Survivor Reactions to Reorganization: Antecedents and Consequences of Procedural, Interpersonal, and Informational Justice

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This study tested a model of survivor reactions to reorganization, which incorporated multiple predictors and consequences of procedural, interpersonal, and informational justice. The 3 justice types had different correlates: all 4 antecedents (employee input, victim support, implementation, and communication quality) predicted interpersonal fairness, implementation and communication quality were associated with informational fairness, and employee input was the sole predictor of procedural justice. Procedural justice was strongly related to all 4 outcome variables, and interpersonal and informational justice added unique variance to the prediction of trust in management. The reorganization effort was still predictive of employee outcomes, although primarily through procedural justice approximately 1 year after its completion.

As the competitive pressures facing organizations have increased, many companies have responded by reconfiguring their workforces. Consequently, large numbers of workers have faced layoffs and substantial job changes during the past decade (Cameron, 1994; Feldman & Leana, 1994; Kozlowski, Chao, Smith, & Hedlund, 1993; O’Neill & Lenn, 1995). Workforce reconfigurations have long-lasting effects not only on those individuals who are removed from the organization but on surviving personnel as well (Kozlowski et al., 1993; Mishra & Spreitzer, 1998). A substantial literature on survivor reactions to downsizing and reorganization has developed in recent years, and much of this literature has adopted an organizational justice framework (Brockner, 1988; Brockner & Greenberg, 1990; Lind & Tyler, 1988). Organizational justice, as reflected primarily in perceptions of procedural fairness, has played a large role in the literature on survivor reactions to workforce reconfigurations, such as downsizings (Brockner & Wiesenfeld, 1993; Brockner, Wiesenfeld, Reed, Grover, & Martin, 1993; Daly & Geyer, 1994; Mansour-Cole & Scott, 1998). The present study contributes to the organizational justice and workforce reorganization literatures in several ways.

First, recent research in the organizational justice area suggests that justice can actually be broken down into four empirically distinct dimensions: distributive, procedural, interpersonal, and informational (Colquitt, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Greenberg, 1993). Virtually no research exists that addresses the relative influence of each type of fairness on survivor responses. In the present study, we included separate measures of procedural, interpersonal, and informational justice and assessed the extent to which these variables may be differentially related to survivor reactions. Because our focus was on survivors, we did not measure distributive justice, as all survivors received the same measure.

Second, although much has been written on a conceptual level, the determinants of justice in the context of reorganizations and downsizings have been relatively under-researched. To date, the empirical studies that have addressed particular precursors to fairness perceptions have typically investigated one or two procedural elements (Daly & Geyer, 1994; Davy, Kinicki, & Sheck, 1991; Folger, 1993) or have failed to consider the multiple forms of fairness. Thus, our knowledge concerning the relative importance of various antecedents on different types of fairness is also limited (Colquitt, 2001; Mansour-Cole & Scott, 1998, Masterson, Lewis, Goldman, & Taylor, 2000). Thus, in the present study we sought to identify and examine how several antecedent factors may relate to procedural, interpersonal, and informational fairness in an organization undergoing a substantial reorganization.

Third, much of the empirical work on survivor reactions has examined only one causal link in the relationships among antecedents of fairness, perceived fairness, and potential consequences—either the relationship between antecedents and fairness (Bies & Shapiro, 1988; Daly & Geyer, 1994; Folger, 1993; Mansour-Cole & Scott, 1998), the link between fairness perceptions and consequences (Brockner, Siegel, Daly, Martin, & Tyler, 1997; Brockner et al., 1993), or the link between antecedents and consequences (Covin, 1993; Brockner, DeWitt, Grover, & Reed, 1990). The problem with testing model relationships in such a piecemeal fashion is that although the various parts of the model might fit appropriately, the best overall model may be missed. Therefore, we developed and tested a comprehensive model of survivor reactions to a reorganization that incorporates all three sets of variables: antecedents, fairness, and consequences. Finally, we tested the model longitudinally by collecting survivor outcome data (consequences in Figure 1) at two points. The second data...
collection period occurred approximately 11 months after the antecedent, justice, and initial outcome variables were collected. This enabled us to more rigorously assess the relationships proposed in our model (see Figure 1).

