

Are Outcome Fairness and Outcome Favorability Distinguishable Psychological Constructs? A Meta-Analytic Review

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Manipulations of outcome favorability and outcome fairness are frequently treated as interchangeable, and assumed to have redundant effects. Perceptions of outcome fairness and outcome favorability are similarly presumed to have common antecedents and consequences. This research tested the empirical foundation of these assumptions by conducting a meta-analytic review of the justice literature (N = 89 studies). This review revealed that outcome fairness is empirically distinguishable from outcome favorability. Specifically: (a) there is weaker evidence of the fair process effect when the criterion is outcome fairness than when it is outcome favorability, (b) outcome fairness has stronger effects than outcome favorability, and equally strong or stronger effects as procedural fairness on a host of variables, such as job turnover and organizational commitment, and (c) manipulations of outcome fairness and favorability have stronger effects on perceptions of procedural fairness than the converse.

KEY WORDS: distributive justice; fairness; self-interest.

Numerous studies have attempted to address the specific question of what better predicts people's sense of fairness—procedures or outcomes—over the last 20–30 years. In addition to establishing the independent effects of procedures and outcomes on fairness judgments, a large number of studies find that variations in procedural fairness often influence people's subsequent willingness to accept negative outcomes (e.g., Tyler and Caine, 1981; Walker *et al.*, 1974). Specifically, a number of studies indicate that people accept even negative outcomes if the

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procedure used to arrive at them is fair (what has come to be known as the *fair process effect*, e.g., Folger, 1977; Folger *et al.*, 1979). Evidence for the fair process effect has been found in laboratory experiments (e.g., Folger *et al.*, 1979, 1983; Greenberg, 1987, 1993; Lind *et al.*, 1980, 1990; van den Bos *et al.*, 1997), as well as surveys conducted across a wide variety of domains including the courts, citizen–police encounters, and public policy (e.g., Lind *et al.*, 1993; Tyler, 1994; Tyler *et al.*, 1985; Tyler and Caine, 1981, Studies 2 and 4; Tyler and Degoey, 1995; Tyler and Folger, 1980).

Research on the fair process effect has generally measured or manipulated outcome favorability, rather than outcome fairness, based on the argument that there is little distinction between these two constructs (e.g., Brockner and Weisenfeld, 1996). It is not clear, however, whether there is a strong empirical foundation for the assumption that people confound outcome fairness and outcome favorability—i.e., that people believe positive outcomes are by definition fair, and unfavorable outcomes are by definition unfair, unless the latter are decided by fair procedures.

The robustness of the fair process effect has led some to conclude that fairness reasoning is determined more by procedures than by distributions (e.g., Lind and Tyler, 1988). For example, Lind and Tyler (1988) introduced their overview of research on procedural justice with the claim that “people [are] more interested in issues of process than issues of outcome” (p. 1). Others, however, have been more cautious about abandoning considerations of distributive justice. For example, Greenberg (1990) concluded that evidence supporting the fair process effect “was important insofar as it helped to highlight the value of the procedural justice concept and subjected it to further study. However, such findings should not be taken as evidence of the unimportance of distributive justice factors” (p. 425). Others conclude that procedural fairness is generally a better predictor of responses to systems, institutions, and decision makers, whereas outcomes or distributive justice is a better predictor of responses to specific outcomes received (the “two-factor” model, Sweeney and McFarlin, 1993). Taken together, current theorists argue that distributive justice has a comparatively limited sphere of importance relative to procedural fairness.

To address the question of whether and how much outcome fairness matters and whether outcome fairness can be distinguished from outcome favorability, we conducted a meta-analysis of studies that compared the effects of procedural and outcome manipulations or measures on people’s subsequent judgments of procedural and outcome fairness, outcome favorability, and a host of other variables such as job performance, turnover, retaliation, decision acceptance, evaluation of authorities, affect, and organizational commitment and citizenship.

DISTRIBUTIVE JUSTICE, OUTCOME FAIRNESS, AND OUTCOME FAVORABILITY

It is difficult to assess the validity of the conclusion that procedural fairness matters more, or across a broader sphere of responses, than distributive justice because the latter is often operationalized as outcome favorability or satisfaction. Some confusion between outcomes that benefit one's self-interest and outcomes that are fair is understandable (as we explain below). Although it remains an empirical question whether these constructs are empirically distinguishable, they are nonetheless theoretically distinguishable constructs.

Outcome fairness refers to the degree that an outcome is consistent with, or can be justified by, a referent standard, whereas outcome favorability refers to whether one receives a positive rather than a negative result (Kulik and Ambrose, 1992; Stepina and Perrewé, 1991). A concrete example of the difference between a favorable and fair outcome would be the child who receives a slice of cake that is double in size that given to her siblings. The child clearly has received a favorable outcome; however, unless this outcome was justified by adherence to a normative standard (e.g., need or merit), even quite young children—including the beneficiary of largesse—recognize that this allocation is distributively unfair (e.g., Lerner, 1974).

Although a large number of studies purport to test the relative predictive utility of procedural and distributive justice, not all operationalize variables with the intent to capture distributive justice in terms of fairness or consistency with referent standards like equity, equality, or need. For example, in one study that found support for the fair process effect, participants' outcomes were whether they won or lost an arbitration hearing (Lind and Lissak, 1985); another study manipulated whether participants were hired for a job (Gilliland, 1994). In neither case were outcomes presented with reference to normative standards. Participants knew whether they had received a positive or negative outcome, but had no information about whether the outcomes were fair, because they had no referent standard of comparison. Therefore, it may not be surprising that people's reasoning about fairness in these cases was based on available procedural fairness information given that outcome fairness information was not available. Consistent with our argument that there may be important differences between outcome fairness and outcome favorability, fair process effects do not emerge when people have information that allows them to make a clear judgment of outcome fairness (Skitka, 2002; Skitka and Mullen, 2002; van den Bos *et al.*, 1997).

Just as some studies manipulate "distributive justice" in terms of outcome favorability, others measure outcome judgments in terms of self-interest or satisfaction instead of fairness. For example, dependent measures often tap how favorable or unfavorable a given outcome was, or people's satisfaction with their outcome,

rather than measuring whether people believe the outcome was fair (e.g., Folger and Martin, 1986; Gilliland and Beckstein, 1996; Greenberg, 1987; Kitzmann and Emery, 1993; Tyler and Caine, 1981). Other studies measure perceived outcome fairness, but confound it with outcome favorability because they average fairness judgments with items that tap outcome favorability, outcome satisfaction, or both (e.g., Ball *et al.*, 1994; Barrett-Howard and Tyler, 1986; Fryxell and Gordon, 1989; Giacobbe-Miller, 1995; Konovsky *et al.*, 1987; LaTour, 1978; Lind *et al.*, 1980; Tyler, 1994, 1996; Tyler *et al.*, 1996; Tata and Bowes-Sperry, 1996; Tyler and Caine, 1981, Studies 1 and 3; Tyler and Degoey, 1995; Walker *et al.*, 1974).

In sum, the effects of outcome fairness have often been conflated or confounded with outcome satisfaction, favorability, or other measures that reflect self-interest and outcome valence rather than fairness per se. Therefore, although we have gained an important increased appreciation for the fact that procedural fairness matters more, or across more contexts, than outcome favorability, we have a limited picture of whether the consistency of outcomes with important normative standards and subsequent perceptions of outcome fairness may also be important predictors of how people respond to allocations made by institutions and various authorities.

