustworthy and thus to perceive them as using fair decision-making procedures to allocate outcomes. In support of this idea, in all of our studies, the manipulations of sensitivity significantly affected perceptions of decision-making structure. When negative outcomes were delivered in a sensitive (vs. insensitive) manner, participants were more likely to perceive that fair decision-making procedures had been used to allocate outcomes. Past research on fairness heuristic theory has shown that information about the structure of decision-making procedures (e.g., the presence or absence of voice) is substituted for social comparison information when evaluating outcome fairness (Van den Bos et al., 1997). Our findings extend this line of research by indicating that the quality of interpersonal treatment received from an authority is similarly substituted for procedural information when evaluating the fairness of decision-making structure.

Finally, whereas our self-esteem data are consistent with the notion that individuals with a salient independent identity made more internal attributions for the unfavorable outcome when it followed from fair (vs. unfair) procedures, it remains unclear exactly what second-order process (e.g., denial, affect as information) underlies outcome evaluations. For example, it is possible that participants' outcome evaluations were colored by their negative self-evaluations in the absence of other information about outcome fairness and satisfaction (Van den Bos, 2003). Future research is necessary to uncover the specific underlying processes at play, which admittedly may be a difficult task, given the possibility that they operate at an implicit level.

Possible practical implications of the current research

If the results of our research are generalizable to the organizational setting, a number of practical suggestions are worth delineating. For one, it could be possible for leaders to promote the fair process effect among working adults (in particular, among those with a strong interdependent self-construal), by creating a work environment that highlights employees' relationships with others. Recent leadership research by Paul, Costley, Howell, Dorfman, and Trafimow (2001) offers one means of doing this. Paul et al. showed that charismatic and integrative leadership (i.e., leadership involving individualized consideration and charisma) increased the accessibility of individuals' collective (i.e., or interdependent) self-construal relative to leadership involving only individualized consideration. Other workplace factors that might influence the accessibility of interdependent and independent self-construals include the

structure of work (e.g., team vs. individual-based structures) and organizational culture and climate (e.g., cooperative vs. competitive cultures).

Our results could also mean that, when receiving unfavorable outcomes, competitive employees could respond particularly negatively to fair treatment. Interestingly, the results of Studies 2 and 3 suggest that this negative effect may be mitigated through the same intervention noted above—that is, by situationally evoking interdependent rather than independent aspects of the self. On a more micro level, supervisors might be able to reduce negative reactions among competitive employees through the manner in which they deliver bad news. For example, they could highlight positive aspects of employees' performance when communicating unfavorable decisions, and they could provide constructive criticism to employees on aspects of their performance that are unstable (e.g., effort, organization of tasks), which ought to enhance employees' self-efficacy and motivation (see Weiner, 1985b).

Conclusion

It is almost a certainty that people will receive unfavorable outcomes in the workplace. How decisions are made and communicated can have a profound influence on people's reactions. Our research indicates that people's reactions to procedural fairness are contingent on how they perceive their surrounding environment, and, more fundamentally, on how they perceive themselves.

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