Antecedents of Procedural, Interpersonal, and Informational Justice

Most early conceptualizations of procedural justice emphasized the structural aspects of procedures, relying on Thibaut and Walker’s (1975) process control concept and/or Leventhal’s (1976, 1980) criteria for fair allocative procedures (i.e., consistency, bias suppression, accuracy) (Colquitt, 2001, Colquitt et al., 2001). Attention later shifted to a consideration of the social aspect of justice. Bies and Moag (1986) introduced the concept of interactional justice in order to capture the quality of interpersonal treatment people receive when procedures are implemented (justifications, respect, sensitivity). Whereas some researchers have treated interactional and procedural fairness as independent constructs (Barling & Phillips, 1993; Masterson et al., 2000; Moorman, 1991; Skarlicki & Folger, 1997), others have suggested that the two constructs cannot be meaningfully separated and have argued that the interpersonal context of fairness can be subsumed under procedural fairness (Brockner et al., 1997; Folger & Konovsky, 1989; Mansour-Cole & Scott, 1998).

As noted by Colquitt (2001), measurement inconsistencies have resulted from this debate. Some studies have used a separate scale to assess interactional justice (Barling & Phillips, 1993; Masterson et al., 2000), whereas other studies have subsumed it under an overall procedural fairness scale (Tyler & Bies, 1990). Still other researchers have tried to maintain separate measures of interactional and procedural fairness but have combined them because of high scale intercorrelations (Mansour-Cole & Scott, 1998; Skarlicki & Latham, 1997). Moreover, in some investigations, scale items written to tap one type of justice (i.e., procedural) actually seem more compatible with another (i.e., interactional). Clearly, these measurement difficulties prevent researchers from being able to detect potentially important differences between the justice constructs.

Greenberg (1993) added an additional element to the debate by suggesting that the social aspect of justice could be more meaningfully assessed by considering two distinct types of interpersonal treatment: interpersonal justice, which relates to how workers are treated during the enactment of procedures (respect, concern for one’s plight, treatment with dignity), and informational justice (i.e., accuracy and quality of explanations individuals receive about procedures). Consistent with Greenberg’s (1993) perspective, Colquitt’s (2001) recent work supports the three-component view of structural and interpersonal justice. Largely on the basis of seminal works in the respective justice domains, Colquitt developed separate measures of procedural, interpersonal, and informational justice. His results indicated that procedural, interpersonal, and informational justice were empirically distinct entities that, although correlated, exhibited differential effects on several individual- and group-level outcome variables.

We reviewed the organizational justice and organizational change literatures to identify potential antecedents of procedural,
interpersonal, and informational justice. Our review of these areas suggested four possible antecedents that could significantly predict perceptions of procedural, interpersonal, and/or informational fairness of a company reorganization: employee input, organizational support for victims, communication quality, and implementation processes (see Figure 1). Our hypotheses about the relationships between these antecedents and the three justice constructs as well as the relationships among the justice constructs and survivor outcomes are summarized in Figure 1 and discussed below.

Employee Input

Leventhal’s view of procedural fairness emphasizes the structural features of allocative processes. His six procedural criteria for evaluating fairness include such elements as consistency (e.g., the process is applied consistently across persons and time), bias suppression (e.g., decision makers are neutral), and accuracy (e.g., procedures are based on as much good information and informed opinion as possible).

Of the four antecedents that we examine, input appears to be the most relevant to procedural justice. In a reorganization context, employees who are allowed input would have the opportunity to voice their concerns and potentially shape procedures surrounding the reorganization process. According to the self-interest model of procedural justice, input is important because it may carry instrumental value (Lind, Kanfer, & Earley, 1990; Thibaut & Walker, 1978). Thus, employees may believe that providing input will help persuade management to enact decisions that are beneficial to their interests. Presumably, employees who are allowed input will have a better opportunity to ensure that fair procedures are followed (e.g., standards applied consistently, accurate information is used), thereby enhancing procedural justice perceptions (Leventhal, 1980).

