



# Self-uncertainty and responsiveness to procedural justice<sup>☆</sup>

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## Abstract

We propose that self-uncertainty moderates responsiveness to perceived variations (e.g., breaches or provisions) in procedural justice. Specifically, we tested the hypothesis that high (compared to low) self-uncertainty individuals are more responsive to variations in procedural justice, because they use procedural information to infer their organizational acceptance, respect, or social standing. In six experiments, high (compared to low) self-uncertainty individuals responded with affective, cognitive, and behavioral intensity to perceived variations in procedural justice. In particular, they felt worse, judged the procedure as unfair, and were unwilling to cooperate when they were deprived (as opposed to granted) voice. However, this pattern was cancelled out when these individuals engaged in a self-affirming activity. The findings establish the self in general, and self-uncertainty in particular, as a crucial moderator of responses to procedural information.

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## Introduction

Sparked by the pivotal work of Thibaut and Walker (1975), research has established that cognition, affect, and behavior are influenced not only by type of outcomes (*distributive justice*), but also by procedures used to implement the outcome (*procedural justice*). For example, perceptions of procedural justice influence outcome (e.g., salary) evaluations (Tyler, 1990; Van den Bos, Lind, Vermunt, & Wilke, 1997), impressions of authorities (e.g., supervisors) and support for them (Tyler & Lind, 1990; Van den Bos, Wilke, & Lind, 1998), emotions and transient mood (Mikula, Scherer, & Athenstaedt, 1998; Van den Bos, 2001a), compliance with authorities (Lind & Tyler, 1988; Tyler, 1988), and

behavior within organizations (e.g., good citizenship; Greenberg, 1987; Moorman, 1991).

Although these cognitive, affective, and behavioral consequences are remarkable, it is not entirely clear why they occur. Why do people react so strongly to variations (i.e., infringement or provision) of procedural justice, and what kind of people are likely to react most strongly to such variations? The objective of this article is to address individual differences in responses to procedural justice. Specifically, we are interested in the role of the self, a topic that has recently been pushed to the forefront of the justice empirical agenda (Brockner et al., 1998; De Cremer, 2003; Shroth & Shah, 2000; Van den Bos, 2001a; Vermunt, van Knippenberg, van Knippenberg, & Blaaauw, 2001).

### *Self and procedural justice*

Early theorizing accounted for responses to procedural justice in economic terms (Leventhal, 1980; Thibaut & Walker, 1975). For example, having the opportunity to express one's opinion (i.e., voice; Folger,

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1977) increases control over outcomes and thus maximizes the probability of economic gain. However, more recent social justice theories, such as the group-value model (Lind & Tyler, 1988) and the relational model of justice (Tyler & Lind, 1992), have proposed that people value fair procedures for reasons above and beyond economic self-interest. This is because fair procedures convey a symbolic message that carries self-relevant implications. Voice granting by an authority is perceived as a gesture of respect and appreciation, a perception that reflects positively on self-regard (De Cremer, 2002; Koper, van Knippenberg, Bouhuijs, Vermunt, & Wilke, 1993; Shroth & Shah, 2000).

The link between authority-enacted procedures and self-esteem level has been addressed by justice research. Self-esteem level refers to a global evaluation of one's own worth and value (Baumeister, 1998), and as such is, by definition, a subjective judgment partially influenced by social context (e.g., others' opinions, attitudes, or approval). In a pioneering study, Koper et al. (1993) demonstrated that participants experience a drop in self-esteem level when an academic authority used an unfair (rather than fair) procedure to grade their tests. The authors reasoned that the unfair procedure devalued participants. This line of reasoning is compatible with sociometer theory's proposal that a vital function of self-esteem is to monitor and communicate to the individual the degree of social acceptance or rejection (Leary & Baumeister, 2000; Leary, Tambor, Terdal, & Downs, 1995). We surmise that participants who were treated unfairly in the Koper et al. study have felt ignored and rejected—a state reflected in their lowered self-esteem. These findings are also compatible with the emphasis of self-determination theory on the need for relatedness (Deci & Ryan, 2000): unfair treatment undermines this need by communicating exclusion, thus lowering self-esteem. More generally, this line of reasoning is consistent with the symbolic interactionism perspective that interpersonal appraisals reflect on, and can change, one's self-image (Tice & Wallace, 2003). In summary, perceived violations of procedural justice have implications for level of self-esteem.

#### *Self-esteem level as a moderator of responses to procedural justice*

Both the procedural justice and self-esteem literatures converge on the notion that the self, and consequently one's self-worth, is fundamentally relational (Andersen, Chen, & Miranda, 2002; Sedikides & Brewer, 2001; Tice & Baumeister, 2001; Tyler & Smith, 1999). Type of authority treatment (i.e., fair vs. unfair) impacts on a person's self-regard. This impact, however, is likely to be moderated by chronic differences in self-esteem level. High self-esteem persons may respond differently than their low self-esteem counterparts to variations in procedural justice.

The moderational role of self-esteem level has been explored in three investigations. Brockner et al. (1998) reported that high, compared to low, self-esteem participants were influenced more strongly by perceived availability of voice opportunities. Vermunt et al. (2001), however, found that procedural justice influenced distributive justice judgments mostly among low, rather than high, social self-esteem participants. In line with Vermunt et al., but in contrast to Brockner et al., Van den Bos (2001a, Experiment 1) reported that participants low (compared to high) in state self-esteem, as induced by a mortality salience manipulation, reacted more strongly to variations in fairness information. These investigations have made a case for the moderational role of self-esteem level in procedural justice effects. At the same time, however, the investigations have produced mixed findings.

#### *Self-uncertainty as a moderator of responses to procedural justice*

These conflicting findings may be rooted in an inherent weakness associated with the assessment of self-esteem level: what does it mean to be high or low in self-esteem? Do high self-esteem participants use relational information communicated by procedures differently than low self-esteem participants? Specifically, do high self-esteem participants use information implied by fair procedures to bolster their strengths or do they have a sense of self that is settled, secure, and rather indifferent to such information? Do they routinely deflect the personal threat communicated by unfair procedures? On the other hand, do low self-esteem participants have such an unsettled and insecure sense of self that they feel exalted and enthralled by fair procedures, while feeling debased and dejected by unfair procedures? These are the questions we address in the present investigation.

As our abovementioned literature review indicated, full answers to these questions cannot be obtained by focusing exclusively on self-esteem level as a moderator of responses to procedural justice. Such a practice has produced inconsistent or borderline uninterpretable findings. Consequently, we opted to address these questions by focusing on the role of *self-uncertainty* in moderating responsiveness to variations in procedural justice.

We acknowledge that the construct of uncertainty has already been linked with perceptions of procedural justice. According to the uncertainty management model (Van den Bos & Lind, 2002), people look for information about procedural justice to reduce uncertainty. However, the model refers to uncertainty in general (e.g., pertaining to the social environment and the self), rather than self-uncertainty in particular. We complement this research by testing the notion that self-uncer-

tainty per se plays a role in responses to variations in procedural justice.

Specifically, we suggest that people use variations in procedural justice as an informational source, as a critical link between the social environment and the self, and as a way to reduce uncertainty about the self (McGregor, Zanna, Holmes, & Spencer, 2001; Sedikides & Gregg, 2003; Sedikides & Strube, 1997). When self-uncertainty (e.g., doubts about one's identity and inclusiveness) is high, people will be particularly sensitive and responsive to procedural justice variations (cf. Brockner, 1984; Campbell, 1990). On the one hand, such variations will be seen either as validating a positive but fragile self-aspect or as threatening a negative and fragile self-aspect. In the first case, affective, cognitive, and behavioral reactions will be overly positive, in the second case, overly negative. On the other hand, variations in procedural justice will be perceived as having self-clarification potential. Such information will enable the individual to draw social inclusiveness, social acceptance, or social standing inferences (Tyler, 1989, 1999).