WHY IS OUTCOME FAVORABILITY SO OFTEN CONFLATED WITH OUTCOME FAIRNESS?

Social scientists frequently draw on broad simplifying assumptions to organize their efforts to understand the interpersonal world and the diverse ways that people think, feel, and behave. Examples of these guiding assumptions or metaphors include the “intuitive scientist,” the “cognitive miser,” and the “actor” (see Tetlock and Levi, 1982; Tetlock and Manstead, 1985 for reviews). Underlying the diversity of research inspired by each of these guiding metaphors is a hard core of basic assumptions about the subject of inquiry.

Equity theory (e.g., Adams, 1965; Homans, 1961; Walster *et al.*, 1978) was the dominant theory of distributive justice for many years, and proposed that people judge fairness by whether the proportion of their inputs to their outcomes are comparable to the input/outcome ratios of others involved in the social exchange. Equity theory was premised on the guiding metaphor of *homo economicus*—i.e., the assumption that people are fundamentally selfish and make rational choices to maximize their self-interests.

Specifically, Walster *et al.*'s version of equity theory was built on four core propositions (Walster *et al.*, 1978): (1) individuals try to maximize their outcomes, (2) groups can maximize their collective outcomes by devising an equitable system for sharing resources by making it more profitable for groups members to constrain greed in the interest of the group; this is accomplished by rewarding those who behave equitably and punishing those who do not, (3) when socialized persons feel

inequitably treated, they experience distress, and (4) people are moved to alleviate distress by restoring either actual or psychological equity in their relationships.

The tendency to equate outcome favorability and outcome fairness may therefore be understandable, given the explicit emphasis one of the most well-known theories of distributive justice placed on self-interest as a starting assumption. Building a theory of justice on the assumption that people are fundamentally self-interested also led a number of scholars to object to the theory on philosophical grounds. They argued that equity theory celebrated capitalism and individualism and ignored other important human values and belief systems (e.g., Bakan, 1966; Block, 1973; Sampson, 1975).

Even though equity theory was founded on the assumption that people are fundamentally self-interested, the theory clearly posits that people judge fairness not by whether outcomes maximize their utility, but by whether they receive *equitable* outcomes—something quite different. Equity theory posited that people learned fairness norms as a part of normal socialization practices, and therefore that people do not judge outcome fairness in terms of whether outcomes maximize their self-interests, but instead they judge outcome fairness in terms of whether outcomes are consistent with a relevant normative standard (in this case, the equity rule).

In short, there has been an implicit tendency to reduce conceptions of distributive justice to equity theory, and even then, to only one of the propositions of equity theory. To the extent that the *homo economicus* foundation of equity theory explains the tendency to equate outcome valence and outcome fairness, then researchers are also ignoring more current conceptions of distributive justice that do not use assumptions about *homo economicus* as a guiding metaphor (e.g., Cohen, 1991; Montada, 1996, 1998).

DEFINING DISTRIBUTIVE JUSTICE AND OUTCOME FAIRNESS

Given this backdrop of apparent confusion about what can be appropriately considered a measure or manipulation of distributive justice, it seems important to explicitly define what is and is not appropriately considered a distributive justice construct. Distributive justice encompasses the range of principles that people use to assign basic rights and duties, and to determine what they take to be the proper distribution of the benefits and burdens of social cooperation (Rawls, 1971). Implicit in this definition of distributive justice is the idea that people generally share some understanding of what they take to be fair. The consensual part of this definition is important. Social systems cannot function without some degree of agreement on the norms that regulate interpersonal relationships. These norms provide answers to some of the basic questions of social life: What criteria should be used to decide who deserves scarce resources? What counts as a just income distribution, whether in an experimental mini-society or the world at large? How much of the public purse should be spent on defense, to stimulate the economy,

or on the poor? Although procedures may play an important role in how these questions are addressed, normative standards of outcome fairness are likely to also provide decision-makers with some guidance about what will be perceived as fair.

Although Walster *et al.* (1978) had argued that the equity rule was *the* general norm of distributive fairness, distributive justice theorists have largely abandoned the equity theory approach. Equity theory had problems accounting for why people also see other distributions of outcomes as fair, such as those based on need (e.g., Lerner *et al.*, 1976; Leventhal, 1976; Schwartz, 1974; Swinger, 1980) or equality (e.g., Deutsch, 1975; Lerner, 1974; Mikula, 1980; Sampson, 1969, 1975). Although one could argue, for example, that people's needs could be considered as relevant inputs into the equity formula, this stretching of what constitutes inputs led critics to argue that equity theory had become so parsimonious that it no longer had any explanatory power (Sampson, 1969, 1975).

More contemporary distributive justice theorists accept a broad range of possible distributive justice principles that have characteristics of social norms and that shape people's assessments of distributive justice (e.g., Deutsch, 1985). Which distributive norm people use as a standard to judge whether outcomes are fair varies as a function of relational context (e.g., Deutsch, 1985; Lerner, 1974), the goal orientation of the allocator (e.g., Deutsch, 1985), the resources being allocated (e.g., Skitka, 1999), and sometimes the political orientation of the perceiver (e.g., Major and Deaux, 1982; Skitka, 1999; Skitka and Tetlock, 1992, 1993).

Taken together, it is clear that the relevant comparison between theories of procedural and distributive justice would not be to compare the relative explanatory power of indices of procedural justice with whether outcomes are favorable. The more appropriate comparison would be between manipulations and measures of procedural fairness (e.g., whether there are opportunities for voice, the trustworthiness of authorities, or the absence of bias) and manipulations of whether outcomes conform to relevant normative standards, or measures of outcome fairness rather than outcome favorability.

In sum, comparisons of the relative effects of procedural and distributive justice as currently presented in the literature are often comparisons between the relative power of procedural fairness and outcome favorability. By no means does this diminish the contribution of this research. One of the more important tests of any complete theory of justice is a demonstration of the relative power of justice considerations—procedural or distributive—relative to other motives. Although research that benchmarks the effects of procedural fairness against self-interest validate the important role that procedural fairness plays in social life, we need a clearer understanding of the relative effects of procedural *and* outcome fairness, as well as empirical investigation of whether the construct of outcome fairness is in fact distinguishable from outcome favorability or self-interest. We addressed these questions by conducting a meta-analytic review of the justice literature.

METHOD

Identification of Studies

To find appropriate articles for inclusion in the meta-analysis, PsychInfo (1974–1999), Dissertation Abstracts (DAI, 1974–1999), ERIC (1974–1999), and Lexis (1987–1999) were searched using the following keywords: distributive, procedural, fairness, justice, outcome, equity, adversarial, voice, and process. Additional articles were located by screening all published articles in *Social Justice Research* (1987–1999), and by examining the reference sections of all otherwise identified articles for additional likely references.

