

# Revisiting the Instrumentality of Voice: Having Voice in the Process Makes People Think They Will Get What They Want

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**Abstract** Research on procedural justice has found that processes that allow people voice (i.e., input) are perceived as fairer, and thus elicit more positive reactions, than processes that do not allow people voice. Original theorizing attributed these effects to beliefs that the provision of voice enhances people's sense of process control, which people were assumed to value because it impacts their perceived likelihood of receiving desired outcomes (the instrumental perspective of procedural justice). Subsequent research questioned this perspective, arguing that outcome expectations do not account for the effects of voice. However, this subsequent research failed to directly examine the interplay of voice, outcome expectations, and reactions. The current studies revisit and extend research on this topic by asking whether manipulations of voice act as *shared circumstance effects*. Confirming an untested implication of the instrumental perspective, we show that giving everyone voice increases their belief, *ex-ante*, that they are likely to win an upcoming competition. However, this instrumental belief accounts for only part of the effects of voice on perceived procedural fairness and on general reactions to outcomes. Results suggest that voice does indeed have instrumental significance, an implication not adequately recognized in current justice theorizing. However, this instrumentality does not, by itself, explain why people value having a voice in processes that affect them.

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People want to have a voice in the decisions that affect them. People have more positive reactions to decisions, decision makers, and institutions when they experience procedures that they regard as procedurally fair (the *fair process effect*; Blader & Tyler, 2005; Brockner & Wiesenfeld, 1996; Lind & Tyler, 1988; Tyler & Blader, 2000; van den Bos, 2002). And voice is one of the most critical elements of those procedural fairness judgments (the *voice effect*; Thibaut & Walker, 1975; Price et al., 2001; van den Bos, Lind, Vermunt & Wilke, 1997). Why do people value voice? Is it because it leads them to believe that they are more likely to get what they want? Even if the decision is about the allocation of a fixed pie of resources, would giving everyone voice lead everyone to expect more? Do these expectations explain people's reactions to voice, or do other concerns drive those effects? The research we present attempts to answer these questions.

### The Effects of Voice

The earliest studies and discussions of voice, including the seminal work by Thibaut and Walker (1975) and Walker, LaTour, Lind, and Thibaut (1974), linked people's positive reactions to voice to their concern with receiving desirable outcomes. These researchers argued that voice provides people with some degree of process control, or control over the information that authorities consider as they make decisions and resolve disputes. Further, they reasoned that people value process control (and, thus, see procedures that allow process control as fairer) because it increases expectations that preferred and desirable outcomes will result from decisions and dispute resolution processes. This approach therefore explains that voice impacts procedural justice because it makes it more likely that processes will lead to outcomes that people desire. Although various research efforts have explored, questioned, and challenged the merits of this explanation (e.g., Barry & Shapiro, 2000; Cohen-Charash & Spector, 2001; Conlon, 1993; Leung, Tong, & Lind, 2007; Lind, Kanfer, & Earley, 1990; Shapiro & Brett, 1993, 2005; Tyler, Boeckmann, Smith, & Huo, 1997), previous work has not directly assessed the extent to which voice actually shapes people's *ex-ante* outcome expectations—their predictions about the outcomes they will receive, as opposed to *ex-post* reactions to outcomes already received. As such, a key implication of the instrumental model of voice remains untested, leaving an important gap in efforts to understand the instrumental approach. Addressing this gap is important for understanding the psychology of voice and justice, particularly given the extent to which procedural justice research has been focused on people's reactions to voice.

Investigating the direct effect of voice on *ex-ante* outcome expectations is particularly worthwhile because voice effects are most typically examined in contexts that involve the distribution of finite resources. In such “fixed-pie” contexts, providing voice to everyone cannot possibly improve the outcomes

everyone will receive, because everyone's chances of winning cannot increase. Yet research demonstrates that people often fail to consider how aspects of a situation that benefit themselves (e.g., voice) may also benefit everyone else. For instance, Windschitl, Kruger, and Simms (2003) found that their participants expected a 70 % chance that they would beat a fellow college student on a quiz about TV sitcoms, but only a 6 % chance that they would be victorious if the quiz was about indigenous vegetation of the Amazon. They dubbed this a *shared circumstance effect*, arguing that people neglected to consider the fact that a shared circumstance (quiz difficulty) would affect others similarly as it would affect themselves (Kruger, 1999; Moore & Small, 2007; Rose & Windschitl, 2008). They fail, for instance, to recognize that only one runner will win the race even under the most favorable of race conditions. In this paper, we draw on these insights in our investigation of people's reactions to voice. In particular, we consider whether providing voice will increase all contenders' beliefs that they will win.

### Shared Circumstance Effects and the Instrumentality of Voice

As noted, early procedural justice researchers (e.g., Thibaut & Walker, 1975) argued that people value the opportunity presented by voice procedures—and thus regard voice procedures as fairer—because such procedures provide them their best opportunity to receive the outcomes they desire. As such, people regard procedures that allow for voice as fairer and react favorably to such procedures. This perspective came to be identified as the instrumental model since it argues that voice is valued because it is instrumental to achieving desired outcomes. Importantly, early research assumed that voice enhanced perceptions that prevailing was attainable, even in fixed-pie situations. That is, researchers postulated that providing voice would produce something like shared circumstance effects, although they did not use this term and at the time there had been no research directly examining shared circumstance effects. But, implicit in these theories was the idea that voice would enhance everyone's perceived likelihood of winning, without affecting the actual likelihood of winning.

Subsequent research employed a variety of approaches to examine the question of why voice elicits consistently positive reactions. These approaches have included (a) comparing reactions to voice procedures that vary in their level of instrumentality (e.g., Hunton, Hall & Price, 1998; Lind et al., 1990; Platow, Filardo, Troseli, Grace & Ryan, 2006; Price et al., 2001), (b) showing that voice procedures enhance judgments of process control (e.g., Conlon, 1993; Shapiro & Brett, 1993), and (c) examining the extent to which the favorability of outcomes shape procedural justice judgments (e.g., Ambrose, Harland, & Kulik, 1991; Conlon, 1993). In addition, extensive research has also explored alternate, non-instrumental explanations for voice effects (Blader & Tyler, 2005; Lind et al., 1990; Lind & Tyler, 1988; Rupp & Cropanzano, 2002; Tyler & Lind, 1992). This latter work has argued that the impact of voice on procedural justice cannot be adequately accounted for by people's expectations about the instrumentality of voice. Rather, this work proposes that people primarily react to voice because voice procedures convey a positive

relational message to group members (Tyler & Lind, 1992), indicating to group members that the group and its authorities respect their opinions and see them as worthy, full-fledged members of the group. Although a number of studies have compared and discussed the instrumental and relational explanations (Ambrose, 2002; Barry & Shapiro, 2000; Lind & Tyler, 1988; Platow et al., 2006; Shapiro & Brett, 1993; Tyler, 1989; Tyler & Blader, 2000; Tyler, Degoey & Smith, 1996), conclusive agreement about their relative merits remains elusive (Cropanzano, Byrne, Bobocel, & Rupp, 2001).

Rather than examining outcome judgments, studies have tended to examine how voice shapes perceived process control (e.g., Conlon, 1993; Shapiro & Brett, 1993). Indeed, it has been noted that in many respects, control has become a more central focus of the instrumental models than outcomes themselves (Cropanzano et al., 2001). Other approaches to testing the instrumental model include exposing people to voice procedures that precede versus follow decision making (and which thus vary in instrumentality). However, research indicates that participants in post-decision voice conditions often think their voice may in some way impact their outcomes (Shapiro & Brett, 2005), prompting questions about the conclusiveness of studies utilizing this instrumentality manipulation.