The main objective of our investigation is to test the hypothesis that high (compared to low) self-uncertainty individuals are more responsive to variations in procedural justice. We test this hypothesis in six experiments, involving converging operationalizations of self-uncertainty, responsiveness, and procedural justice. We operationalize self-uncertainty in terms of self-esteem instability (Experiments 1 and 2), self-doubt (Experiments 3 and 4), and self-concept unclarity (Experiments 5 and 6), while controlling for the role of self-esteem level (Experiments 1 and 5). Further, we operationalize responsiveness to variations in procedural justice in terms of cognitive reactions (i.e., fairness judgment; Experiments 1 and 2), affective reactions (i.e., positive or negative affect; Experiments 2, 3, and 5), and behavioral intention reactions (i.e., cooperation intention; Experiments 4, and 6). Additionally, we operationalize procedural justice in terms of voice (Experiments 1, 3, 4, 5, and 6) and accuracy (Experiment 2). Moreover, we test the hypothesis in terms of both situational (Experiments 1 and 5) and scenario (Experiments 2, 3, 4, and 6) manipulations. We conclude by drawing implications of our findings for the self, justice, and organizational literatures.

## Experiment 1

In Experiment 1, we operationalized self-uncertainty in terms of self-esteem instability. This construct refers to within-person variability in self-esteem level, or “the magnitude of short-term fluctuations in individuals' contextually based current self-esteem” (Kernis et al., 1998, p. 658). Self-esteem instability is a critical predictor of a range of psychological outcomes. Compared to stable

self-esteem individuals, those with unstable self-esteem display reduced self-determination in goal regulation (Kernis, Paradise, Whitaker, Wheatman, & Goldman, 2000b), focus on threatening aspects of unpleasant interpersonal events (Waschull & Kernis, 1996), and over-generalize the negative implications of domain-specific failure (Kernis et al., 1998). Importantly, self-esteem level and instability are partially autonomous (albeit interdependent) components of self-esteem, as they are associated with distinct psychological functions. For example, hostility proneness is better understood as a function of unstable and high self-esteem (Kernis, Grannemann, & Barclay, 1989), and positive affectivity is better understood as a function of stable and high self-esteem (Kernis, Brown, & Brody, 2000a; Kernis et al., 2000b), rather than simply a function of high self-esteem in either case. Also, self-esteem instability is a more potent predictor of depression proneness than self-esteem level in the presence of stressful life events (Butler, Hokanson, & Flynn, 1994; Kernis et al., 1998).

The construct of self-esteem instability has implications for procedural justice. To summarize the above literature, unstable self-esteem individuals have unsettled and insecure feelings of self-worth, rely on external rather than internal validation, and experience substantial self-regard changes as a function of evaluative contextual cues. Stable self-esteem individuals, however, have well-anchored and secure feelings of self-worth, rely on internal rather than external validation, and experience insubstantial self-regard changes as a function of evaluative circumstances. It follows that unstable self-esteem individuals will be relatively more sensitive and responsive to contextual variations that have self-relevant implications. In the framework of the present investigation, they will be more amenable to perceived variations in procedural justice (i.e., unfair vs. fair treatment).

In an effort to provide a compelling test of the predicted moderating effect of self-uncertainty (i.e., self-esteem instability), we assessed participants' level of self-esteem and used it as a covariate in our analyses. This practice could enable us to rule out the possibility that the obtained results are attributable to self-esteem level and could also suggest important differences between the constructs of self-uncertainty and self-esteem level (see Kernis et al., 2000a, 2000b, for a similar reasoning).

We used a standard manipulation of procedural justice: voice (Folger, 1977; Lind, Kanfer, & Earley, 1990; Van den Bos, 1999). This refers to whether participants are allowed an input (e.g., opinion) to the decision-making process. Having voice is associated with perceptions of fairness in procedures (McFarlin & Sweeney, 1996), goal setting (Earley & Lind, 1987), decision-making (Lind et al., 1990), and decision outcome (Van den Bos et al., 1998). Furthermore, we implemented a social dilemma, defined as a situation in which personal and collective interests are at odds (Komorita & Parks,

1994). Specifically, we used a public goods dilemma. Participants were asked to contribute towards a public good or service that would become available once a certain amount of money or points was invested. The dominant option is to free-ride on the contributions of the others, because, once the public good becomes available, no-one is excluded from its use (Olson, 1965). Public goods dilemmas represent interdependent situations that have critical and obvious implications for self-definition and the quality of social relationships. According to fairness heuristic theory (Lind, 2001), the implications of procedures become increasingly self-relevant in the presence of concerns about social interdependence, because interdependent relationships “open the door to rejection and loss of identity” (Lind, 2001, p. 61). Such situations, then, elevate the personal involvement of the experimental procedure (Lind, 2001; Tyler & Dawes, 1993; Van den Bos & Lind, 2002).

## Method

### Participants and design

Fifty-two undergraduate students at Maastricht University participated voluntarily and were each paid 10 Dutch Guilders (approximately \$5). Self-esteem instability was a continuous variable and procedural justice a dichotomous one (voice, no-voice). Participants were randomly assigned to the procedural justice conditions. At the conclusion of each experimental session, participants were debriefed, thanked and excused.<sup>1</sup>

### Experimental procedure

On arrival to the laboratory, participants were escorted to separate cubicles, each containing a computer. Participants learned that the computers were connected via intercom. Instructions and data collection were computerized.

Participants were informed that the experiment consisted of two parts. The first part was concerned with the validity of psychological scales. Participants were asked to complete the Labile Self-Esteem Scale (LSES; Dykman, 1998). This 5-item scale assesses the perceived instability of self-esteem level; that is, the scale assesses the extent to which participants perceive their self-esteem as fluctuating or stable. Responses to the items range from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher values indicating greater self-esteem instability. Example items are: “I’m often feeling good about myself 1 min, and down on myself the next minute” and “How I feel about myself stays pretty much the same from day-to-day” (reversed scored). The internal consistency of the scale was high ( $\alpha = .85$ ), and the scale revealed that participants had moderately stable self-es-

teem ( $M = 3.16$ ,  $SD = .70$ ). Participants also completed the 10-item Rosenberg Self-Esteem Inventory (Rosenberg, 1965). The responses to the items range from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher values indicating higher levels of self-esteem. The internal consistency of the scale was high ( $\alpha = .89$ ).

The LSES assesses perceived self-esteem instability. As such, the scale differs from the measure of self-esteem instability pioneered by Kernis and his colleagues (Kernis et al., 1989; Kernis et al., 1998; Kernis et al., 2000b). Specifically, Kernis and his colleagues assessed self-esteem level repeatedly (e.g., once a week over a period of several weeks) and used the standard deviation ( $SD$ ) as an index of self-esteem instability. Nevertheless, the criterion validity of the LSES is acceptable. This scale correlates with a standard scale of self-esteem level (i.e., the Rosenberg Self-Esteem Inventory) at  $r = .52$ ,  $p < .001$  (Neiss, Sedikides, & Stevenson, 2004) and  $r = .55$ ,  $p < .001$  (current experiment). This pattern is consistent with correlations reported not only by Kernis and colleagues (Kernis et al., 2000a, 2000b; Kernis & Waschull, 1995) but also by other investigators (Roberts, Kassel, & Gotlib, 1995) who used the  $SD$ . That is, people with lower self-esteem level report more unstable self-esteem, regardless of whether instability is assessed with the LSES or the  $SD$ .

Next, participants learned that the second part of the experiment involved the co-participation of four other persons. Participants were told that they would be referred to by a letter—a practice that would ostensibly facilitate data collection—and that a computer would randomly determine their letter. In reality, this feedback was pre-programmed and all participants were named “B.”