Inclusion Criteria

Articles that were identified using the procedures outlined above were then screened to ensure that they met a number of inclusion criteria. It should be noted first that the justice literature has become quite vast. We restricted our investigation to a sample of articles that allowed for the greatest comparability of dependent measures to examine the effects of both procedures and outcomes; specifically, we restricted our attention to those studies that included manipulations or measures of both classes of variables—procedural and outcome—as independent variables. Therefore, one inclusion criterion was that studies had to have independent variables or predictors that tapped variables related to both procedures and outcomes.

We also restricted our search to studies conducted after 1975, the year that marked the publication of the first major theory of procedural justice (Thibaut and Walker, 1975). Only articles that reported sufficient information to calculate effect sizes, or whose authors provided us with the information needed to calculate effect sizes, were included as well.⁴ Finally, the study had to include a dependent measure or criterion that tapped the same latent construct as at least one other study in our sample to justify calculating an estimated pooled effect size.

Eligibility for inclusion was assessed by two independent coders; if coders disagreed about whether a paper met the inclusion criteria, a third judge also examined the paper, and consensus was reached through group discussion. Eighty-nine studies ultimately met each of our inclusion criteria.

⁴We sent letters requesting the specific statistical information required to calculate effect sizes to all authors of papers that met all but this inclusion criterion. To address possible file drawer problems (i.e., the possibility that a meta-analysis overestimates effects because studies that find null results are often not published), we also asked each of these authors for any other unpublished studies that met our inclusion criteria. Post card reminders were also sent up to two times, at approximately 3-week intervals, to maximize response rates to these requests for information.

Independent or Predictor Variables

Two independent coders evaluated each study to classify its variables, characteristics, and to identify the relevant test statistics. Coders had high interrater reliability (98% agreement). In all cases of inconsistency in coding, a third judge also independently coded the article, and a final coding decision was arrived at through group discussion to consensus.

Procedural Justice

Operationally speaking, we required that articles include a measure or manipulation of some structural (e.g., manipulations or perceptions of the degree of voice in decision-making procedures; variations in methods of adjudication) or interactional aspect of procedures (e.g., respect) as a predictor or independent variable. Because a sufficiently large subsection of papers measured or manipulated voice, these papers were coded separately from papers that either measured or manipulated other aspects of procedural fairness as defined by procedural justice theorists (e.g., Leventhal, 1976; Lind and Tyler, 1988; Tyler and Lind, 1992).

Distributive Justice

Studies were coded as having measured or manipulated distributive fairness if (a) outcomes consistent with a specific normative standard (e.g., equity or inequity) was manipulated as an independent variable (what we will refer to as normative justice), or (b) perceptions of outcome fairness were used as a predictor (what we will refer to as outcome fairness).

Outcome Favorability

Studies were coded as having measured or manipulated outcome favorability or valence if they (a) manipulated whether participants received positive or negative outcomes without relevant social comparison information or an indication of whether the outcome conformed to some normative standard, or (b) used measures of either outcome favorability or satisfaction as a predictor. Both examples will be referred to as outcome favorability.

Mixed Outcome Measures

In addition to studies that were consistent with the defining characteristics of distributive justice or outcome favorability provided above, another class of studies used mixed measures of outcome fairness and favorability as a predictor.

Specifically, these studies included assessments of outcome fairness averaged with judgments of outcome favorability or satisfaction to create an outcome predictor. There were sufficient numbers of these studies to warrant also including them in the analysis.

Dependent or Criterion Variables

We had a range of dependent measures. First, all but one of the variables described above (normative distributive justice) were included as measures in some of the studies included in our sample, and therefore we could evaluate the interrelationships of each these variables with each other as well as our other dependent measures. Other dependent measures that occurred with sufficient frequency to allow for the calculation of pooled effect sizes were performance, turnover, retaliation, decision acceptance, evaluations of authorities, affect, organizational commitment, and task satisfaction. Each of these concepts is briefly described below.

Performance

Dependent measures were coded as reflecting performance if they assessed ratings of participants' performance on the job or on a specific task. Performance was always assessed by either an objective measure or by an observer, and not the participants' themselves. Examples of some measures of performance were the number of errors correctly identified in an error detection task (Magner *et al.*, 1996); performance on a civil service exam (Smither *et al.*, 1993); or the number of objects participants built in a specified period (Lindquist, 1991).

Turnover

Many justice studies are conducted in the workplace, where job turnover is an important potential consequence of perceived justice or injustice. Turnover is typically operationalized in terms of whether one leaves or intends to leave a job or business relationship (e.g., Kumar *et al.*, 1995).

Retaliation

Retaliation has been operationalized in a variety of ways, including behaviors like purposeful work slowdowns or decreases in work quality. Two relatively standard measures were used by the studies included in this meta-analysis; one developed by Fisher and Locke (1992), and another developed by Latham and Wexley (1994).

Decision Acceptance

Decision acceptance is assessed using face-valid measures that tap people's willingness to cooperate with an authority's decision about how to allocate benefits or burdens. For example, Skitka (2002) asked participants, "To what extent do you accept this outcome as the final word on the issue?"

Evaluation of Authority

Positive or negative evaluation of authority, such as one's work supervisors, the police, or any other decision making body or institution, were coded under the heading of evaluations of authorities. For example, evaluations of instructors (Tata, 1999), whether one would recommend an experimenter for a permanent position (Folger and Martin, 1986) were each coded in this category. We coded effects so that higher scores consistently referred to positive evaluations of authority figures.

Affect

A number of studies included affective reactions to a given decision. For example, Bies *et al.* (1993) assessed the degree that people felt angry about having been laid off; Skitka (2002) tapped whether participants were irritated, frustrated, or bitter about an authority's decision. We coded effects so that higher scores consistently referred to more negative affect.

Organizational Commitment

Most studies that assessed organizational commitment used a generally well-accepted measure of this construct, most specifically, that developed by Mowday *et al.* (1979). This measure taps people's perception of job security, loyalty or affection for the organization, trust in management, the degree that people accept the goals and values of the organization as their own, as well as some negative indicators, such as the degree that people feel disappointed with their career and professional development, or the degree that they feel there are few opportunities or alternative available to them outside of their organization.

Organizational Citizenship

Organizational citizenship behaviors are defined as activities that go beyond one's primary role or job description. For example, helping coworkers with their assignments, actively participating in group meetings, representing the organization positively to outsiders are each considered examples of organizational citizenship.

Most studies also used standardized measures of organizational citizenship, such as the 22-item scale from Farh *et al.* (1997) that taps dimensions like altruism, conscientiousness, identification with the company, interpersonal harmony, and protecting company resources.

Task Satisfaction

These measures did not refer to people's satisfaction with their outcomes or with the procedures, but instead referred to people's satisfaction with their performance on a task or their overall satisfaction with their job or their experience in the lab. Task satisfaction was typically operationalized as scores on Hackman and Oldham's (1974) Job Diagnostic Survey (Hackman and Oldham, 1974).

RESULTS

We used d-STAT (Johnson, 1993) software to convert various test statistics into a common index of effect size—Pearson r 's. We then used Biostat's Comprehensive Meta-Analysis computer software (Version 1.0.9) to calculate pooled estimated effect sizes (Biostat, 2000). One major advantage of the Comprehensive Meta-Analysis software is that it allows for the estimation of both fixed and random effects. Fixed and random effects models arrive at the same conclusion when there is not a significant degree of heterogeneity of estimated effect sizes across studies, but yield different conclusions when studies have effects that are more heterogeneous across studies. The fixed effect model assumes that all studies are similar in that they share the same underlying treatment effect. Under this assumption, observed differences in results across studies are posited to be due to chance alone (i.e., sampling error within each study).