### **An Alternate Approach**

Each of these approaches to examining the instrumental model is informative in its own way, and each has helped elucidate the instrumental dynamics that relate to voice. Yet it is striking that no research has adopted a more straightforward approach—that of varying people’s voice opportunities and then asking them to report their outcome expectations. Given that outcome expectations lie at the heart of the instrumental model’s reasoning about why voice matters, it seems important to fill this gap and to empirically examine the impact of voice on outcome expectations. Furthermore, it is likewise important to consider how any impact of voice on outcome expectations may relate to the effects of voice on procedural justice judgments and on people’s more general reactions. Doing so will not only contribute to a better understanding of the instrumental perspective, but may also further develop work comparing instrumental and non-instrumental approaches. For instance, while several theorists have argued that the relational model trumps the instrumental model (Lind & Tyler, 1988; Tyler, 1989; Tyler & Blader, 2000; Tyler et al., 1996), it is not clear from previous work whether these research findings indicate that (a) people see little instrumental value in voice procedures in the first place, (b) people do not care about the instrumental value of voice procedures as much as they care about relational implications of voice, or (c) people’s instrumental concerns explain the effect of voice on relational judgments. This highlights that some important questions from the psychology of justice literature could benefit from new, more direct approaches, such as the one we present in the research below.

We conducted two studies to address this shortcoming in the literature, using a shared-circumstance perspective to examine the influence of voice on participants' outcome expectations. Our first hypothesis was:

**Hypothesis 1** Receiving an opportunity for voice (vs. not) increases a person's ex-ante expectations that s/he will receive the outcomes s/he desires.

We also tested whether these outcome expectations may partly explain why voice is such an influential element in assessments of procedural fairness:

**Hypothesis 2** Increased outcome expectations resulting from a person receiving an opportunity for voice (vs. not) will mediate the positive effects of voice on that person's procedural fairness judgments.

Lack of support for our hypotheses would be suggestive of the arguments of the relational models. However, to more directly test the reasons that people react to their procedural justice judgments, we also examine whether outcome expectations account for the impact of voice on people's more general reactions, i.e., attitudes, judgments, and behavioral reactions towards procedures. This is an important extension given widespread findings in the research literature indicating that procedural justice shapes reaction to the decision, decision maker, and entity represented by the procedure. Understanding the basis of those reactions is important. Therefore, we tested our third hypothesis:

**Hypothesis 3** Increased outcome expectations resulting from a person receiving an opportunity for voice (vs. not) will mediate the positive effects of voice on that person's general reactions towards the procedures.

## Overview of Studies

Participants in our experiments took part in a creativity contest. We manipulated both voice and outcome orthogonally in a between-subjects design. In Study 1, some participants were given voice—in the form of an opportunity to explain why their work was more creative than others'—while others were explicitly denied this opportunity. The primary dependent measures were (a) outcome expectations—in this case, their expectations about their ideas being selected as being among the more creative, (b) perceived procedural fairness, and (c) general reactions to the experience (i.e., reactions to the experimenter and the experiment; these were assessed after they had learned of the outcome).

In Study 2, participants were again either given or denied voice. However, in order to more clearly understand the role of voice, we employed two no-voice manipulations. Of those participants who were denied voice, some were explicitly told that they were being denied this opportunity (explicit no-voice), while others were not told anything along these lines (implicit no-voice) (van den Bos, 1999). Study 2 also examines the mediating process by which voice effects participants' reactions.

## Study 1

Although an instrumental understanding (and a shared-circumstance analysis) of voice suggests that voice procedures enhance people's *ex-ante* beliefs that they will prevail, to the best of our knowledge no research has directly assessed the relationship between voice and outcome expectations. Studies have instead tended to focus on *ex-post* judgments, assessments made after outcomes have been received. Of course, outcome knowledge is likely to color all related judgments. Furthermore, there is often a delay before outcomes are common knowledge; therefore, research focusing exclusively on *ex-post* judgments does not provide insight to these common situations. *Ex-ante* outcome judgments are not influenced by actual outcomes and thus may provide a valuable alternate approach to investigating voice's instrumentality. Therefore, in Study 1 we assessed participants' reactions before they learned about outcomes.

### Method

#### *Participants*

Participants were 129 undergraduate students (65 Female,  $M_{\text{age}} = 19.52$ ,  $SD = .84$ ) at the Midwestern research university who participated in exchange for course credit.

#### *Procedure*

When participants arrived, they were told that the study was examining the effect of competition on creativity and that they would all engage in a creative task and then have their creativity evaluated. Participants were also told that half of those present—those judged as most creative—would win a \$5 prize. The less-creative half would win nothing.

Next, they completed an unusual uses task (Guilford, 1967), which is often used to assess creativity (e.g., Choi & Thompson, 2005; Paulus & Yang, 2000; Torrance, 1968), in which they were given 5 min to write down as many uses as they could think of for a cardboard box. After they had finished writing down their ideas, the experimenter announced out loud, "...since creativity is such a complex phenomenon to evaluate, research has shown that it's often useful when judging someone's creativity to try and understand their thought processes. Therefore, we normally ask participants to explain how they went about working on these tasks and why they think their answers should be considered creative."

Participants were randomly assigned to either the voice or no-voice condition. In the voice condition, the experimenter continued, "In other words, we are going to ask you to use this form to provide your input about why your ideas should be judged as more creative than others'." Participants in the no-voice condition were instead told, "However, we've decided that we are going to skip that part because we'd like to ask you to use the time we have in today's session to work on something else. So, rather than providing input about why your ideas should be

judged as more creative than others, we are going to ask you to instead tell us about your hometown.” We used this ‘explicit no voice’ approach because it a common approach in research on procedural justice (see van den Bos, 1999 for a review) and it can help lead to a more pronounced voice/no-voice distinction. More importantly, it is a recommended approach in the literature, especially for studies in which outcome-related concerns are relevant (Platow et al., 2006; van den Bos, 1999).

After participants took another 4 min to complete this writing assignment, one experimenter collected their written materials and ostensibly took them away to grade them. A second experimenter administered the first post-test questionnaire, which contained the manipulation checks as well as measures of outcome expectations and perceived procedural fairness. After participants had completed the questionnaire, the first experimenter randomly assigned participants to one of the two outcome conditions and returned to the experiment room to tell participants the outcome of their creativity test, i.e., whether they had been judged as the most or least creative. A second post-test questionnaire was then administered, which contained the general reactions to the experience-dependent measure. When the experiment was complete, participants were informed that we had not actually graded their creativity tests and that they would all receive the five dollar prize. Participants were then paid and debriefed.

## Measures

All items below used an eight-point response scale unless otherwise noted. Each scale’s endpoints’ labels are shown italicized in parentheses below.

### *Manipulation Checks*

The voice manipulation check consisted of a one-item measure asking respondents whether they were given a chance to explain their work and make a case for why it was creative (yes/no).