Participants then learned that their next task involved playing a contribution game with the other group members. The game simulated investment problems. They were told that they would receive 300 cents as start-up money and that their task was to decide how much money to contribute to the group and how much money to keep for themselves. The total amount contributed to the group would be multiplied by two and would subsequently be allocated to the group members themselves. The person who would make the allocation decision would be the leader, to be selected randomly by the computer. Soon thereafter, participants learned that their leader was person E.

The procedural justice manipulation followed. In the *voice* condition, the leader informed participants that the allocation decision had not been made, and the leader proceeded by asking participants for their input to that decision. Indeed, participants responded by typing in their opinion. In the *no-voice* condition, the leader informed participants that the allocation decision had been made, their input was unnecessary and, thus, they would not be asked to type in their opinion.

<sup>1</sup> This concluding routine was followed in all reported experiments.

In the final stage of the experiment, we collected the manipulation check and dependent measures. Participants responded to all items on a 7-point scale (1 = *not at all*, 7 = *very much so*). We checked the effectiveness of the procedural justice manipulation by asking participants “to what extent did the leader provide you with an opportunity to voice your opinion” (Van den Bos et al., 1997). We measured fairness judgment by asking participants “to what extent did you think the leader acted in a fair manner?” and “to what extent did you think the leader acted in a trustworthy manner?” We averaged responses to these two items to form a composite ( $r = .56$ ,  $p < .001$ ).<sup>2</sup>

### Results and discussion

#### Manipulation check

A regression analysis using voice and self-esteem instability in Step 1 and the interaction term in Step 2 (with self-esteem instability being centered; Aiken & West, 1991) on the manipulation check question revealed a significant effect of procedural justice,  $\beta = .92$ ,  $p < .001$ . Neither the self-esteem instability effect,  $\beta = .04$ ,  $p < .42$ , nor the interaction,  $\beta = -.20$ ,  $p < .35$ , were significant. For illustrational purposes, we also carried out a one-way analysis of variance (ANOVA) on the manipulation check question. The procedural justice main effect,  $F(1, 50) = 261.50$ ,  $p < .001$ , revealed that participants in the voice condition ( $M = 5.34$ ) were more likely to report that they were given an opportunity to express their opinion compared to those in the no-voice condition ( $M = 1.34$ ).

#### Fairness judgment

We conducted a hierarchical regression analysis in which fairness judgment was predicted by main effect terms (i.e., procedural justice and self-esteem instability) in Step 1 and the interaction term in Step 2. We also included self-esteem level as a covariate. Following Aiken and West (1991), we centered the self-esteem instability and self-esteem level scores (i.e., by subtracting the mean from the score) and based the interaction term on the centered score of self-esteem instability.<sup>3</sup>

The covariate was not significantly related to fairness judgment,  $\beta = .02$ ,  $p < .89$ . Fairness judgment, though, was positively related both to procedural justice,  $\beta = .39$ ,  $p < .005$ , and to self-esteem instability,  $\beta = .42$ ,  $p < .005$ . Importantly, the interaction was significant,  $\beta = .95$ ,  $p < .05$  (Fig. 1). We followed up with simple slopes analyses intended to clarify the interaction. When

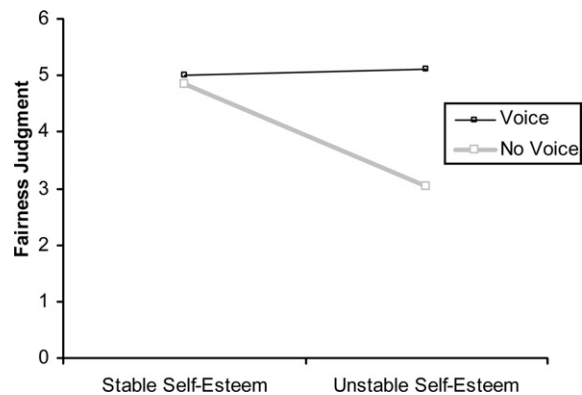


Fig. 1. Fairness judgment as a function of procedural justice and self-esteem instability in Experiment 1.

self-esteem was unstable, fairness judgment was positively related to procedural justice,  $\beta = .63$ ,  $p < .001$ ; however, when self-esteem was stable, fairness judgment was unrelated to procedural justice,  $\beta = .08$ ,  $p < .61$ .

#### Summary

The findings are consistent with our reasoning. Stable self-esteem participants were rather stoic and unperturbed to variations in procedural justice (i.e., having vs. not having voice). Unstable self-esteem participants, on the other hand, were sensitive and responsive. They were more likely to judge the procedure as fair when they had voice than when they did not. Interestingly, these findings were not attributable to self-esteem level. Self-uncertainty (i.e., self-esteem instability) influences responses to procedural justice variations above and beyond those of self-esteem level.

### Experiment 2

The purpose of Experiment 2 was to replicate and extend Experiment 1. We continued to operationalize self-uncertainty in terms of self-esteem instability. However, we used a new operationalization of procedural justice: accurate versus inaccurate procedure. This approach fits well with Brockner, Ackerman, and Fairchild (2001) suggestion that it is helpful to examine whether moderators are limited to a single versus multiple determinants of procedural justice. Moreover, information accuracy is regarded as an essential component of procedural justice (Leventhal, 1980) and has been used in several social justice investigations (De Cremer, 2004; Van den Bos et al., 1997; Vermunt, Wit, Van den Bos, & Lind, 1996), including ones that examined the impact of procedures on self-esteem level (Koper et al., 1993; Shroth & Shah, 2000).

We assessed responsiveness to variations in procedural justice not only in terms of cognitive reactions (i.e., fairness judgment), but also in terms of affective

<sup>2</sup> In this and all subsequent experiments, separate item analyses for all measures produced identical results to those reported on the composite.

<sup>3</sup> We used this centering practice in all hierarchical regression analyses reported in this article.

reactions (i.e., positive affect). Much of prior justice research has focused on negative affect (Folger & Cropanzano, 1998). Recently, however, the assessment of positive affect has been gaining popularity in justice research (Krehbiel & Cropanzano, 2000; Van den Bos, 2001a; Van den Bos & Spruijt, 2002; Weiss, Suckow, & Cropanzano, 1999), partly due to the acknowledgment that positive and negative affect may produce asymmetrical effects (Isen, 1985; Sedikides & Green, 2001; Trope, Ferguson, & Raghunathan, 2001) and partly due to the renewed relevance of the experience of positive affect when self-related needs are met (Baumeister & Leary, 1995; Buckley, Winkel, & Leary, 2004; De Cremer & Alberts, 2004; Sedikides, Wildschut, & Baden, 2004). Finally, we implemented a scenario-based experimental procedure.

## Method

### Participants and design

Participants were 85 paid undergraduate student volunteers (5 Dutch Guilders, approximately \$2.50) at Maastricht University. Self-esteem instability was a continuous measure and procedural justice a dichotomous one (accurate procedure, inaccurate procedure). Participants were randomly assigned to the procedural justice conditions.

### Experimental procedure

Participants were informed that the experiment consisted of two parts. The first part involved the validity of psychological scales, and participants would need to fill out the LSES. The scale was internally consistent ( $\alpha = .86$ ), with participants' degree of self-esteem stability being rather moderate ( $M = 2.30$ ,  $SD = 0.94$ ). The second part involved social judgment. Participants imagined the following situation (modeled after Van den Bos, Bruins, Wilke, & Dronkert, 1999):

You are someone who wants a job. You have applied for a vacant position in an organization, MicroMac Inc, and you want this position very much. MicroMac informs you that they are interested in you and they invite you to participate in the selection process that, as a standard procedure, all screened applicants at MicroMac have to complete. The selection procedure consists of nine parts: an intelligence test, a personality test, a test assessing mathematical skills, a tests assessing understanding of technical matters, a test assessing calculation skills, a tests assessing language skills, a questionnaire assessing demographic data, a test assessing achievement motivation, and an interview with a personnel officer at MicroMac.