In contrast, the random effects model assumes that heterogeneity of treatment effects across studies might be due to differences in sample size. To compensate for possible differences across studies due to sample size, the random effects model weights studies with smaller total sample sizes more heavily than those with larger sample sizes in its pooled estimate of treatment effects.

Many meta-analyses published in psychology to date have been conducted working under the assumptions of the fixed model, in part due to the lack of analytic aids to facilitate analysis based on assumption of random effects. Our goal was to synthesize effect sizes using both approaches, to allow comparability with other meta-analyses conducted in psychology as well as using the more conservative assumptions of the random effects model where indicated. We generally interpreted the fixed effects, except when differences in the estimated effect sizes of the fixed and random effects were reliably different, suggesting that the random effects estimates were more appropriate.

Finally, correlations were considered significant only if their confidence intervals did not include zero. We interpreted differences between correlations to be significant if their confidence intervals were nonoverlapping.

The Fair Process Effect

One goal of this meta-analysis was to explore whether the fair process effect is as strong when the criterion is outcome fairness as it is when the criterion is outcome favorability. Evidence of fair process effects can come in two different forms. First, if fair processes matter more to people than the valence or fairness of their outcomes, the effect sizes for indices of procedural fairness should consistently be larger than the effect sizes for outcome favorability and outcome fairness. Second, evidence of the fair process effect can be in the form of an interaction. Specifically, fair procedures are sometimes found to enhance perceptions of outcomes more when outcomes are negative than positive (Brockner and Weisenfeld, 1996).

The first form of the fair process effect is easily captured in a meta-analysis. However, interaction effects cannot be included in meta-analyses (there is no way to capture the contingencies involved), therefore, we conducted a more traditional review to examine whether procedural fairness had a stronger effect on enhancing people's assessments of negative than positive outcomes (only papers that reported tests of interactions were included in this portion of our review).

We first considered whether higher levels of procedural fairness led to increases in perceived outcome fairness and favorability (see Table I for additional detail). Procedural fairness operationalized in terms of voice had small, but significant, effects on outcome satisfaction and outcome fairness. Specifically, although significant, voice explained less than 1% of the variance in perceived outcome favorability, and 4% of the variance in perceived outcome fairness. The correlations of voice with outcome favorability and fairness were not significantly different, suggesting that voice has very similar effects on these variables.⁵

Nonvoice operationalizations of procedural fairness had stronger effects than did voice on perceptions of outcomes. Consistent with the hypothesis that fair process effects would be more likely when the criterion was outcome favorability than outcome fairness, the effect of procedural fairness on outcome favorability was significantly higher in the former (19% of the variance) than the latter case (7% of the variance).

In sum, voice did not reveal evidence of having strong fair process effects on perceived outcome fairness or favorability. Procedural fairness had a stronger effect on perceived outcome favorability than it did on perceived outcome fairness, but nonetheless was related to both variables.⁶

⁵Percent variance explained by a given effect is calculated by taking the square of the Pearson correlation coefficient.

⁶See footnote 4.

Table II summarizes our review of papers that reported testing the interactive effect of procedural and distributive variables on people's perceptions of outcomes. As can be seen in Table II, when distributive justice was manipulated as outcome fairness, it did not significantly interact with procedural variables to influence people's perceptions of outcome fairness, outcome favorability, or normative fairness. Similarly, when distributive justice was operationalized as normative justice, it did not interact with either voice or procedural fairness to influence people's outcome fairness ratings. The only evidence of interactions that were consistent with the fair process prediction that people perceive negative outcomes more favorably when they were arrived at by fair procedures were when distributive justice was measured or manipulated in terms of outcome favorability or outcome favorability and outcome fairness combined.

Weak evidence also emerged for a fair process effect on people's judgments of outcome favorability; out of nine tests, only one was significant. No interactive effects of outcomes and procedures emerged when the dependent variable was either a mixed outcome measure, or judgments of normative fairness. Across all 21 tests of the interactive effects of procedural and distributive variables on various measures of perceived outcome favorability or fairness, only four were reliable. Taken together, there was not strong evidence to support the conclusion that people perceive negative or unfair outcomes more positively when they are arrived at by fair procedures.

Although most research has focused on whether procedural factors shape people's outcome judgments, our analysis also allowed us to consider the converse. Specifically, whether outcomes are fair or favorable may shape people's subsequent impressions of procedural fairness (see also Lind and Lissak, 1985; van den Bos *et al.*, 1997). The effects of distributive variables on perceived voice and procedural fairness were consistent with the idea that outcome manipulations and predictors can lead to differences in perceived procedural fairness (see Table I for detail). Specifically, outcomes that are more favorable led to higher levels of perceived voice (explaining 11% of the variance) and procedural fairness (also 11%). Fairer outcomes, combined measures/predictors, and normative fairness were also associated with increased perceived procedural fairness (explaining, respectively, 11%, 32%, and 5% of the variance).

To disentangle causal direction, we examined pooled effect sizes as a function of whether independent variables were measured or manipulated. Dividing studies into these two categories reduced the number of studies available for pooled analysis in each case, therefore comparisons were made collapsing across voice and procedural fairness as independent variables on the one hand, and outcome variables on the other.

Analysis revealed that effect size estimates of outcome variables on perceived procedural fairness were not significantly different when outcome variables were measured ($r = 0.40$) or manipulated ($r = 0.32$). Similarly, the effect size estimate of procedural fairness on outcome fairness did not vary as a function of whether the

Table 1. Pooled Random and Fixed Effect Sizes (*r*) of Voice, Procedural Fairness, Outcome Favorability, Outcome Favorability, Outcome Fairness, Combined Measures That Include Assessments of Both Outcome Favorability and Fairness, and Normative Fairness on Perceived Voice, Procedural Fairness, Outcome Satisfaction, and Outcome Fairness