### *Outcome Expectations*

Six items assessed participants’ judgments that they were likely to have their performance selected as the most creative including “How high a score do you think the judge will give you on the creativity task? (1 *Low score*, 8 *High score*)”, “What do you think the probability is that you will win the prize? (0–100 %),” “Please estimate the percentage of other participants in this experiment that will have creativity scores lower than yours (0–100 %),” “How certain are you that the judge will select your work as among the most creative? (1 *Not at all*, 8 *Very certain*),” “How confident are you that the judge will find in your favor? (1 *Not at all*, 8 *Very confident*),” and “How surprised would you be if you were NOT selected for the prize today? (1 *Not at all*, 8 *Very surprised*).” Responses to each item were standardized prior to combining them into an aggregate measure ( $\alpha = .90$ ).

### Procedural Justice

Four items assessed participants' procedural justice judgments. These items were designed to tap into both decision making and treatment aspects of procedural justice, based on the work of Blader and Tyler (2003). Examples of the items used include: "How fairly would you say you were treated in today's session? (1 *Not at all*, 8 *Very*)," and "Do you feel that your work on today's creativity task is going to be evaluated fairly? (1 *Not at all*, 8 *Very*)" ( $\alpha = .80$ ).

### General Reactions to the Experience

Seven items drew on previous work by Blader and Tyler (2003) linking procedural justice to reactions to discrete experiences as well as specific decision makers (in this case, the experimenter). Examples of the items used include: "What are your feelings toward the experimenter? (1 *Very negative*, 8 *Very positive*)," "How much do you like the experimenter? (1 *Not at all*, 8 *A lot*)," and "How much did you enjoy participating in this session? (1 *Not at all*, 8 *A great deal*)" ( $\alpha = .87$ ).

### Results

Table 1 provides means, standard deviations, and the interscale correlation matrix.

### Manipulation Check

The voice manipulation was effective, with 98 % of the 129 participants responding correctly. All the participants were included in the analyses below, although the conclusions do not change if those who failed the manipulation check are excluded.

### Does Voice Shape Outcome Expectations?

An analysis of variance tested the first hypothesis that participants' perceived outcome expectations (i.e., their likelihood of winning the prize) would be shaped by whether they had a voice in the process. The results confirmed this prediction, insofar as those receiving voice were significantly more likely to expect that they would win ( $M_z = .21$ ,  $SD = .78$ ) than those who did not receive voice ( $M_z = -.30$ ,

**Table 1** Study 1: means, standard deviations, and interscale correlation matrix

	Mean	SD	1	2	3
1. Expectations of winning <sup>a</sup>	0.00	0.83	–		
2. Procedural justice	6.71	1.10	.035	–	
3. General reactions	5.66	1.18	.119	.574**	–

\*\* significant at the 1 % level

<sup>a</sup> Our measure of outcome expectations was constructed by averaging the standardized  $z$  scores of the six items specified in the methods section (see Study 1). Standardized scores shown.  $n = 129$



SD = .80),  $F(1, 127) = 13.291, p < .001, \eta^2 = .095$ . This result is consistent with a shared-circumstance analysis of voice and confirms a key, but previously untested, premise of instrumental theories of procedural justice.

#### *Do Outcome Expectations Account for the Effects of Voice on Procedural Justice Judgments?*

Next, we explored the question of whether the effects of voice on people's procedural justice judgments are explained (i.e., mediated) by voice's impact on outcome expectations. As expected, those receiving voice were significantly more likely to evaluate processes as fair ( $M = 6.88, SD = .89$ ) than were those who did not receive voice ( $M = 6.48, SD = 1.31$ ),  $F(1, 127) = 4.243, p = .041, \eta^2 = .032$ .

We conducted a bootstrap analysis using the methods developed by Preacher and Hayes (Hayes, 2012; Preacher & Hayes, 2004, 2008) to determine whether this effect is mediated by participants' outcome expectations. The 95 % bias-corrected confidence interval (with 5,000 bootstrap samples) included zero (-.1417, .1300) indicating that outcome expectations do not mediate the effect of voice on procedural justice judgments and that outcome expectations *do not* explain why voice leads to more positive assessments of procedural justice. Thus, Hypothesis 2 was not supported.

#### *Do Outcome Expectations Account for the Effects of Voice on General Reactions?*

Next, we tested whether outcome expectations explained the effects of voice on participants' general reactions to authorities and institutions. To examine this, we first explored whether there was a main effect of voice on general reactions. Results indicated that the provision of voice (vs. no voice) did in fact lead to more positive reactions ( $F(1, 127) = 5.828, p = .017; \eta^2 = .044$ ; no voice  $M = 5.37, SD = 1.26$ ; voice  $M = 5.87, SD = 1.08$ ). However, as was the case with procedural justice judgments, outcome expectations do not explain the impact of voice on general reactions to the experience, since a bootstrap analysis revealed that the 95 % bias-corrected confidence interval (with 5,000 bootstrap samples) included zero (-.0762, .1836) disconfirming Hypothesis 3. This is consistent with the non-instrumental approach and the argument that outcome expectations do not explain voice's impact on general reactions (e.g., Lind & Tyler, 1988; Tyler, 1989; Tyler & Blader, 2000; Tyler et al., 1996).

## **Discussion**

The results of Study 1 clarify our understanding of the dynamics of voice. It is indeed the case that giving rivals a voice acts as a "shared circumstance." Even when everyone has a voice in the allocation of limited resources, it increases peoples' belief that they will get what they want. However, the effect of voice on outcome expectations does not account for its powerful effect on perceived procedural fairness or general reactions to authorities and institutions. These results

raise two issues that Study 2 attempts to address. The first issue concerns the mediating processes that link voice to procedural justice judgments and general reactions. While the null pattern of mediation we found in Study 1 is consistent with the arguments of the relational model of justice, it would further validate our approach if we more directly tested the relational perspective. That is, having failed to find support for Hypotheses 2 and 3, we set out to directly examine within our approach and paradigm the key mediating mechanism that the relational models propose. Therefore, we directly examine within our paradigm whether relational concerns mediate the effect of voice on procedural justice judgment and general reactions. To do so, in Study 2, we assessed participants' perceived relational value (Blader & Tyler, 2009; Tyler & Blader, 2000), enabling us to test our next hypothesis:

**Hypothesis 4** Receiving an opportunity for voice (vs. not) increases a person's perceived relational value.

Moreover, we tested whether perceived relational value in turn explains the effects of voice on a person's assessments of procedural fairness and their more general reactions to the procedures themselves:

**Hypothesis 5** Increased perceptions of relational value resulting from a person receiving an opportunity for voice (vs. not) will mediate the positive effect of voice on that person's procedural fairness judgments.

**Hypothesis 6** Increased perceptions of relational value resulting from a person receiving an opportunity for voice (vs. not) will mediate the positive effect of voice on that person's general reactions toward the procedures.

The second issue explored in Study 2 was whether our results vary depending on whether the lack of voice was made explicit (as in Study 1) as compared to a more subtle, implicit no-voice condition. In other words, we sought to examine our predictions in a case where we denied people voice without making it quite as salient as it was in the prior study.

## Study 2

Study 2 therefore built upon Study 1 by adding two key features. First, we added a third experimental condition to explore the generalizability of our voice effects. Participants in the implicit-no-voice condition were not told that anyone had the opportunity to have a voice in the judge's creativity decisions; there was no mention of providing voice to others in this condition. The explicit-no-voice condition mirrored that of Study 1, with participants being explicitly told that they were being denied voice that is normally provided to others. Second, Study 2 included a measure of relational value, the primary mediating mechanism for voice effects as articulated by the relational models of justice. This measure of relational value was designed to tap participants' sense that the experimenter was concerned about them and their views.