The procedural justice manipulation of accuracy followed. Participants imagined that, a week after their participation in the abovementioned selection process,

they were informed that [all 9 parts/1 of the 9 parts] of the selection process [were/was] graded and that the decision would be based on the parts that were graded. Finally, participants completed the dependent measures. They indicated the extent to which they considered their treatment to be fair (1 = *very unfair*, 7 = *very fair*). This was the fairness judgment measure. Participants also indicated the extent to which they were happy (1 = *not at all*, 7 = *very much*) and content (1 = *not at all*, 7 = *very much*) with the way they were treated. These two items were combined ( $r = .59$ ,  $p < .001$ ) and served as a measure of positive affect.

## Results and discussion

### Fairness judgment

We conducted a hierarchical regression analysis, including procedural justice and self-esteem instability in Step 1 and the interaction term in Step 2. Fairness judgment was related positively to procedural justice,  $\beta = .53$ ,  $p < .001$  and negatively to self-esteem stability,  $\beta = -.30$ ,  $p < .001$ . Importantly, the interaction was significant,  $\beta = .51$ ,  $p < .001$  (Fig. 2). Simple slopes analyses showed that, when self-esteem was unstable, fairness judgment was more strongly related to procedural justice ( $\beta = .69$ ,  $p < .001$ ) than when self-esteem was stable ( $\beta = .37$ ,  $p < .05$ ).

### Positive affect

We carried out a hierarchical regression analysis, including self-esteem instability and procedural justice in Step 1 and the interaction term in Step 2. Positive affect was related positively to procedural justice,  $\beta = .43$ ,  $p < .001$ , and negatively to self-esteem instability,  $\beta = -.30$ ,  $p < .001$ . Importantly, the interaction was significant,  $\beta = .91$ ,  $p < .001$  (Fig. 3). Simple slopes analysis revealed that, when self-esteem was unstable, positive affect was related positively to procedural justice,  $\beta = .71$ ,  $p < .001$ ; however, when self-esteem was stable, positive affect was unrelated to procedural justice,  $\beta = .13$ ,  $p < .27$ .

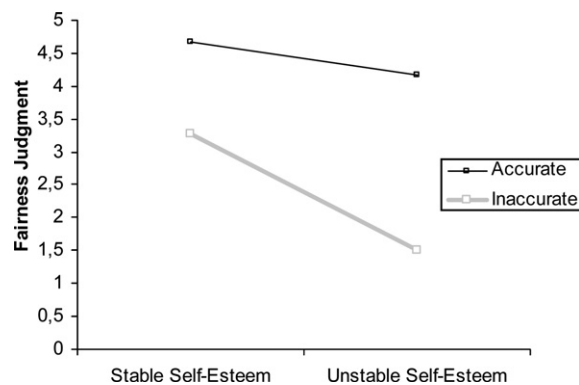


Fig. 2. Fairness judgment as a function of procedural justice and self-esteem instability in Experiment 2.

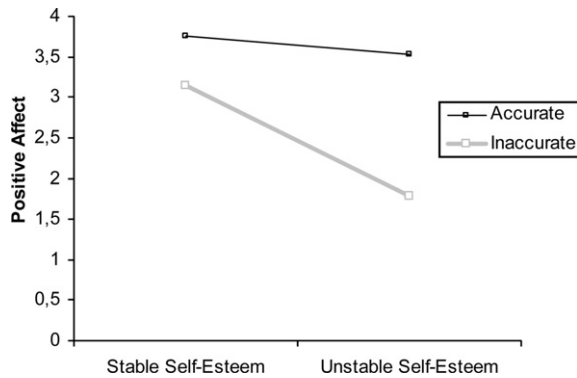


Fig. 3. Positive affect as a function of procedural justice and self-esteem instability in Experiment 2.

### Summary

The findings are consistent with our reasoning. The fairness judgment results conceptually replicated those of Experiment 1: Compared to their stable self-esteem counterparts, unstable self-esteem participants were more responsive to variations in procedural justice, judging the accurate procedure as fairer than the inaccurate one. Moreover, they displayed a more varied affective reaction: they expressed more positive affect when they perceived the procedure as accurate than inaccurate.

### Experiment 3

In Experiment 3, we operationalized self-uncertainty in terms of self-doubt. Although self-esteem instability marks a relatively weak and frail sense of self, self-doubt captures more directly the sense of disbelief and distrust in one's abilities or characteristics. In a pilot study ( $n = 72$ ), we found that self-esteem instability (i.e., LSES;  $\alpha = .86$ ) and self-doubt (Oleson, Poehlmann, Yost, Lynch, & Arkin, 2000;  $\alpha = .82$ ) were correlated,  $r = .52, p < .001$ .

The fact that the two constructs are partially overlapping should not be surprising. Self-doubt correlates negatively with self-esteem level (i.e.,  $r$ s range from  $-.44$  to  $-.68$ ; Oleson et al., 2000), as does self-esteem instability (Neiss et al., 2004). Additionally, self-doubt correlates positively both with reported use of academic performance as a basis for self-worth ( $r = .37, p < .001$ ) and reported higher desire for social approval ( $r = .33, p < .001$ ) (Oleson et al., 2002; see also Kernis et al., 2000a). The latter two variables are indices of contingent self-esteem (Crocker & Wolfe, 2001). Individuals high on contingent self-esteem share psychological function similarities with those high on self-esteem instability: they often feel angry (Kernis, Paradise, & Goldman, 1999), experience wide fluctuations in state self-esteem level as a function of academic (i.e., graduate school) acceptance or rejection (Crocker, Sommers, & Luhta-

nen, 2002), are prone to depression as first-year college students (Crocker, 2002), and respond with hostility to an insulting evaluator (Paradise & Kernis, 1999).

In this experiment, we were interested in affective reactions to variations in procedural justice (i.e., voice, no-voice). We focused on the measurement of negative affect, in line with prior justice studies (Folger & Cropanzano, 1998; Van den Bos & Spruijt, 2002). We hypothesized that the impact of procedural justice on affective reaction would be more pronounced when self-doubt was high rather than low.

### Method

#### Participants and design

Sixty-nine undergraduate students at Maastricht University participated voluntarily and were each paid 2 euros (approximately \$2). Self-doubt was a continuous measure and procedural justice a dichotomous one (voice, no-voice). Participants were randomly assigned to the procedural justice conditions.

#### Experimental procedure

Undergraduate students were approached at the University lunchroom by a research assistant and were invited to participate in a short scenario study. Students who agreed were handed a booklet containing all instructions and questions. First, they completed the 8-item self-doubt questionnaire, a subscale of the Subjective Overachievement Scale (Oleson et al., 2000). Example items are: "When engaged in an important task, most of my thoughts turn to bad things that might happen (e.g., failing) than to good" and "I sometimes find myself wondering if I have the ability to succeed at important activities." Participants responded on a scale ranging from 1 (*not characteristic of me at all*) to 5 (*very characteristic of me*). Based on these responses, we formed a composite, with higher scores indicating higher self-doubt. The composite was internally consistent ( $\alpha = .82$ ) and showed that participants had a rather moderate degree of self-doubt ( $M = 2.54, SD = 0.68$ ).