Dependent variables/criteria	Independent variables/predictors					
	Procedural justice		Distributive justice or outcome favorability			
	Voice	Procedural fairness	Outcome favorability	Outcome fairness	Combined measures	Normative fairness
Perceived voice	0.39 (0.25/0.52)	0.49 (0.45/0.53)	0.34 (0.18/0.49)			
	0.39 (0.25/0.52) <i>k</i> = 3 <i>n</i> = 154	0.38 (0.17/0.56) <i>k</i> = 4 <i>n</i> = 1570	0.34 (0.18/0.49) <i>k</i> = 4 <i>n</i> = 142			
Perceived procedural fairness	0.43 (0.40/0.46)	0.51 (0.49/0.53)	0.33 (0.30/0.37)	0.35 (0.29/0.41)	0.57 (0.53/0.61)	0.22 (0.17/0.27)
	0.46 (0.35/0.55) <i>k</i> = 16 <i>n</i> = 3291	0.55 (0.45/0.64) <i>k</i> = 24 <i>n</i> = 4026	0.34 (0.26/0.42) <i>k</i> = 22 <i>n</i> = 2698	0.35 (0.29/0.41) <i>k</i> = 2 <i>n</i> = 738	0.35 (-0.02/0.64) <i>k</i> = 5 <i>n</i> = 1146	0.24 (0.15/0.33) <i>k</i> = 8 <i>n</i> = 1466
Outcome satisfaction	0.09 (0.03/0.15)	0.44 (0.42/0.47)	0.44 (0.40/0.49)	0.66 (0.62/0.70)		0.70 (0.68/0.71)
	0.09 (-0.07/0.25) <i>k</i> = 10 <i>n</i> = 1185	0.33 (0.20/0.45) <i>k</i> = 15 <i>n</i> = 3308	0.61 (0.43/0.75) <i>k</i> = 11 <i>n</i> = 1313	0.63 (0.38/0.71) <i>k</i> = 3 <i>n</i> = 767		0.64 (0.49/0.75) <i>k</i> = 12 <i>n</i> = 2952
Outcome fairness	0.19 (0.15/0.23)	0.27 (0.23/0.32)	0.47 (0.42/0.51)			0.70 (0.66/0.73)
	0.13 (-0.04/0.29) <i>k</i> = 9 <i>n</i> = 1925	0.37 (0.17/0.55) <i>k</i> = 9 <i>n</i> = 1683	0.52 (0.40/0.62) <i>k</i> = 10 <i>n</i> = 1411			0.83 (0.51/0.95) <i>k</i> = 5 <i>n</i> = 846

Note. *k* = the number of studies that contributed effect sizes, *n* = the total number of research participants.

former was measured ($r = 0.24$) or manipulated ($r = 0.21$). However, the effect of procedural fairness on perceived outcome favorability was significantly weaker when procedural fairness was manipulated ($r = 0.13$) than when it was measured ($r = 0.42$). Of interest, the causal estimate of the effects of outcomes on procedures was significantly larger ($r = 0.32$) than the causal effect of procedures on outcome fairness ($r = 0.21$) or outcome favorability ($r = 0.13$). In sum, there is as much or more evidence that outcomes shape people's perceptions of procedural fairness as the converse.

Are the Consequences of Outcome Fairness and Outcome Favorability Different?

If outcome fairness is different from outcome favorability, (a) there should be different consequences when outcomes are perceived as fair relative to when they are perceived as favorable, and (b) normatively fair outcomes should have different consequences than favorable outcomes.

Three different measures of consequences had enough studies to allow us to estimate pooled treatment effects for both outcome fairness and outcome favorability: Organizational commitment, organizational citizenship, and task satisfaction. Outcome fairness explained significantly more variance than outcome favorability in each case (see Table II for detail). Outcome fairness explained 19% whereas outcome favorability explained 7% of the variance in organizational commitment. Outcome fairness explained 7%, whereas outcome favorability explained no variance in organizational citizenship. Finally, outcome fairness explained 41% of the variance in task satisfaction, compared to the 24% of the variance explained by outcome favorability. In sum, perceptions of outcome fairness clearly have different—and consistently stronger—effects on a variety of consequential variables than does perceptions of outcome favorability.

We also explored whether normative fairness had different consequences than did outcome favorability. In this case, we had comparison information available for performance, decision acceptance, evaluation of authority, affect, organizational commitment, organizational citizenship, and task satisfaction. As can be seen in Table II, normative fairness led to significantly lower levels of turnover, and higher levels of organizational commitment than did outcome favorability. Normative fairness led to similar levels of decision acceptance, evaluation of authority, affect, task satisfaction, and organizational citizenship as outcome favorability. Outcome favorability explained more variance than normative fairness with respect to only one dependent variable. Outcome favorability was positively correlated ($r = 0.22$), whereas normative fairness was uncorrelated, with performance ($r = 0.05$).

Not surprisingly, there are strong associations between the combined measures and outcome favorability ratings ($r = 0.75$), and normative fairness ($r = 0.70$). As can be seen in Table II, combined measures had weaker effects than normative fairness on turnover and decision acceptance. Combined measures, on

the other hand, had stronger effects than normative justice did on affect. In all other cases, the relative effects of the combined measure were similar to that of normative fairness. Finally, outcome fairness explained similar levels of variance as the mixed measure in organizational commitment, organizational citizenship, and task satisfaction.

Are the Consequences of Outcome Fairness and Procedural Fairness Different?

We also were in a position to compare the effect sizes of outcome fairness and normative fairness with those associated with voice and procedural fairness. As can be seen in Table II, voice, procedural fairness, outcome fairness, and normative fairness each were significantly related to organizational commitment ($r = 0.52, 0.45, 0.44, \text{ and } 0.35$, respectively); moreover, voice had a significantly larger effect on organizational commitment than the other three variables. Similarly, voice, procedural fairness, outcome fairness, and normative fairness each were significantly related to organizational citizenship ($r = 0.28, 0.10, 0.27, \text{ and } 0.12$, respectively). Voice and outcome fairness were related equally, but more strongly than procedural fairness and normative fairness, to organizational citizenship. Finally, each of these variables were also significantly related to task satisfaction ($r = 0.68, 0.52, 0.64, \text{ and } 0.49$, respectively). Voice and outcome fairness were significantly more strongly related to task satisfaction than were procedural fairness and normative fairness.

The differences between estimated fixed and random effects were substantial when estimating the effects of various predictors on retaliation, reflecting a large contribution of varying sample sizes or methods effects. In this case, then, the random effects estimate was a more valid estimate of effect size. Voice and procedural fairness did not have a reliable effect on retaliation (i.e., the confidence interval around the random effect included 0). However, combined outcome ratings were correlated with lower levels of retaliation.

Although the results described above are interesting and informative, they nonetheless are open to some criticism. Although the overall number of studies included in this meta-analysis was large ($N = 89$), the number of studies that had common dependent measures of any given kind were not particularly great in number. Therefore, in any given case, we may have calculated pooled estimates of effect sizes based on only a handful of studies. To address this potential concern, we also examined the pooled effects of each of our independent variables and predictors collapsing across dependent measures. Specifically, we calculated pooled effect sizes collapsing across (a) all measures of fairness, and (b) all measured consequences of fairness (recoding effect sizes where necessary so that high values consistently referred to consequences that were more positive).

As can be seen by the lack of overlap in confidence intervals in each case (see Table IV), outcome fairness explained significantly more variance in perceived

Table III. Pooled Random and Fixed Effect Sizes (r) of Voice, General Measures of Procedural Fairness, Outcome Favorability, Outcome Fairness, Combined Measures That Include Assessments of Both Outcome Favorability and Fairness, and Normative Fairness on Task Performance, Turnover, Retaliation, Decision Acceptance, Evaluation of Authority, Affect, Organizational Commitment, Organizational Citizenship, and Task Satisfaction