## Method

### *Participants*

Our 355 participants came from two sources. Students in undergraduate business classes from a large West Coast university constituted 94 of our participants (53 female,  $M_{\text{age}} = 20.31$ ,  $SD = 0.55$ ). The remaining 261 had signed up to participate in research studies in exchange for pay, and received \$10 for their participation (169 female,  $M_{\text{age}} = 19.47$ ,  $SD = 1.41$ ).

### *Procedure*

We employed the same procedures in Study 2 as in Study 1 with the following exceptions: First, participants were randomly assigned to a 3 (voice condition: voice, implicit-no-voice, explicit-no-voice)  $\times$  2 (object of creativity: cardboard box vs. staple)  $\times$  2 (outcome: win or lose) between-subjects factorial design. Participants were assigned at random to three voice conditions: (1) voice ( $N = 116$ ); (2) explicit-no-voice ( $N = 118$ ); and (3) implicit-no-voice ( $N = 121$ ) condition. In the latter condition, participants were not told about being given or denied an opportunity for voice (neither for themselves, nor for others), but were simply asked to complete another writing assignment (“tell us about your home-town”). This implicit-no-voice condition allowed us to test whether the effects of being denied voice resulted from the explicit denial of that opportunity. Participants were also assigned at random to write about one of two difference objects of creativity. Half of the participants, assigned at random, generated as many uses as they could for a cardboard box, the other half generated uses for a staple. This additional condition was included to vary the difficulty of the creativity task (see Harkins & Petty, 1982 and Sawyers, Moran III, Fu, & Milgram, 1983 for similar manipulations of task difficulty), and to determine whether our pattern of effects varied as a function of task difficulty. Pre-testing indicated that people had more trouble generating uses for a staple than for a cardboard box. The outcome conditions (win or lose) did not change from Study 1.

Second, participants completed an additional measure of relational value: just after writing about the creativity of their answers or about their hometowns, but before learning whether they won, participants completed our measures of relational value, outcome expectations and our measure of procedural justice. Finally, we varied the incentives for the creativity task: Participants were told that half of those present—those judged as most creative—would be eligible to win one of ten \$50 Apple Store Gift Certificates. The other half of participants would not be eligible.

### Measures

We employed the same measures from Study 1 except as noted below. Again, all items used an eight-point response scale unless otherwise noted.

### Manipulation Checks

We added a one-item outcome manipulation check of our outcome manipulation, which asked participants if they were judged in the top half and are therefore eligible to win one of the prizes for having the most creative input.

### Difficulty

We added a three-item measure of difficulty: (1) I thought this task was difficult (1 *Strongly disagree*, 8 *Strongly agree*); (2) I found this task challenging (1 *Strongly disagree*, 8 *Strongly agree*); and (3) I found this task easy to complete (1 *Strongly disagree*, 8 *Strongly agree*). We reverse scored the final item, and averaged them to create an aggregate measure ( $\alpha = .86$ ).

### Relational Value

Our new mediating measure included 10 items that assessed the extent to which participants felt their experience made them feel respected, a critical status and relational judgment that has been explored in much prior justice research (e.g., Tyler et al., 1996). In particular, the items in this scale were adapted from Smith, Tyler, Huo, Ortiz, and Lind (1998). Example items included “To what extent did today’s experiment make you feel valued?,” (1 *Not at all*, 8 *Very*) and “The experimenter cares about my well-being” (1 *Not at all*, 8 *Very*) ( $\alpha = .90$ ).

## Results

Table 2 provides means, standard deviations, and the interscale correlation matrix.

### Manipulation Checks

The voice manipulation was again effective; most participants answered the voice manipulation check correctly (i.e., 91.4, 80.2 and 92.4 % of participants in the voice, implicit-no-voice, and explicit-no-voice conditions, respectively). The outcome manipulation also appeared to be effective with 99.4 % of the 355

**Table 2** Study 2: means, standard deviations, and interscale correlation matrix

	Mean	SD	1	2	3	4
1. Expectations of winning <sup>a</sup>	0.00	0.83	–			
2. Procedural justice	6.32	1.23	.115*	–		
3. Relational value	5.45	1.15	.188**	.674**	–	
4. General reactions	5.83	1.17	.161**	.784**	.699**	–

\* Significant at the 5 % level; \*\* significant at the 1 % level

<sup>a</sup> Our measure of Outcome Expectations was constructed by averaging the standardized  $z$  scores of the 6 items specified in the methods section (see Study 1). Standardized scores shown.  $n = 355$

participants answering the outcome manipulation check correctly. Consistent with Study 1, all participants were included in the analyses below. None of the conclusions reached change if those who failed the manipulation checks are excluded from the analyses.

### *Does Task Difficulty Matter?*

Our study design enables us to determine whether our manipulation of voice is distinct from task difficulty. A 3 (voice)  $\times$  2 (difficulty) ANOVA revealed that participants did indeed report that generating uses for a cardboard box was easier ( $M = 3.72$ ,  $SD = 1.69$ ) than was generating uses for a staple ( $M = 4.30$ ,  $SD = 1.62$ ), as intended,  $F(1, 353) = 10.95$ ,  $p = .001$ ,  $\eta^2 = .03$ . However, the effect of our voice manipulation on measures of perceived task difficulty was non-significant,  $F(2, 352) = 1.95$ ,  $p = .14$ ,  $\eta^2 = .01$ . There were no main effects of our manipulation of task difficulty on any of the dependent variables nor did the manipulation moderate any of the effects below. Therefore task difficulty winds up serving only as a robustness check on the creativity task used. In other words, task difficulty does not represent a boundary condition for the effects examined in this research.

### *Does Voice Shape Outcome Expectations?*

As in Study 1, results confirmed the first hypothesis that participants' expectations for winning were shaped by whether they received an opportunity for voice,  $F(2, 352) = 10.78$ ,  $p < .001$ ,  $\eta^2 = .058$ . We carried out two planned comparisons of the treatment groups. The first comparison was between the averages of the two no voice conditions (implicit-no-voice and explicit-no-voice) and the voice condition. The second comparison was between the two no-voice conditions. The average standardized outcome expectations score of participants receiving voice ( $M_z = 0.26$ ,  $SD = .82$ ) was .39 points higher than the average standardized score of those who were denied this opportunity (either implicitly or explicitly) ( $M_{z \text{ combined}} = -.13$ ,  $SD = .81$ ), a significant difference ( $t = 4.25$ ,  $p < .001$ ). The difference in average standardized outcome expectations scores of participants in the implicit- versus explicit-no-voice conditions ( $M_z = -.23$ ,  $SD = .76$ , and  $M_z = -.03$ ,  $SD = .85$ , respectively) was .19 ( $t = -1.85$ ,  $p = .065$ ), a non-significant difference. Reaffirming the findings of Study 1, this result is consistent with a shared circumstance analysis of voice. Simply giving people a voice in the process made them feel more likely that they would be evaluated more favorably than others would be and thus more likely to attain desired outcomes.