Next, participants read a scenario. They imagined that they were employees at a high-flying company and that, due to strong profit, a bonus of 10,000 Dutch Guilders (approximately \$5,000) would be passed on to them. The allocation decision would be made by the management. The procedural justice manipulation followed and was identical to that of Experiment 1. In the *voice* condition, participants learned that the management would solicit their input to the allocation decision, whereas, in the *no-voice* condition, they learned that the management would make the decision unilaterally. We did not include a manipulation check, but this manipulation has been successful in Experiment 1 (and several of the subsequent experiments reported in this article) and is the most common and effective manipula-

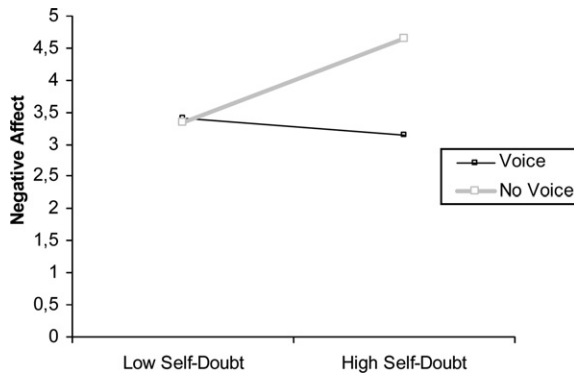


Fig. 4. Negative affect as a function of procedural justice and self-doubt in Experiment 3.

tion in procedural justice research (Folger, 1977; Lind et al., 1990; Van den Bos, 1999). Finally, participants recorded their feelings of sadness and sorrow on a 7-point scale (1 = *not at all*, 7 = *very much so*). We used the composite ( $r = .83$ ,  $p < .001$ ) in the analyses.

### Results and discussion

#### Negative affect

We conducted a hierarchical regression analysis, including procedural justice and self-doubt in Step 1 and the interaction term in Step 2. Negative affect had a descriptively negative relation to procedural justice,  $\beta = -.19$ ,  $p < .11$ , and a significant positive relation to self-doubt,  $\beta = .26$ ,  $p < .05$ . Importantly, the interaction was significant,  $\beta = .86$ ,  $p < .05$  (Fig. 4). When self-doubt was high, negative affect was negatively related to procedural justice,  $\beta = -.43$ ,  $p < .05$ ; however, when self-doubt was low, negative affect was unrelated to procedural justice  $\beta = .05$ ,  $p < .75$ .

#### Summary

Perceived variations in procedural justice exacerbate negative affect among individuals high, but not low, in self-doubt. This finding confirms our hypothesis and conceptually replicates the results of our previous experiments.

### Experiment 4

In Experiment 4, we sought to extend the scope of this investigation by examining whether perceptions of procedural justice influence behavioral intentions. According to Tyler and Blader (2000, 2003), fair procedures promote group-oriented behavior, such as cooperation, which in turn solidifies group membership. Hence, we assessed the effects of procedural justice on cooperation intention. In line with our theoretical framework, we hypothesized that variations in procedural justice

(voice vs. no-voice) would have a pronounced effect on cooperation intention of individuals high (but not low) in self-doubt.

### Method

#### Participants and design

Seventy undergraduate students at Maastricht University participated voluntarily and were each paid 2 euros. Self-doubt was a continuous variable and procedural justice a dichotomous one (voice, no-voice). Participants were randomly assigned to the procedural justice conditions.

#### Experimental procedure

Students were approached by a research assistant and were invited to participate in a paper-and-pencil study. Those who agreed (most did) were handed the stimulus materials and were seated at a table. First, participants filled out the self-doubt questionnaire (Oleson et al., 2000). We averaged responses to these items to form a composite, which was internally consistent ( $\alpha = .79$ ) and showed that participants had a rather moderate level of self-doubt ( $M = 2.55$ ,  $SD = 0.62$ ). Subsequently, participants read and imagined the following scenario:

You are an employee at a company in the Netherlands. You are a member of a team that is assigned specific tasks to complete. At the moment, you are working with the other team members on a common project. Each of you contributes a lot of time and energy to the project.

The procedural justice manipulation followed. All participants read:

Your team has a supervisor responsible for making the final decision regarding the benefits or outcomes that resulted from the team projects. Upon completion of your projects, the supervisor will decide how to share among you the obtained outcomes.

Subsequently, participants in the *voice* condition read: "In this phase of decision making, the supervisor solicits your opinion. In other words, the supervisor provides you with the opportunity to voice your opinion about how the outcomes should be shared." Participants in the *no-voice* condition read: "In this phase of decision making, the supervisor does not solicit your opinion. In other words, the supervisor does not provide you with the opportunity to voice your opinion about how the outcomes should be shared."

Finally, participants completed the dependent measures. They responded to all measures on a 7-point scale (1 = *not at all*, 7 = *very much so*). First, we checked the effectiveness of the procedural justice manipulation by asking participants "to what extent their supervisor provided them with the opportunity to voice their opin-



ions?” Then, we assessed participants’ cooperation intention by asking them to what extent they would “be willing to help team members who have problems,” and “put extra time in this team and its projects.” We formed a composite ( $r = .86, p < .001$ ) by averaging responses to these two items.

### Results and discussion

#### Manipulation check

A regression analysis using voice and self-doubt in Step 1 and the interaction term (with self-doubt being centered) in Step 2 on the manipulation check question revealed a significant effect of procedural justice,  $\beta = .80, p < .001$ . Neither the self-doubt effect,  $\beta = .00, p < .99$ , nor the interaction effect,  $\beta = .42, p < .08$ , were significant. For illustrational purposes, we also carried out a one-way ANOVA on the manipulation check question. The procedural justice main effect,  $F(1, 68) = 122.07, p < .001$ , revealed that participants in the voice condition ( $M = 5.11$ ) were more likely to report that they were indeed given an opportunity to express their opinion compared to participants in the no-voice condition ( $M = 1.71$ ).

#### Cooperation intention

We conducted a hierarchical regression analysis, including procedural justice and self-doubt in Step 1 and the interaction term in Step 2. Cooperation intention was significantly related to procedural justice,  $\beta = .25, p < .05$ , but not to self-doubt,  $\beta = -.02, p < .87$ . The interaction, however, was significant,  $\beta = .76, p < .05$  (Fig. 5). When self-doubt was high, cooperation intention was positively related to procedural justice,  $\beta = .47, p < .005$ ; on the other hand, when self-doubt was low, cooperation intention was unrelated to procedural justice  $\beta = .01, p < .95$ .

#### Summary

Variation in procedural justice influenced mostly individuals with high self-doubt. Those individuals were

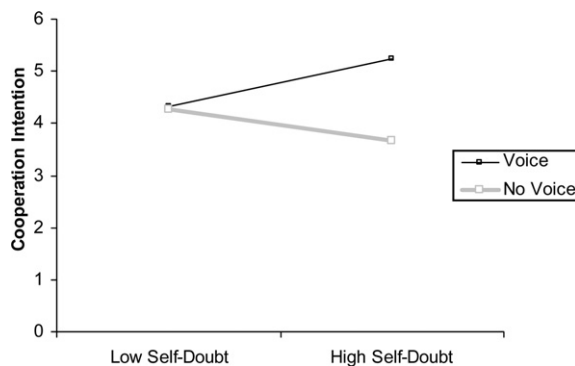


Fig. 5. Cooperation intention as a function of procedural justice and self-doubt in Experiment 4.

more likely than their low self-doubt counterparts to indicate or withdraw their intention to cooperate with team members depending on whether they perceived the procedures as fair or unfair.

### Experiment 5

In Experiment 5, we operationalized the key construct of self-uncertainty in terms of self-concept (un)clarity, defined as “the extent to which the contents of an individual’s self-concept (e.g., perceived personal attributes) are clearly and confidently defined, internally consistent, and temporally stable” (Campbell et al., 1996, p. 141). In a pilot study ( $n = 67$ ), we found that self-concept unclarity (i.e., Campbell et al., 1996;  $\alpha = .91$ ) and self-esteem instability (LSES;  $\alpha = .90$ ) were correlated,  $r = .75, p < .001$ . Given that self-esteem instability and self-doubt are also correlated (see Introduction of Experiment 3), it follows that self-concept unclarity is related to self-doubt. Indeed, that self-concept unclarity is partially overlapping with self-esteem instability and self-doubt should not come as a surprise. To begin with, like self-esteem instability and self-doubt, self-concept unclarity is correlated with self-esteem level (Campbell et al., 1996). Also, unstable self-esteem individuals report having self-concepts that are less clearly defined (Kernis et al., 2000a, 2000b). We know of no studies linking directly self-concept clarity with self-doubt.