Dependent variables/criteria	Independent variables/predictors					
	Procedural justice			Distributive justice or outcome favorability		
	Voice	Procedural fairness	Outcome favorability	Outcome fairness	Combined measures	Normative fairness
Performance	0.16 (0.05/0.25) <i>k</i> = 4 <i>n</i> = 367	0.23 (0.16/0.29) 0.19 (0.06/0.32) <i>k</i> = 6 <i>n</i> = 367	0.22 (0.10/0.33) 0.21 (-0.09/0.47) <i>k</i> = 4 <i>n</i> = 278	0.05 (-0.04/0.14) 0.09 (-0.23/0.40) <i>k</i> = 3 <i>n</i> = 488		
	-0.21 (-0.29/-0.14) -0.21 (-0.38/-0.02) <i>k</i> = 3 <i>n</i> = 645	-0.29 (-0.32/-0.26) -0.31 (-0.41/-0.22) <i>k</i> = 10 <i>n</i> = 3738	-0.23 (-0.29/-0.17) -0.24 (-0.42/-0.03) <i>k</i> = 3 <i>n</i> = 997	-0.19 (-0.27/-0.12) -0.18 (-0.31/-0.04) <i>k</i> = 4 <i>n</i> = 610		
	-0.07 (-0.15/0.01) -0.21 (-0.60/0.26) <i>k</i> = 2 <i>n</i> = 610	-0.17 (-0.24/-0.10) -0.34 (-0.69/0.14) <i>k</i> = 3 <i>n</i> = 752		-0.51 (-0.60/-0.41) -0.57 (-0.79/-0.21) <i>k</i> = 2 <i>n</i> = 231		
Turnover	0.30 (0.25/0.34) 0.34 (0.16/0.50) <i>k</i> = 5 <i>n</i> = 1370	0.43 (0.39/0.47) 0.49 (0.23/0.68) <i>k</i> = 6 <i>n</i> = 1870	0.43 (0.38/0.48) 0.47 (0.23/0.65) <i>k</i> = 5 <i>n</i> = 968	0.42 (0.36/0.47) 0.46 (-0.20/0.83) <i>k</i> = 3 <i>n</i> = 750		
	0.05 (-0.06/0.16) 0.05 (-0.06/0.16) <i>k</i> = 2 <i>n</i> = 303	0.37 (0.34/0.41) 0.35 (0.23/0.46) <i>k</i> = 11 <i>n</i> = 2119	0.22 (0.16/0.27) 0.28 (0.13/0.42) <i>k</i> = 9 <i>n</i> = 1129	0.31 (0.25/0.36) 0.30 (0.23/0.37) <i>k</i> = 4 <i>n</i> = 920		
	-0.35 (0.32/0.39) -0.32 (0.07/0.53) <i>k</i> = 5 <i>n</i> = 2250	-0.27 (0.23/0.31) -0.32 (0.10/0.50) <i>k</i> = 7 <i>n</i> = 2339	-0.37 (0.31/0.42) -0.37 (0.22/0.51) <i>k</i> = 4 <i>n</i> = 1217	-0.53 (0.48/0.58) -0.50 (-0.06/0.82) <i>k</i> = 3 <i>n</i> = 804		
Retaliation						
Decision acceptance						
Evaluation of authority						
Affect						

Organizational commitment	0.52 (0.50/0.53)	0.45 (0.43/0.47)	0.27 (0.22/0.31)	0.44 (0.39/0.48)	0.43 (0.36/0.50)	0.35 (0.33/0.36)
	0.45 (0.37/0.52) <i>k</i> = 7 <i>n</i> = 7756	0.42 (0.35/0.49) <i>k</i> = 18 <i>n</i> = 6180	0.27 (0.20/0.34) <i>k</i> = 8 <i>n</i> = 1563	0.41 (0.34/0.49) <i>k</i> = 5 <i>n</i> = 1372	0.29 (-0.17/0.64) <i>k</i> = 4 <i>n</i> = 510	0.33 (0.28/0.38) <i>k</i> = 13 <i>n</i> = 11185
Organizational citizenship	0.28 (0.17/0.38)	0.10 (0.06/0.14)	-0.05 (-0.12/0.03)	0.27 (0.19/0.35)	0.16 (0.07/0.25)	0.12 (0.03/0.21)
	0.28 (0.17/0.38) <i>k</i> = 2 <i>n</i> = 310	0.15 (0.00/0.29) <i>k</i> = 9 <i>n</i> = 2110	0.02 (-0.24/0.27) <i>k</i> = 2 <i>n</i> = 737	0.27 (0.19/0.35) <i>k</i> = 2 <i>n</i> = 575	0.16 (0.07/0.25) <i>k</i> = 3 <i>n</i> = 456	0.11 (-0.24/0.43) <i>k</i> = 3 <i>n</i> = 431
Task satisfaction	0.68 (0.67/0.69)	0.52 (0.50/0.54)	0.49 (0.45/0.53)	0.64 (0.60/0.68)	0.52 (0.38/0.64)	0.49 (0.47/0.50)
	0.49 (0.34/0.62) <i>k</i> = 10 <i>n</i> = 8196	0.52 (0.43/0.60) <i>k</i> = 18 <i>n</i> = 4642	0.48 (0.35/0.59) <i>k</i> = 13 <i>n</i> = 1846	0.67 (0.49/0.79) <i>k</i> = 3 <i>n</i> = 967	0.56 (0.24/0.77) <i>k</i> = 2 <i>n</i> = 124	0.44 (0.36/0.51) <i>k</i> = 11 <i>n</i> = 9957

Note. *k* = the number of studies that contributed effect sizes, *n* = the total number of research participants.

Table IV. Pooled Random and Fixed Effect Sizes (r) of Voice, Procedural Fairness, Outcome Favorability, Outcome Fairness, Combined Measures That Include Assessments of Both Outcome Favorability and Fairness, and Normative Fairness on All Measures of Perceived Fairness and All Consequences of Fairness (e.g., Job Turnover, Organizational Commitment)

Dependent variables	Independent variables/predictors					
	Procedural justice			Distributive justice or outcome favorability		
	Voice	Procedural fairness	Outcome favorability	Outcome fairness	Combined measures	Normative fairness
Perceived fairness	0.34 (0.32–0.36)	0.46 (0.44–0.48)	0.38 (0.35–0.41)	0.55 (0.51–0.59)	0.52 (0.47–0.56)	0.35 (0.32–0.38)
	0.34 (0.25–0.44) $k = 28$ $n = 5370$	0.49 (0.41–0.56) $k = 37$ $n = 7279$	0.40 (0.33–0.46) $k = 36$ $n = 4251$	0.51 (0.07–0.79) $k = 3$ $n = 1259$	0.19 (–0.20–0.52) $k = 7$ $n = 1254$	0.54 (0.33–0.69) $k = 13$ $n = 3377$
Consequences of fairness	0.51 (0.50–0.52)	0.38 (0.37–0.39)	0.29 (0.27–0.31)	0.49 (0.47–0.51)	0.35 (0.33–0.38)	0.43 (0.42–0.44)
	0.29 (0.20–0.37) $k = 50$ $n = 22992$	0.37 (0.32–0.41) $k = 103$ $n = 24117$	0.38 (0.30–0.45) $k = 59$ $n = 9807$	0.48 (0.39–0.56) $k = 18$ $n = 6014$	0.33 (0.24–0.42) $k = 26$ $n = 4624$	0.41 (0.35–0.46) $k = 56$ $n = 29460$

Note. k = the number of studies that contributed effect sizes, n = the total number of research participants. Perceived fairness and consequences of fairness were all scored so that higher values reflected more positive reactions.

fairness (30%) than voice (11%), procedural fairness (21%), outcome favorability (14%), or normative fairness (12%). Only combined measures of outcome favorability and outcome fairness explained a comparable amount of variance in perceived fairness (27%) as outcome fairness did. In addition, measures and manipulations of procedural fairness explained more variance in perceived fairness than did measures and manipulations of voice.