### *What Accounts for the Effects of Voice on Procedural Justice Judgments?*

Also, consistent with the findings of Study 1, those receiving voice in Study 2 were significantly more likely to evaluate processes as fair ( $M = 6.58$ ,  $SD = 1.14$ ) than those denied voice either implicitly ( $M = 6.28$ ,  $SD = 1.19$ ) or explicitly ( $M = 6.09$ ,  $SD = 1.32$ ),  $F(2, 350) = 5.24$ ,  $p = .006$ ,  $\eta^2 = .029$ . We carried out two planned comparisons of the treatment groups. As before, the first comparison

was between the averages of the two no-voice conditions (implicit-no-voice and explicit-no-voice) and the voice condition. The second comparison was between the two no-voice conditions. The average procedural justice judgment score of participants receiving voice ( $M = 6.58$ ,  $SD = 1.14$ ) was .39 points higher than the average score of those who were denied this opportunity (either implicitly or explicitly) ( $M_{\text{combined}} = 6.19$ ,  $SD = 1.26$ ), a significant difference ( $t = 2.95$ ,  $p = .003$ ). The difference in average procedural justice judgment scores of participants in the implicit- versus explicit-no-voice conditions ( $M = 6.28$ ,  $SD = 1.19$ , and  $M = 6.09$ ,  $SD = 1.32$ , respectively) was .19 ( $t = 1.37$ ,  $p = .173$ ), a non-significant difference.

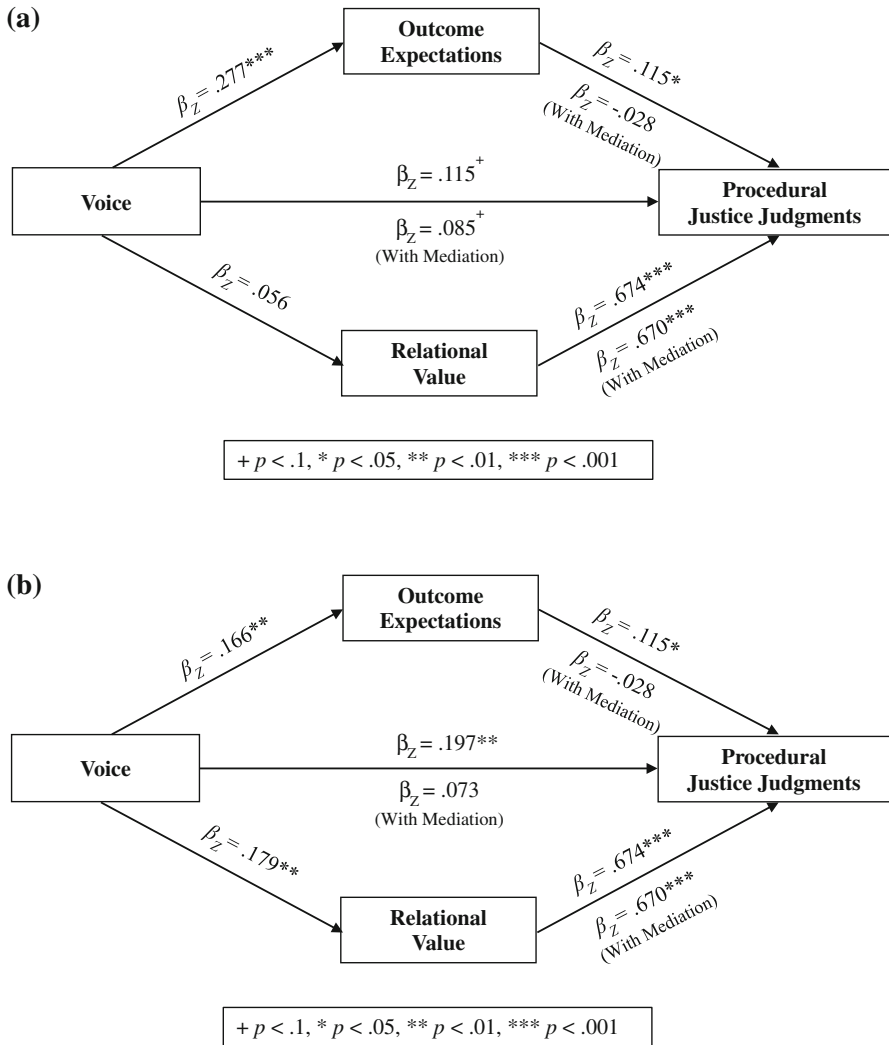
Confirming Hypothesis 4, voice also had a significant influence on relational value: those receiving voice were significantly more likely to report feeling greater relational value ( $M = 5.63$ ,  $SD = 1.17$ ) than those denied voice either implicitly ( $M = 5.49$ ,  $SD = 1.06$ ) or explicitly ( $M = 5.23$ ,  $SD = 1.21$ ),  $F(2, 352) = 4.53$ ,  $p = .011$ ,  $\eta^2 = .025$ . Planned contrasts revealed that the average relational value score of participants receiving voice was .27 points higher than the average score of those who were denied this opportunity (either implicitly or explicitly) ( $M_{\text{combined}} = 5.36$ ,  $SD = 1.14$ ), a significant difference ( $t = 2.23$ ,  $p = .027$ ). The difference in average procedural justice judgment scores of participants in the implicit- versus explicit-no-voice conditions was .26 ( $t = 2.04$ ,  $p = .042$ ), a significant difference.

We again conducted a series of bootstrap analyses to determine whether the effects of voice on perceived procedural fairness were mediated by participants' outcome expectations and/or relational value. Comparing the voice and explicit-no-voice conditions, the 95 % bias-corrected confidence interval (with 5,000 bootstrap samples) for the size of the indirect effects for relational value excluded zero ( $-.3745$ ,  $-.1010$ ) whereas that for outcome expectations included zero ( $-.0286$ ,  $.0442$ ) suggesting a significant indirect effect of voice on perceptions of procedural fairness for relational value but not outcome expectations. Comparing the voice and implicit-no-voice conditions, the 95 % bias-corrected confidence interval (with 5,000 bootstrap samples) for the size of the indirect effects for both relational value and outcome expectations included zero ( $-.1948$ ,  $.0656$ ) and ( $-.0437$ ,  $.0648$ ), respectively) suggesting neither relational value nor outcome expectations mediates the indirect effect of voice on perceptions of procedural fairness.

These analyses indicate that relational value mediates the effect of voice on procedural justice judgments in the explicit no-voice condition but not in the more subtle implicit-no-voice condition, providing partial support for Hypothesis 5. Outcome expectations, on the other hand, did not mediate either of the no-voice conditions, again disconfirming Hypothesis 2. This confirms that relational value may explain why voice leads to more positive assessments of procedural justice, at least in cases where no-voice is made most pronounced (Fig. 1a, b).

### *What Explains General Reactions?*

Because Study 2 collected general reactions after participants had learned whether they won, those outcomes were powerful predictors of participants' general reactions. In a 3 (voice)  $\times$  2 (outcome: win vs. lose) ANOVA on general reactions,



**Fig. 1** **a** Correlates of procedural justice judgments among participants in Study 2: voice versus implicit-no-voice condition. **b** Correlates of procedural justice judgments among participants in Study 2: voice versus explicit-no-voice condition

outcome emerges as a stronger effect,  $F(1, 349) = 25.37, p < .001, \eta^2 = .07$  (win:  $M = 6.17, SD = 1.04$ ; lose:  $M = 5.51, SD = 1.20$ ), than does voice,  $F(2, 349) = 3.12, p = .046, \eta^2 = .02$  (voice:  $M = 6.02, SD = 1.12$ ; implicit no-voice:  $M = 5.77, SD = 1.15$ ; and explicit-no-voice:  $M = 5.70, SD = 1.23$ ), although voice continues to exert a significant influence. The interaction was not significant,  $F(2, 349) = 1.88, p = .155, \eta^2 = .011$ .