We manipulated procedural justice (voice vs. no-voice) and measured affective responses (i.e., negative affect). Importantly, we covaried (as in Experiment 1) self-esteem level. Notably, although self-esteem level was used as a covariate to cognitive responses in Experiment 1, it was used as a covariate to affective responses in Experiment 5. We hypothesized that the effect of procedural justice on affective reactions would be more pronounced among individuals low, rather than high, in self-concept clarity.

#### Method

##### Participants and design

Ninety undergraduate students at Maastricht University participated voluntarily in exchange for course credit. Self-concept clarity was a continuous variable and procedural justice a dichotomous one (voice, no-voice). Participants were randomly assigned to the procedural justice conditions.<sup>4</sup>

<sup>4</sup> For exploratory purposes, we also manipulated selection of group leader (appointment vs. election). However, this manipulation revealed no significant effects and was thus excluded from subsequent consideration.

### Experimental procedure

Participants arrived in the laboratory in groups of four. Each participant was placed in a separate cubicle, containing a table, a chair and a few paper-and-pencil tests. Participants completed the 12-item self-concept clarity scale (Campbell et al., 1996). This scale includes such items as “My beliefs about myself often conflict with one another,” and “In general, I have a clear sense of who I am and what I am.” Responses were made on a 5-point scale (1 = *not at all characteristic of me*, 5 = *extremely characteristic of me*), with higher scores indicating higher self-concept unclarity. The scale had good internal consistency ( $\alpha = .86$ ) and revealed that participants had a moderately clear self-concept ( $M = 3.66$ ,  $SD = 0.63$ ). Next, participants completed the Rosenberg Self-Esteem Inventory (1 = *strongly disagree*, 5 = *strongly agree*) ( $\alpha = .87$ ). Self-concept unclarity was associated with low self-esteem level,  $r = .66$ ,  $p < .001$ .

Participants were then assigned an experimental number. Although they believed that they were assigned different numbers, in actuality they all received number 3. Subsequently, participants were informed by the experimenter, via intercom, that the University board, headed by the president of Maastricht University, was interested in implementing a new electronic system that would enable students to submit their coursework directly to the University computer network. This system was labeled the “electronic planner.” Ostensibly, the Department of Psychology, due to its high instructional involvement with undergraduate students, was requested by the University board to assess students’ opinions about the implementation of the electronic planner. Therefore, during this session, participants would be asked to complete several forms and indicate their choices and preferences on a few issues.

Next, a group leader (always number 4) was selected. The leader’s task was to review the opinions of all group members and decide which opinions were to be listened to by the University board. Next, participants read an article about the electronic planner that was published in the University newspaper a few months prior to the experiment. Participants wrote a brief essay about the electronic planner and contributed suggestions on how to implement it. The experimenter then collected these suggestions and announced that he would deliver them to the group leader.

The procedural justice manipulation followed. In the *voice* condition, the experimenter handed participants a note from the leader indicating that their opinion would be considered and listened to by the University board. In the *no-voice* condition, the leader’s note indicated that their opinion would not be considered and listened to by the University board.

Next, we checked the effectiveness of the procedural justice manipulation by asking participants whether they received the opportunity to voice their opinion about

the electronic planner to the University board (1 = *not at all*, 5 = *very much so*). Then, we assessed the degree to which participants felt furious, anxious, and lonely as a result of the leader’s decision (1 = *not at all*, 5 = *very much so*). We combined responses to these items to form a negative affect composite ( $\alpha = .82$ ).

### Results and discussion

#### Manipulation check

A regression analysis using procedural justice and self-concept unclarity in Step 1 and the interaction term in Step 2 (with self-concept unclarity being centered) on the manipulation check question revealed a significant effect of voice,  $\beta = .31$ ,  $p < .005$ . Neither the self-concept unclarity,  $\beta = .15$ ,  $p < .15$ , nor the interaction,  $\beta = -.23$ ,  $p < .12$ , effect reached significance. In addition, a one-way ANOVA on the manipulation check question revealed that participants in the voice condition ( $M = 4.26$ ) perceived more opportunity for expressing their opinion than those in the no-voice condition ( $M = 3.71$ ), procedural justice main effect  $F(1, 88) = 9.54$ ,  $p < .005$ .

#### Negative affect

We carried out a hierarchical regression analysis, including procedural justice and self-concept unclarity in Step 1 and the interaction term in Step 2. We also included self-esteem level as a covariate. The covariate was not significantly related to negative affect,  $\beta = -.17$ ,  $p < .19$ . Negative affect was negatively related both to procedural justice,  $\beta = -.37$ ,  $p < .001$ , but not to self-concept unclarity,  $\beta = -.07$ ,  $p < .62$ . Importantly, the interaction was significant,  $\beta = .28$ ,  $p < .05$  (Fig. 6). Among participants with unclear self-concept, negative affect was negatively related to procedural justice,  $\beta = -.57$ ,  $p < .001$ ; however, among participants with clear self-concept, negative affect was unrelated to procedural justice,  $\beta = -.16$ ,  $p < .23$ .

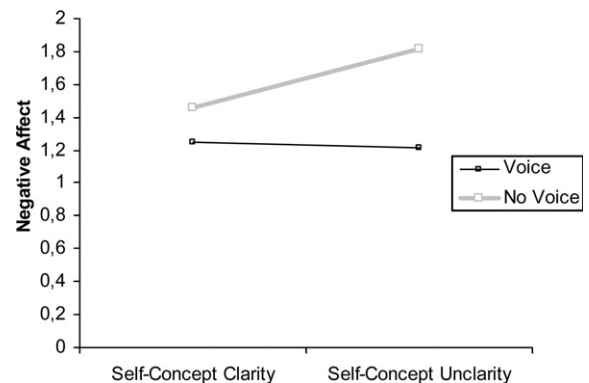


Fig. 6. Negative affect as a function of procedural justice and self-concept clarity in Experiment 5.

### Summary

Consistently with our hypothesis, procedural justice mattered mostly among people with an unclear self-concept. These individuals responded more vigorously to variations in procedural justice. Compared to their self-concept clarity counterparts, they experienced increased negative affect at the breach of procedural justice and experienced decreased negative affect at the provision of procedural justice. Interestingly, these results were obtained controlling for self-esteem level.

### Experiment 6

So far, we have established that variations in procedural justice have a relatively strong influence on individuals with an uncertain self-concept. This influence is manifested in affective reaction, fairness judgment, and cooperation intention. Procedure-related information is functional for high self-uncertainty individuals. Presumably, they capitalize on the self-evaluative potential of such information, as they strive to reduce uncertainty about themselves.

However, from a business manager perspective, the responses of self-uncertain employees to procedure-related information are likely to be viewed as less than functional. To begin with, intense and extreme affective, cognitive, or behavioral responses may not be objectively justified; that is, they may represent an overreaction rather than a measured response. More importantly, these responses are likely to be disruptive and threaten organizational morale and cohesion. Finally, business managers may lack resources (e.g., time or skills) to cope successfully with the immediate interpersonal and organizational consequences of these responses. It might be worth asking, then, whether there is a way to prevent or offset such responses, and we addressed this question in Experiment 6.