Interestingly, a slightly different pattern emerged with respect to consequences of fairness. Outcome fairness explained more variance in various consequences of fairness (24%) than procedural fairness (14%), outcome favorability (8%), combined measures of outcome fairness and favorability (12%), and normative fairness (18%). In this case, however, voice explained as much variance in the consequences of fairness (26%) as did outcome fairness.

Taken together, these results confirmed the insights that emerged with our more fine-grained analyses. Specifically, outcome fairness had stronger effects than outcome favorability on perceptions of both perceived fairness and various other consequential variables, and outcome fairness had at minimum similar, and often greater, effects across measures of consequences of justice or injustice as did indices of procedural fairness.

DISCUSSION

The goal of this research was to conduct an empirical review of the justice literature to explore whether and how much outcome fairness matters in people's judgmental calculus relative to considerations such as outcome favorability or procedural fairness. Results indicated that (a) the fair process effect is significantly weaker when the criterion is outcome fairness than when it is outcome favorability, (b) outcome fairness consistently explained significantly more variance than did outcome favorability across various measures, including organizational commitment, organization citizenship, and job satisfaction, and (c) outcome fairness for the most part had as strong, and sometimes stronger, effects than voice and procedural fairness across different dependent measures. Finally, when considering only studies that experimentally manipulated either procedural or outcome variables, it was clear that the latter had a stronger effect on the former than the converse. In short, outcome fairness has a stronger effect on perceptions of procedural fairness than procedural fairness has on perceptions of outcome fairness.

Taken together, these results supported the notion that outcome fairness is distinguishable from outcome favorability and outcome fairness has important consequences independent of outcome favorability. Therefore, it is not appropriate to confound or conflate outcome fairness and outcome favorability, nor is it appropriate to claim that one is studying distributive justice when one has only measured or manipulated the latter rather than the former. In addition, although procedural fairness is also clearly important, to focus only on procedural fairness

when studying both the causes and consequences of justice reasoning would seem to be as flawed in its approach as the nearly exclusive focus on outcomes was some 20 or more years ago.

Moreover, these results suggest that distributive justice has an impact on a wider class of variables than heretofore assumed. Specifically, the two-factor model (Sweeney and McFarlin, 1993) predicts that outcome judgments are likely to emerge as important predictors of very outcome-specific kinds of judgments, e.g., outcome satisfaction, whereas procedural fairness would explain more variance in system-level reactions. However, our results indicated that outcome fairness explained similar or greater variance than did indices of procedural fairness in a host of variables that are more system- than outcome-oriented. In short, not only are the effects of outcome fairness and favorability distinguishable, but the range of variables for which outcome fairness has important consequences is broader than has been assumed in recent years.

The results of this meta-analysis should also be compared with two other recent meta-analyses of the justice literature, each of which had slightly different aims than our own. It will be recalled that the goals of our meta-analysis was to explore whether there were important distinctions between outcome fairness and outcome favorability, and whether previous estimates of the relative effects of procedural and distributive justice might have underestimated the effects of the latter because it had not been cleanly operationalized (i.e., it is so often confounded with outcome favorability). The goals of Cohen-Charash and Spector's (2001) meta-analysis, in contrast, was to explore whether there are important distinctions between structural and interactional aspects of procedural fairness, and how these compared to distributive factors in predicting a host of possible consequences of organizational justice or injustice.

Just as one can make the argument that there may be important differences between outcome fairness and favorability, some researchers argue that there may be important distinctions between structural and interactional aspects of procedural fairness. Structural aspects of procedures refer to the mechanics of making allocation decisions, such as whether decision makers are consistent, or whether involved parties have an opportunity for voice in the process. Interactional aspects of procedural fairness refer to whether people are treated with dignity and respect, and other socioemotional aspects of an encounter with authorities, institutions, or their representatives (see Bies, 2001; Bobocel and Holmvall, 2001 for detailed discussions of these distinctions).

In addition to differences in focus, Cohen-Charash and Spector's meta-analysis also differed from our approach in the following ways (Cohen-Charash and Spector, 2001): (a) it focused only on studies of "organizational" or "workplace" justice, (b) it did not distinguish between outcome fairness and favorability, (c) variables were not coded for whether they represented independent or dependent variables, and (d) their sampling strategy included studies that investigated the

effects of procedural justice *or* distributive factors, rather than restricting their attention to studies that examined both.

Cohen-Charash and Spector's (2001) results indicated that out of 23 overall substantive comparisons of the relative effects of procedural or interactional justice and distributive justice (keeping in mind that no distinctions were made between outcome favorability and fairness), that seven differences were found. Structural aspects of procedures were more strongly related to trust in supervisors, overall trust in the organization, and ratings of leader-member exchanges than were distributive factors. Structural aspects of procedures explained more variance than distributive variables, but distributive variables had a stronger impact than interactional fairness on work performance. Pay satisfaction, ratings of performance appraisals, and task satisfaction were each more strongly related to distributive variables than to procedural or interactional fairness.

Ten comparisons were possible between interactional and structural fairness: differences emerged, however, in only two cases. Structural aspects of procedures explained more variance than interactional aspects of procedures in work performance, and interactional fairness explained more variance than procedural fairness on perceptions of the quality of leader-member exchanges.

Colquitt *et al.* (2001) also conducted a meta-analysis focused on the question of whether different conceptions of justice have distinguishable consequences or instead reflected a common underlying construct. However, like Cohen-Charash and Spector's review (2001), they focused on comparisons of different conceptions of procedural fairness and how they related to both each other and distributive factors, and did not code for whether distributive "justice" was confounded with outcome favorability. Colquitt *et al.* (2001) made even finer distinctions between different possible forms of procedural fairness than Cohen-Charash and Spector (2001) by coding whether studies operationalized procedural fairness in terms of process control, Leventhal's criteria (consistency, lack of bias, accuracy, correctability, voice, and ethicality) (Leventhal, 1980), interactional justice, and then overall perceived procedural fairness. Colquitt *et al.* (2001) took a similar approach to Cohen-Charash and Spector (2001) by limiting consideration to studies of organizational or workplace justice, not coding for whether justice components were predictors or independent, rather than criterion or dependent variables; and in sampling studies that measured or manipulated procedural or distributive factors, rather than restricting attention to studies that examined both. Colquitt *et al.* (2001) reported that classes of procedural justice variables were better predictors of most attitudinal reactions (e.g., commitment) and performance than were outcome considerations, whereas for other possible consequences of fairness or unfairness, that outcome considerations and procedural fairness had similar effect sizes.

Our meta-analysis therefore arrived at different conclusions about the relative importance of outcome considerations. How can this be the case? Although it

may be the case that these results are a function of different sampling strategies, there was sufficient overlap to believe that this is not a likely explanation for the differences in our conclusions about the relative importance of distributive justice. Instead, the differences in our conclusions are likely to be the result of two other differences in approach: (a) unlike these other meta-analyses, we carefully coded for how researchers operationalized “distributive justice,” specifically, whether studies tapped outcome fairness, outcome favorability, confounded conceptions of outcome fairness and favorability, or normative fairness (the other meta-analyses considered each of these categories as representing a single underlying construct), and (b) we also carefully noted whether variables were considered to be independent or dependent, allowing us to ascertain both theorized, and where possible, actual direction of cause and effect of these variables.