When we include both our measures of outcome expectations and relational value as covariates in this analysis, relational value is significant,  $F(1, 347) = 348.9, p < .001, \eta^2 = .50$ . Our measure of instrumental motivations,

outcome expectations, however, is insignificant,  $F(1, 347) = .001$ ,  $p = .97$ ,  $\eta^2 = .00$ . To understand more fully how relational value affects the relationships between voice and outcome on general reactions to procedures, we first conducted a bootstrap analysis for the effects of relational value in mediating the relationship between voice and general reactions. We then repeated these analyses separately for winners and losers to assess whether outcome affects the mediated relationship of voice on general reactions.

We conducted a bootstrap analysis to assess whether outcome expectations or relational value mediated the effect of voice on general reactions: comparing the voice and the explicit-no-voice conditions, the bootstrap analysis (with 5,000 bootstrap samples) showed that the 95 % bias-corrected confidence interval for the size of the indirect effects for relational value excluded zero ( $-.3060$ ,  $-.0496$ ) and for outcome expectations included zero ( $-.0394$ ,  $.0225$ ) suggesting a significant indirect effect of voice on general reactions for the relational value but not outcome expectations mediators. Comparing the voice and the implicit-no-voice conditions, a bootstrap analysis (with 5,000 bootstrap samples) showed that the 95 % bias-corrected confidence interval for the size of the indirect effects for both relational value and outcome expectations included zero ( $-.1853$ ,  $.0617$ ) and ( $-.0386$ ,  $.0348$ ), respectively) suggesting neither indirect effect of voice on perceptions of procedural fairness for the relational value and outcome expectations mediators is significant. Therefore, Hypothesis 6 was partially supported whereas Hypothesis 3 was not, consistent with the findings of Study 1. These conclusions, therefore, primarily apply to comparisons with our somewhat stronger/more explicit no-voice condition, though the same trends emerge with our implicit-no-voice condition as well. Perhaps one explanation for the somewhat weaker effects of our implicit-no-voice condition is that participants' normative expectations did not lead them to anticipate receiving voice. In other contexts, where voice is expected, implicit no-voice would be likely to more closely parallel the explicit-no-voice effects we found in this study.

### *Does Outcome Affect the Mediated Relationship Between Voice and General Reactions?*

We analyzed the results of Study 2 separately for winners and losers and found that when both measures of outcome expectations and relational value were included as covariates in the analyses, relational value remains significant for both losers and winners,  $F(1, 175) = 226.9$ ,  $p < .001$ ,  $\eta^2 = .57$  and  $F(1, 170) = 126.2$ ,  $p < .001$ ,  $\eta^2 = .43$ , respectively. Our measure of instrumental motivations, outcome expectations, however, is only marginally significant, for both losers and winners,  $F(1, 175) = 2.877$ ,  $p = .092$ ,  $\eta^2 = .02$  and  $F(1, 170) = 3.324$ ,  $p = .070$ ,  $\eta^2 = .02$ , respectively). This last result underscores our conclusion about the primacy of relational concerns driving judgments of procedural fairness.

Separate bootstrap analyses (with 5,000 bootstrap samples) were conducted to assess whether outcome expectations or relational value mediated the effect of voice on general reactions for both winners and losers. In the case of voice versus the explicit-no-voice conditions, the 95 % bias-corrected confidence intervals for the



size of the indirect effects for relational value excluded zero for both losers ( $-.3203, -.0593$ ) and winners ( $-.2891, -.0560$ ), whereas the confidence intervals for outcome expectations included zero for both losers ( $-.0027, .0849$ ) and winners ( $-.0863, .0106$ ). These results suggest that our measure of relational value mediates the effects of voice on general reactions whereas outcome expectations does not.

In contrast, in the case of voice versus the implicit-no-voice conditions, the 95 % bias-corrected confidence intervals for the size of the indirect effects for both relational value and outcome expectations included zero for losers ( $(-.1912, .0654)$  and  $(-.0065, .0881)$ , respectively) and winners ( $(-.1636, .0550)$  and  $(-.1020, .0033)$ , respectively). This suggests that neither relational value nor outcome expectations mediates the effects of voice on general reactions.

The results of Study 2 replicate key results from Study 1 and reinforce a dual conclusion. First, voice does act as a shared circumstance effect, inflating subjective estimates of winning. Second, despite this effect on instrumental expectations, the effects of voice on general reactions cannot be explained by instrumental motives surrounding the desire to win. Study 2's measure of relational value does a better job accounting for both perceptions of procedural justice and general reactions than does the expectation of winning.

It is worth noting the strong correlation between our measure of procedural justice and general reactions in Study 2 (and to a lesser extent Study 1), a finding that is consistent with the findings of much of justice research that often finds relatively high correlations between these measures (e.g., Tyler & Blader, 2000). That prior research nonetheless also finds evidence that these are distinct judgments, particularly since other factors besides procedural justice may well drive these general reactions.

## General Discussion

The results presented here contribute to our understanding of the psychology of voice. They confirm that voice shares important features with other factors that produce shared circumstance effects. In particular, providing people with voice increases people's perceptions that they will be able to attain the outcomes they desire. Of course, when everyone achieves an opportunity for voice, it is an error for them to believe that such opportunity will enhance their individual chances of "winning." Yet the significance of this finding should not be underestimated, as it confirms a postulate of the instrumental models of procedural justice that has gone untested (to the best of our knowledge) in the more than three decades since those models were first developed. Namely, it is evidence that voice does indeed have perceived but illusory instrumental value insofar as it shapes *ex-ante* judgments about the outcomes one can expect. This has not been considered explicitly in previous research, and thus the current results represent a contribution to our understanding of the instrumentality dynamics that relate to voice.

A second important contribution of the current research is the finding that the effect of voice on *ex-ante* outcome expectations does not explain the impact of voice on people's procedural justice judgments or on their more general reactions.

Rather, we find support for the non-instrumental approaches to procedural justice but with a critical caveat to that support: Although fair process effects may not be due to people's concerns about receiving the outcomes they desire, people's judgments about the likelihood of receiving those outcomes are indeed influenced by whether they are provided voice opportunities. Voice procedures are not regarded as fair procedures simply because they lead people to believe that they are more likely to attain outcomes they value, but voice procedures do appear to influence the perceived likelihood of attaining those outcomes. This suggests that procedural justice judgments are not simply assessments of the extent to which procedures seem likely to produce the outcomes people desire. Furthermore, the potent reactions voice elicits appear to be linked to people's concern with procedural fairness (indeed, they are explained by this concern) and *not* to concerns about outcomes.

### Organizational Implications

The results appear to offer an important example of the disconnect between subjective and objective outcomes. For example, people's subjective well-being is not simply a function of their objective outcomes such as wealth, receiving the prize, or achieving elite status (Myers, 2000). Instead, what appears to matter to people's happiness is how they are treated along the way. Negotiators who achieve highly profitable agreements are nevertheless unhappy if they are insulted by their negotiating counterparts (Curhan, Elfenbein, & Xu, 2006). And employees who are paid well are nevertheless unhappy if they feel unappreciated by their employers (Konovsky, Folger, & Cropanzano, 1987). This is not to say that economic outcomes are not important, only that they do not fully account for subjective assessments of one's treatment, general reactions to institutions, or how valued one feels by others.