We theorized that a constructive and effective means for counterbalancing high self-uncertainty individuals' responses to perceived variations in procedural justice is through self-affirmation. This refers to the momentary infusion of a sense of self-integrity, self-coherence, and self-validation. According to Steele (1988, p. 290), "salient, self-affirming thoughts should make it easier to be objective about other, self-threatening information; they should reduce the pressure to diminish the threat inherent in this information." A self-affirmation manipulation is likely to have a relatively strong impact upon low self-uncertainty individuals, because the structure of these individuals' self-concept (e.g., unstable, full of doubt, and unclear) leaves more room for the impactfulness of a self-affirmation manipulation, and because the need for self-integrity, self-coherence, and self-validation is likely to be higher among these individuals. Our suggestion is partly derived and backed by preli-

minary empirical evidence: a self-affirming activity lessens affective reactions to procedural justice variations (Van den Bos, 2001a, Experiment 2; Wiesenfeld, Brockner, & Martin, 1999).

In this experiment, we operationalized self-uncertainty as self-concept unclarity. We manipulated two variables: procedural justice and self-affirmation. Additionally, we measured responses to procedural justice variations in terms of cooperation intention. Based on the above discussion, we hypothesized that a self-affirmation manipulation would be particularly effective among high self-concept unclarity participants. Compared to its absence, the presence of a self-affirming activity would attenuate or cancel out these participants' behavioral responses to variations in procedural justice.

### Method

#### *Participants and design*

Eighty-three undergraduate students at Maastricht University participated voluntarily and were each paid 2 euros. Participants were randomly assigned to the procedural justice and self-affirmation conditions.

#### *Experimental procedure*

Students were approached by a research assistant and invited to take part in a paper-and-pencil study. Those who agreed were handed the materials and seated at a table. First, participants completed the self-concept clarity scale ( $\alpha = .83$ ; *Median* = 2.41).

Next, participants imagined that they had recently experienced the following scenario:

You are an employee at a mid-sized international company. In a minute, you will have a meeting with the four main company managers. During this meeting, issues of particular importance to the company will be discussed.

Then, we introduced the manipulation of procedural justice. In the *voice* condition, participants read: "During the discussion of these issues, the four managers solicit your opinion. Thus, your opinion matters." In the *no-voice* condition, participants read: "During the discussion of these issues, the four managers do not solicit your opinion. Thus, your opinion does not matter."

Next, we introduced the self-affirmation manipulation. In the *self-affirmation* condition, participants listed three positive self-attributes and thought about them for a few minutes. In the *no self-affirmation* condition, participants listed three features of their immediate environment and thought about them for a few minutes.

Subsequently, we collected the dependent measures. All responses were made on a 7-point scale (1 = *not at all*, 7 = *very much so*). We checked the effectiveness of the procedural justice manipulation by asking participants to what extent their opinion mattered. We as-

sessed cooperation intention by asking participants to what extent they were willing “to have just relationships with the managers,” and “to rush to the help of the managers if they would have problems.” The cooperation intention composite was reliable ( $r = .62, p < .001$ ).

### Results and discussion

#### Manipulation check

A regression analysis using voice, self-affirmation, and self-concept unclarity in Step 1, the two-way interaction terms in Step 2, and the three-way interaction term in Step 3 (with self-concept unclarity being centered) on the manipulation check question revealed only a significant effect of procedural justice,  $\beta = -.79, p < .001$ . No other effect was significant. In addition, a one-way ANOVA on the manipulation check question revealed that participants in the voice condition ( $M = 5.73$ ) reported having more opportunity to express their opinion than participants in the no-voice condition ( $M = 2.61$ ), procedural justice main effect:  $F(1, 80) = 129.11, p < .001$ .

#### Cooperation intention

We carried out a hierarchical regression analysis, including procedural justice, self-affirmation, and self-concept unclarity in Step 1, the two-way interaction terms in Step 2, and the three-way interaction term in Step 3. Cooperation intention was negatively related to procedural justice,  $\beta = -.71, p < .001$ , and self-affirmation,  $\beta = -.18, p < .05$ . No significant two-interactions emerged.

Importantly, the triple interaction was significant,  $\beta = -.31, p < .05$ . Following Aiken and West (1991; i.e., calculating simple slopes), we checked whether the two-way interaction between self-affirmation and procedural justice would be non-significant in the self-concept clarity condition, but significant in the self-concept unclarity condition. Indeed, the interaction was not significant ( $\beta = .43, p < .67$ ) in self-concept clarity condition (Fig. 7A). The interaction, however, was significant ( $\beta = -.52, p < .05$ ) in the self-concept unclarity condition (Fig. 7B). Cooperation intention was positively related to procedural justice when participants lacked the opportunity to self-affirm; in this case, cooperation intention was higher in the presence (rather than absence) of voice. However, when participants self-affirmed, the effect of procedural justice was reduced significantly.

#### Summary

Self-affirmation counterbalanced the impact of perceived variations in procedural justice among high self-uncertainty participants. More specifically, a self-affirming activity cancelled out these participants' behavioral responses to procedural justice variations.

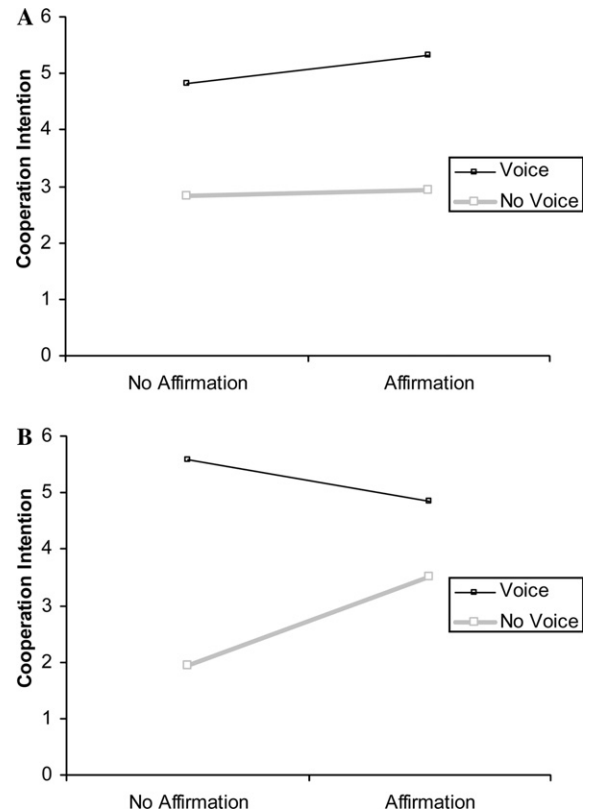


Fig. 7. Cooperation intention as a function of self-affirmation and procedural justice in the self-concept clarity (A) and unclarity (B) condition of Experiment 6.

### General discussion

The objective of this investigation was to address individual differences in responses to procedural justice. We focused on the self—a topic that is gathering increased theoretical and empirical attention in the area of justice (Brockner et al., 1998; Van den Bos, 2001a; Vermunt et al., 2001) and, more generally, social and personality psychology (Baumeister, 1998; Leary & Tangney, 2003; Sedikides & Brewer, 2001; Sedikides & Koole, 2004). We wanted to know whether the self qualifies as a moderator of responses to procedural justice. The value of the moderational approach is obvious: it can inform researchers about processes underlying both the hypothesized moderator (i.e., the self) and the relevant social domain (i.e., organizational procedures) (Snyder & Cantor, 1998). Also, as Brockner et al. (2001) argued, an effective way to achieve conceptual progress in the justice literature is by identifying the conditions under which procedural fairness variables are more versus less impactful.

#### Theoretical and empirical summary

We proposed that self-uncertainty moderates responsiveness to perceived variations (e.g., breaches or provi-

sions) in procedural justice. In particular, we tested the hypothesis that high (compared to low) self-uncertainty individuals are more responsive to variations in procedural justice.