Our review demonstrated that examination of unconfounded operationalizations of distributive justice revealed much stronger and clearer relationships with a broader range of variables than seen in previous reviews. Because so few studies cleanly operationalized outcome fairness, we probably still have an underestimate of the sphere of influence that outcome fairness may have. In addition, coding whether variables were treated as independent or dependent—as well as whether they were measured or manipulated—allowed for a clearer assessment of cause and effect, rather than just interrelationships between variables. Doing so allowed us to demonstrate that outcome considerations shape perceptions of procedural fairness more than the converse—a result inconsistent with the notion that people’s fairness reasoning is overwhelming dominated by social identity concerns, and therefore that people are preoccupied about procedural rather than outcome fairness (e.g., Lind and Tyler, 1988). Considering variables separately as a function of whether they were independent or dependent, however, limited the total number of effect sizes we could estimate within each cell of meta-analysis and therefore limited how fine of graduations we could make with respect to different conceptions of procedural fairness.

The conclusions of each of these meta-analyses—that there are important differences between different components of justice—are nonetheless consistent in message, even if each parsed the pie in slightly different ways. However, how these components of fairness differ in relationship with other variables or even with each other does not fall neatly into the two-factor model proposed by Sweeny and McFarlin (1993), or any other clear conceptual framework. Complicating the ability to come to neat conclusions about the differences in antecedents and consequences of each of these different justice components is that (a) there is enormous variation and little consensus in how researchers operationalize variables believed to be important in how people form a justice judgment. Even studies conducted by the same researcher are not typically very consistent in measurement or approach from study to study, (b) there is similar variation in what variables are included or compared in studies of the effects of different components of fairness, and rarely do researchers control for the effects of one to examine the independent effect

of another, and (c) the direction of cause and effect is inherently ambiguous in most studies because of a heavy reliance on correlational field designs that assess people's reactions at only one point in time. Therefore we clearly know that many of these variables interrelate, but important questions about what *causes* a perception of fairness—outcome favorability, outcome fairness, interactional fairness, structural fairness, etc.—is difficult to fully ascertain because these variables are so rarely manipulated in the same study, or measured overtime (e.g., before and after learning about outcomes). Similar problems in research hamper our ability to fully understand the consequences of perceived fairness or unfairness.

Taken together, the results of each of these meta-analyses bring into relief (a) the need for researchers to develop some consensus about operationalization and measurement of key concepts, (b) a greater need for studies that include measures and manipulations of different components of justice in the same study to better examine their independent and potentially interacting effects, and (c) the need for more integrative theoretical approaches to the study of procedural and distributive justice. Specifically, theories of justice need to specify the boundary conditions for when theories of procedural and distributive justice apply, and how people integrate information about procedures and outcomes to form a justice judgment.

There are a number of promising moves toward more integrative approaches to the study of justice. For example, Cropanzano and Ambrose (2001) argue that we gain increased insight into how people reason about justice by conceptualizing procedural treatment as a resource to be distributed, rather than as a completely separate phenomenon from other kinds of outcomes, such as pay. In short, socioemotional resources are distributed, much like their more concrete cousins. Conceptualizing procedural treatment as a resource that is distributed opens up a number of interesting avenues for integration of what we know about procedural and distributive fairness, and suggests a number of important new directions for future research. For example, Cropanzano and Ambrose's monistic model of justice suggests that referent comparisons are likely to be important in how people decide whether procedures are fair (Cropanzano and Ambrose, 2001). Judgments of procedural fairness, like outcome fairness, may be relative to what standard is applied rather than being absolute judgments. Similarly, it may be the case that institutions and authorities are perceived as more fair when they do not treat everyone the same way. People may perceive that they or others deserve different kinds of procedural treatment as a function of relevant inputs, needs, or other factors (see e.g., Heurer *et al.*, 1999; Sunshine and Heurer, 2002).

Other theoretical perspectives have approached the problem of integrating theories of procedural and distributive justice by proposing that there are a number of contingencies when people will focus more on procedures or outcomes. For example, Skitka and her colleagues (Skitka, 2002; Skitka and Houston, 2001; Skitka and Mullen, 2002) have argued that when people have a clear *a priori* moral mandate—i.e., a strong conviction that a given outcome is right or wrong, moral or immoral—that procedural justice becomes a much less salient concern.

For example, a controversial custody case required a choice between granting a 5-year-old Cuban boy (Elián González) political asylum in the United States versus returning him to Cuba to his father. Skitka and Mullen (2002) tested the value protection model hypothesis that people who saw the case as connected to their core moral values would be influenced more by whether the outcome of the case was consistent with their value-based moral mandates, than by whether the government and the courts were procedurally fair or unfair. Consistent with predictions, people's postresolution judgments of procedural fairness, outcome fairness, and decision acceptance were predicted solely by preresolution assessments of the strength of moral mandates and not by assessments of procedural fairness.

The value protection model also predicts that in the absence of a moral mandate, people rely on procedural considerations to decide whether outcomes are fair. Consistent with this prediction, Skitka and Houston (2001) found that when people feel confident that they know a defendant's guilt or innocence, their judgments of whether a court case is fairly handled is based solely on whether the defendant's outcome matches perceivers' beliefs about guilt or innocence. When people are not very confident about defendant guilt or innocence, their fairness reasoning is derived from procedural considerations, not the outcome of the case.

Other theorists focus less on one-time encounters, and focus instead on the role of justice considerations in the context of longer-term interdependent relationships. On the basis of a review of the social dilemma literature and its implications for justice theory, Schroeder *et al.* (in press) outline a contingency model of justice that predicts that people will focus on different justice considerations as a function of the problems currently confronting them in interdependent, long-term, relationships. People intuitively use simple coordination rules, such as norms about equity or equality, to govern their actions and satisfy the mutual goals of fairness in interdependent social exchange when relationships are relatively new or untested. However, when coordination rules fail to maintain fair distributions (e.g., parties defect or free-ride), people become motivated to institute formal social arrangements, usually in the form of authority control. In other words, people become concerned about institutional or procedural safeguards only after coordination rules in a given context fail to sustain fair exchange. In many social systems, people continue to rely on simple coordination rules even after authorities and formal procedures are in place, and only make use of the latter when coordination rules are violated or there is serious concern that they may be violated (see Schroeder *et al.*, in press, for additional detail).

In conclusion, the results of the present study indicated that for justice research and theorizing to progress, future researchers need to attend as much to outcome fairness as they do procedural fairness, and that the former should not continue to be confounded with outcome favorability. Although we have learned much about the psychological dynamics of how people form a justice judgment, and the consequences of a judgment that something is just or unjust, there is a serious need for developing theories and approaches that allow for a better integration of

these relatively distinct and important components and consequences of justice reasoning.

ACKNOWLEDGMENTS

Preparation of this article was facilitated by grants from the National Science Foundation to the first author (NSF-SBR-0210053, NSF-SBR-0111612).

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