These sorts of findings in procedural justice literature have pointed to the disquieting implication that organizations could increase stakeholder satisfaction with organizational decisions by providing them purely symbolic opportunities for voice. By pretending to listen to their concerns, corporate managers may make stakeholders feel as if they have been treated fairly and therefore more likely to accept an outcome that fails to deliver desirable outcomes. One implication of our results, however, would be to temper expectations for the effectiveness of these sorts of symbolic and manipulative opportunities for voice. If, by providing voice, organizations simultaneously raise expectations for a favorable outcome, then the simple provision of voice will prove as a problematic approach to pacifying stakeholder groups and satisfying their demands.

### Future Research

We regard it as important that our study not simply be seen as further confirmation of the importance of the non-instrumental models of procedural justice. The finding that outcome expectations (which were shaped by voice) did not influence people's reactions should not be interpreted as meaning that these reactions do not matter.

Instead, it suggests that researchers may find it worthwhile to explore variables that *are* shaped by outcome expectations. For instance, self-efficacy judgments could vary as a function of whether people attain outcomes that are the target of their strivings. Similarly, decisions about how much to invest in a group or a course of action, and decisions about whether to remain with a group, may likewise be shaped by outcome expectations. In general, researchers should look to other variables that are likely to have linkages to outcome expectations, and should examine whether the effects of voice on these other variables can be explained by people's outcome expectations. This would further support arguments that both instrumental and non-instrumental models provide are valid, but that their applicability depends on the dependent variable in question.

Future research should identify other potential mediators for effects of voice on people's perceptions of procedural fairness and their more general reactions to experience. For example, self-focus is a viable explanation that is compatible with the relational value explanation we offer, in the sense that it is part of the process of the egocentric psychology that drives shared-circumstance effects. Indeed, previous research examining shared circumstance effects documents the tendency for people to focus on the strengths of their own case while neglecting sensible inferences about the strengths of others' cases (Kruger, 1999; Moore & Kim, 2003; Windschitl, Rose, Stalkfleet, & Smith, 2008).

Another potential avenue for future research relates to the relatively weaker mediational effects of relational value on the relationship between voice and general reactions in the implicit-no-voice condition relative to those in the explicit-no-voice condition found in Study 2. On first glance these results appear to be inconsistent with previous research by van den Bos (1999) that found when information about procedures is missing (van den Bos's "implicit-no-voice" condition), participants are more likely to use perceptions of distributive justice in determining perceptions of procedural justice—a fair outcome effect. Our findings in Study 2, however, revealed no meaningful differences between perceptions of procedural fairness in the implicit-no-voice and explicit-no-voice conditions. On closer inspection, the apparent inconsistency may be explained by the timing that these measures were collected relative to participants finding out about the outcome of their task. The measures of perceptions of procedural fairness used by van den Bos (1999) were post hoc measures collected after subjects had been told the outcome, whereas the measures of perceptions of procedural fairness reported in our paper are a priori assessments of procedural fairness that subjects made prior to being informed of the outcome.

Comparisons between general reactions as assessed by our post-outcome measure of perceptions of procedural fairness and the perceptions of procedural fairness measures used by van den Bos are therefore more appropriate. However, direct comparison is again complicated by differences in the two experiments: van den Bos considered the perceptions of losers and those who did equally well as other participants, whereas our study focuses on perceptions of losers compared to winners. Our analyses reveal a significant difference between general reactions for participants given voice and those denied this opportunity (either explicitly or implicitly) but only for losers. However, while general reactions of subjects in the

implicit-no-voice condition were lower than those of subjects in the explicit-no-voice condition (consistent with van den Bos' fair outcome effect), this difference was not significant. Future research should therefore consider the effects of voice (relative to implicit- and explicit-no-voice) on a priori perceptions of procedural fairness and post hoc general reactions for losers, winners, and those who did equally well as other participants.

Finally, future research should consider the role of incentive structures in shaping the degree to which voice prompts instrumental versus relational concerns. For example, the \$5 prize used in the current research might be considered relatively small and increasing the magnitude of the outcome may impact the effect that the outcome has on people's behavior. However, it should not change the role of outcome concerns in explaining people's reactions to justice. We know from field studies conducted in organizational contexts—where the outcomes refer to people's pay and are thus quite substantial and highly consequential—that people still show very strong reactions to justice (e.g., McFarlin & Sweeney, 1992; Schaubroeck, May, & Brown, 1994). So, while the \$5 incentive used in the current research may not have been an outcome of significant magnitude, other research suggests that this would not substantially change the pattern of results we found, but this is an empirical question.

## Conclusion

As a whole, the results of our studies provide important clarification of previous work on instrumentality and voice. They simultaneously support the instrumental argument that voice enhances the perceived attainability of desired outcomes, as well as the generally accepted perspective that instrumentality concerns do not explain voice effects on procedural justice. As such, they help us integrate these two perspectives in a novel, but important way that contributes additional insight to old questions about the interface of voice and instrumentality.

## References

- Ambrose, M. L. (2002). Contemporary justice research: A new look at familiar questions. *Organizational Behavior and Human Decision Processes*, 89(1), 803–812.
- Ambrose, M. L., Harland, L. K., & Kulik, C. T. (1991). Influence of social comparisons on perceptions of organizational fairness. *Journal of Applied Psychology*, 76, 239–246.
- Barry, B., & Shapiro, D. L. (2000). When will grievants desire voice?: A test of situational, motivational, and attributional explanations. *International Journal of Conflict Management*, 11, 106–134.
- Blader, S. L., & Tyler, T. R. (2003). A four component model of procedural justice: Defining the meaning of a “fair” process. *Personality and Social Psychology Bulletin*, 29, 747–758.
- Blader, S. L., & Tyler, T. R. (2005). How can theories of organizational justice explain the impact of fairness? In J. Greenberg & J. A. Colquitt (Eds.), *Handbook of organizational justice* (pp. 329–354). Mahwah, NJ: Lawrence Erlbaum Associates.
- Blader, S. L., & Tyler, T. R. (2009). Testing and extending the group engagement model: Linkages between social identity, procedural justice, economic outcomes, and extra-role behavior. *Journal of Applied Psychology*, 94(2), 445.