We derived the rationale for this hypothesis from the self-evaluation literature (Sedikides, 2002; Sedikides & Gregg, 2003; Sedikides & Strube, 1997). People base, at least in part, their feelings of self-worth on relational information, such as direct interpersonal appraisals (Tice & Wallace, 2003), clues about social acceptance or rejection (Leary & Baumeister, 2000), or relatedness needs not being met (Deci & Ryan, 2000). In organizational settings, people extract relational information from procedures that are used to make outcome distribution decisions. As such, people infer their standing (i.e., the degree to which they are respected and valued) in the organization from the perceived fairness of procedures (Tyler & Lind, 1992). Procedures viewed as accurate or as allowing voice opportunities are considered fair, and, consequentially, self-validating. In contrast, inaccurate or no-voice granting procedures are considered unfair, and consequentially, self-devaluing.

We anticipated that feelings of validation or devaluation would be exacerbated among individuals with high self-uncertainty. These persons will be particularly likely to rely on procedural information, as they strive to clarify their insecurity and confusion about their identity, acceptance, or organizational standing. Hence, they will be more likely than their low self-uncertainty counterparts to be receptive to procedural information and respond with affective, cognitive, and behavioral intensity to perceived variations in procedural justice.

We tested this hypothesis in six experiments, using a converging operations approach. We operationalized self-uncertainty as self-esteem instability (Experiments 1 and 2), self-doubt (Experiments 3 and 4), and self-concept unclarity (Experiments 5 and 6). We operationalized responsiveness to procedural justice as cognitive (fairness judgment; Experiments 1 and 2), affective (positive or negative affect; Experiments 2, 3, and 5), or behavioral (cooperation intention; Experiments 4 and 6) reactions. Finally, we operationalized procedures as voice (Experiments 1 and 3–6) or accuracy (Experiment 2), and we implemented both situational (Experiments 1 and 5) and scenario (Experiments 2–4 and 6) manipulations.

We obtained support for the hypothesis in six experiments. High (compared to low) self-uncertainty participants were more amenable and responsive to perceived variations in procedural justice. Specifically, they felt worse, judged the procedure as unfair, and were unwilling to cooperate when they were deprived (as opposed to granted) voice. However, this pattern was qualified when these individuals experienced a momentary boost of self-certainty in the form of a self-affirming activity. In that case, individuals chronically high in self-uncertainty behaved quite similarly to those chronically low

in self-certainty. That is, they reported relatively magnanimous affect, cognition, and behavioral intentions: They did not experience negative affect, did not judge the procedure as unfair, and did not show unwillingness to cooperate when deprived (as opposed to granted) voice.

Notably, the obtained findings are not attributable to self-esteem level. This variable was covaried out in two experiments without influencing cognitive (Experiment 1) or affective (Experiment 5) responses to variations in procedural justice. Self-uncertainty moderates responsiveness to procedural justice variations above and beyond self-esteem level.

### *Implications*

The present investigation has implications for the self, procedural justice, and organizational literatures. To begin with, our findings assert that people are motivated to reduce uncertainty about themselves. This motive, known as the self-assessment motive, has been shown to influence task attractiveness and preference, task choice and construction, as well as task persistence and success (Brown, 1990; Strube, Lott, Le-Xuan-Hy, Oxenberg, & Deichmann, 1986; Trope, 1982). The current research complements this literature by demonstrating that the self-assessment motive also influences affective, cognitive, and behavioral responding in a complex and dynamic social setting: uncertainty about the self motivates increased sensitivity to procedural justice information, as such information has uncertainty-reduction potential.

What is the particular type of self-uncertainty that the social setting reduces? We argued that this is relational self-uncertainty (Tyler, 1989; Tyler & Lind, 1992). Information pertaining to the fairness of the implemented procedures (i.e., whether one is granted voice or not) clarifies one's relational value. That is, it allows one to infer whether one is respected, accepted, and in good organizational standing (Cropanzano, Byrne, Bobocel, & Rupp, 2001; De Cremer, 2002; Tyler & Blader, 2000). As such, procedural information has direct implications for one's feelings of self-worth (Tyler & Smith, 1999). Regardless, however, we believe that future research should zero in and test systematically the various sources of self-uncertainty (i.e., respect, acceptance, and organizational standing). In addition, although the present research focused on individual differences in self-uncertainty, the findings have implications for groups in a situation of high uncertainty, such as organizational newcomers (Kramer, 2001). Do newcomers (relative to senior employees) respond to evidence of procedural justice in a way similar to that of chronically self-uncertain individuals?

Importantly, the self-worth implications mentioned above do not necessarily pertain to individuals low in

self-uncertainty. Such individuals were rather unperurbed by procedural information (e.g., being granted vs. denied voice). To the contrary, high self-uncertainty individuals were receptive and responsive. As such, our research findings qualify the predictive scope of relational models of justice (Tyler & Blader, 2003; Tyler & Lind, 1992). Such models are mostly applicable to high self-uncertainty individuals.

The obtained effects, though, are reversible. A self-affirmation activity cancelled out self-uncertain individuals' behavioral responses to procedural information. Self-affirming activities may be considered a tool in the social/organizational repertoire of business managers with the responsibility to cope with a certain class of responses to procedural information. This class of responses entails unjustifiable overreactions that have disruptive potential. At the same time, however, limitations of self-affirming activities ought to be acknowledged. Self-affirmation is a technique of short-term effectiveness. Also, it may reinforce and enable employees to preserve self-aspects (e.g., insecurity) that promote unjustifiable responding instead of encouraging employees to incorporate critical supervisory feedback that will lead to long-term change (e.g., learning and growth) (Tesser, 2000). Finally, self-affirmation may keep employees fixated on sustaining their current level of self-worth rather than focusing on improvement, which, in the long run, may be a more effective self-defense strategy (Crocker & Park, 2003; Dauenheimer, Stahlberg, Spreeman, & Sedikides, 2002; Green, Pinter, & Sedikides, in press; Sedikides, 1999).

Our findings align well with recent research suggesting that uncertainty underlies reactions to information about fairness of procedure (Van den Bos, 2001b; Van den Bos & Lind, 2002). According to the uncertainty-management model, procedural justice information is used to reduce feelings of uncertainty. This model, however, is relatively silent on the issue of which type of uncertainty is involved. That is, relevant research has manipulated different types of uncertainty (e.g., control, situational uncertainty, and fear of death) and, as such, it is not clear which one is more closely associated with responses to procedural information. In recognition of this issue, Van den Bos (2001b, p. 940) recently noted that “all uncertainties are not the same and cannot be expected to have the same effects,” and he went on to invite justice researchers to focus on “relationships between uncertainty, self-esteem, confidence and control.” Responding to this call, the present research demonstrated the relevance of self-uncertainty in accounting for procedural justice effects.

In our investigation, procedural justice influenced not only cognition but also affect. Although the role of affect occupies a pivotal position in social justice theories (e.g., equity and relative deprivation theory),

it has been rather neglected in much procedural justice research. Recently, several researches have called for a detailed specification of the ways in which procedural justice influences affect (Tyler & Smith, 1998; Van den Bos & Miedema, 2000; Weiss et al., 1999). We documented that perceptions of procedural justice induce different affective reactions to different individuals. These perceptions of procedural justice leave low self-uncertainty people relatively unaffected, but they induce strong negative or positive affect in high self-uncertainty people. Future research will need to address the specific types of affect (e.g., anger, sadness, fear, and disgust; Mikula et al., 1998) that high self-uncertainty individuals experience as a function of procedural information.

In conclusion, the current investigation establishes self-uncertainty as a crucial moderator of responses to variations in procedural justice. It is high self-uncertainty that underlies cognitive, affective, and behavioral reactions to procedures that are breached or upheld. We hope that our investigation will spark additional forays into the relation between the self and procedure-based feedback.

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