- Brockner, J., & Wiesenfeld, B. M. (1996). An integrative framework for explaining reactions to decisions: Interactive effects of outcomes and procedures. *Psychological Bulletin*, *120*, 189–208.
- Choi, H. S., & Thompson, L. (2005). Old wine in a new bottle: Impact of membership change on group creativity. *Organizational Behavior and Human Decision Processes*, *98*(2), 121–132.
- Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes*, *86*(2), 278–321.
- Conlon, D. (1993). Some tests of the self-interest and group-value models of procedural justice: Evidence from an organizational appeal procedure. *Academy of Management Journal*, *36*, 1109–1124.
- Cropanzano, R., Byrne, Z. S., Bobocel, D. R., & Rupp, D. E. (2001). Moral virtues, fairness heuristics, social entities and other denizens of organizational justice. *Journal of Vocational Behavior*, *58*, 164–209.
- Curhan, J. R., Elfenbein, H. A., & Xu, H. (2006). What do people value when they negotiate? Mapping the domain of subjective value in negotiation. *Journal of Personality and Social Psychology*, *91*(3), 493–512.
- Dunn, O. J. (1959). Confidence intervals for the means of dependent, normally distributed variables. *Journal of the American Statistical Association*, *54*, 613–621.
- Dunn, O. J. (1961). Multiple comparisons among means. *Journal of the American Statistical Association*, *56*(293), 52–64.
- Guilford, J. P. (1967). *The nature of human intelligence*. New York: Mc-Graw-Hill.
- Harkins, S. G., & Petty, R. E. (1982). Effects of task difficulty and task uniqueness on social loafing. *Journal of Personality and Social Psychology*, *43*(6), 1214.
- Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modelling [White paper]*. Retrieved from <http://www.afhayes.com/public/process2012.pdf>.
- Hunton, J. E., Hall, T. W., & Price, K. H. (1998). The value of voice in participative decision making. *Journal of Applied Psychology*, *83*(5), 788.
- Konovsky, M. A., Folger, R., & Cropanzano, R. (1987). Relative effects of procedural and distributive justice on employee attitudes. *Representative Research in Social Psychology*, *17*(1), 15–24.
- Kruger, J. (1999). Lake Wobegone be gone! The “below-average effect” and the egocentric nature of comparative ability judgments. *Journal of Personality and Social Psychology*, *77*, 221–232.
- Leung, K., Tong, K.-K., & Lind, E. A. (2007). Realpolitik versus fair process: moderating effects of group identification on acceptance of political decisions. *Journal of Personality and Social Psychology*, *92*, 476–489.
- Lind, E. A., Kanfer, R., & Earley, P. C. (1990). Voice, control, and procedural justice: Instrumental and noninstrumental concerns in fairness judgments. *Journal of Personality and Social Psychology*, *59*, 952–959.
- Lind, E. A., & Tyler, T. R. (1988). *The social psychology of procedural justice*. New York: Plenum Press.
- McFarlin, D. B., & Sweeney, P. D. (1992). Research notes. Distributive and procedural justice as predictors of satisfaction with personal and organizational outcomes. *Academy of Management Journal*, *35*(3), 626–637.
- Moore, D. A., & Kim, T. G. (2003). Myopic social prediction and the solo comparison effect. *Journal of Personality and Social Psychology*, *85*(6), 1121–1135.
- Moore, D. A., & Small, D. A. (2007). Error and bias in comparative social judgment: On being both better and worse than we think we are. *Journal of Personality and Social Psychology*, *92*, 972–989.
- Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist*, *55*(1), 56–67.
- Paulus, P. B., & Yang, H. C. (2000). Idea generation in groups: A basis for creativity in organizations. *Organizational Behavior and Human Decision Processes*, *82*(1), 76–87.
- Platow, M. J., Filardo, F., Troselj, L., Grace, D. M., & Ryan, M. K. (2006). Non-instrumental voice and extra-role behaviour. *European Journal of Social Psychology*, *36*, 135–146.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*(4), 717–731.
- Preacher, K., & Hayes, A. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879–891.
- Price, K. H., Hall, T. W., van den Bos, K., Hunton, J. E., Lovett, S., & Tippett, M. J. (2001). Features of the value function for voice and their consistency across participants from four countries: Great Britain, Mexico, The Netherlands, and the United States. *Organizational Behavior and Human Decision Processes*, *84*(1), 95–121.

- Rose, J. P., & Windschitl, P. D. (2008). How egocentrism and optimism change in response to feedback in repeated competitions. *Organizational Behavior and Human Decision Processes*, 105(2), 201–220.
- Rupp, D. E., & Cropanzano, R. (2002). The mediating effects of social exchange relationships in predicting workplace outcomes from multifoci organizational justice. *Organizational Behavior and Human Decision Processes*, 89(1), 925–946. doi:10.1016/s0749-5978(02)00036-5.
- Sawyers, J. K., Morgan, J. D., I. I. I., Fu, V. R., & Milgram, R. M. (1983). Familiar versus unfamiliar stimulus items in measurement of original thinking in young children. *Perceptual and Motor Skills*, 57(1), 51–55.
- Schaubroeck, J., May, D. R., & Brown, F. W. (1994). Procedural justice explanations and employee reactions to economic hardship: A field experiment. *Journal of Applied Psychology*, 79(3), 455.
- Shapiro, D. L., & Brett, J. M. (1993). Comparing three processes underlying judgments of procedural justice: A field study of mediation and arbitration. *Journal of Personality and Social Psychology*, 65, 1167–1177.
- Shapiro, D. L., & Brett, J. M. (2005). What is the role of control in organizational justice? In J. Greenberg & J. Colquitt (Eds.), *Handbook of organizational justice* (pp. 155–177). Mahwah, NJ: Lawrence Erlbaum Associates.
- Smith, H. J., Tyler, T. R., Huo, Y. J., Ortiz, D. J., & Lind, E. A. (1998). The self-relevant implications of the group-value model: Group membership, self-worth, and treatment quality. *Journal of Experimental Social Psychology*, 34(5), 470–493.
- Thibaut, J., & Walker, L. (1975). *Procedural justice*. Hillsdale, NJ: Erlbaum.
- Torrance, E. P. (1968). *Torrance tests of creative thinking*. Princeton, NJ: Personnel Press.
- Tyler, T. R. (1989). The psychology of procedural justice: A test of the group-value model. *Journal of Personality and Social Psychology*, 57, 830–838.
- Tyler, T. R., & Blader, S. L. (2000). *Cooperation in groups: Procedural justice, social identity, and behavioral engagement*. Philadelphia: Psychology Press.
- Tyler, T. R., Boeckmann, R. J., Smith, H. J., & Huo, Y. J. (1997). *Social justice in a diverse society*. Boulder, CO: Westview.
- Tyler, T. R., Degoey, P., & Smith, H. J. (1996). Understanding why the justice of group procedures matters: A test of the psychological dynamics of the group-value model. *Journal of Personality and Social Psychology*, 70, 913–930.
- Tyler, T. R., & Lind, E. A. (1992). A relational model of authority in groups. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 115–191). New York: Academic Press.
- van den Bos, K. (1999). What are we talking about when we talk about no-voice procedures? On the psychology of the fair outcome effect. *Journal of Experimental Social Psychology*, 35, 560–577.
- van den Bos, K. (2002). Assimilation and contrast in organizational justice: The role of primed mindsets in the psychology of the fair process effect. *Organizational Behavior and Human Decision Processes*, 89(1), 866–880.
- van den Bos, K., Lind, E. A., Vermunt, R., & Wilke, H. A. M. (1997). How do I judge my outcome when I do not know the outcome of others? The psychology of the fair process effect. *Journal of Personality and Social Psychology*, 72, 1034–1046.
- Walker, L., LaTour, S., Lind, E. A., & Thibaut, J. (1974). Reactions of participants and observers to modes of adjudication. *Journal of Applied Social Psychology*, 4, 295–310.
- Windschitl, P. D., Kruger, J., & Simms, E. (2003). The influence of egocentrism and focalism on people's optimism in competitions: When what affects us equally affects me more. *Journal of Personality and Social Psychology*, 85(3), 389–408.
- Windschitl, P. D., Rose, J. P., Stalkfleet, M. T., & Smith, A. R. (2008). Are people excessive or judicious in their egocentrism? A modeling approach to understanding bias and accuracy in people's optimism within competitive contexts. *Journal of Personality and Social Psychology*, 95(2), 253–273.