Across a variety of contexts, voice or input has been one of the most frequently mentioned precursors to procedural fairness judgments (Bies & Shapiro, 1988; Brockner & Greenberg, 1990; Folger, 1977; Korsgaard, Schweiger, & Sapienza, 1995; Lind, Kanfer, & Earley, 1990). Although several writers have suggested that employee input into reorganization or downsizing processes may be important in determining fairness perceptions and securing favorable employee reactions (Brockner & Greenberg, 1990; Brunning, Keup, & Cooper, 1996; Covin, 1993; Davy et al., 1991; Howard & Frink, 1996; Nicholson, 1996; Novelli, Kirkman, & Shapiro, 1995; Reichers, Wanous, & Austin, 1997), direct empirical support for this relationship in organizations undergoing significant workforce reconfigurations is scant, especially when one considers that these studies have combined measures of procedural and interactional fairness into a single scale. Leventhal’s view of procedural fairness emphasizes the structural aspects of procedures (Folger, 1977; Lind et al., 1990), we hypothesized the following:

**Hypothesis 1:** Employee input will be positively related to perceptions of procedural justice.

In Colquitt’s analyses (Colquitt, 2001; Colquitt et al., 2001), interpersonal justice is defined as the quality of interpersonal treatment individuals receive as procedures are enacted. It contains the sensitivity and respect elements that were initially part of Bies and Moag’s (1986) interactional justice concept.

Our expectation is that input will be most strongly related to procedural justice. However, the group-value model of procedural justice suggests that input may also relate to interpersonal justice. According to this perspective (Lind & Tyler, 1988), people value their relationships with groups and organizations and expect to be treated fairly in the context of these relationships. Being treated fairly symbolizes employees that they are being dealt with in a dignified and respectful way, leading to enhanced feelings of self-worth (Brockner & Wiesenhfeld, 1993; Tyler & Lind, 1992). In this perspective, allowing input could be important because it may demonstrate to employees that they are valued members of the organization and that management will treat them with respect during the reorganization process. Thus, enacting procedures that are perceived to conform to Leventhal’s (1980) fair process rules may also increase perceptions of interpersonal justice.

**Hypothesis 2:** Employee input will be positively related to perceptions of interpersonal justice.

Support for Victims

Organizational support for “victims” of reorganization may be another important antecedent of interpersonal justice. The typical victims in reorganizations are employees who are permanently terminated. “Survivors” remain with the organization and are often assigned to different jobs, encountering new coworkers, managers, and different reporting relationships. Support may consist of outplacement services for terminated individuals, career counseling, and/or severance packages. Brockner and Greenberg (1990) call such factors caretaking activities and maintain that these activities can influence surviving employees’ fairness perceptions (Brockner, Grover, Reed, DeWitt, & O’Malley, 1987). Outside of the justice area, Nicholson and West’s (1989) work on careers and transitions suggests that support mechanisms can play an important role in fostering beneficial outcomes for both individuals and the organization. Further, Eisenberger and his colleagues (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger, Huntington, Hutchison, & Sowa, 1986) have shown that global perceptions of organizational support are associated with increased conscientiousness in carrying out job responsibilities and reduced absenteeism.

Although no empirical research exists that specifically links victim support to interpersonal fairness, we believe that taking care to support employees who are severely impacted by a reorganization relates to the value-expressive component of justice, in that such activities connote respect and sensitivity on the part of management for employees, thereby heightening perceptions of interpersonal fairness (Naumann, Bennett, Bies, & Martin, 1998).
These activities signal to survivors that despite the negative outcome for victims (e.g., job loss), the organization still respects and values their contributions by providing services that are aimed at minimizing the severity of the loss.

**Hypothesis 3:** Employee perceptions of support for victims will be positively related to perceptions of interpersonal justice.

**Communication**

A third antecedent of interpersonal justice is the quality of information employees receive from management during the reorganization process. Given that work environments in these situations may be characterized by high levels of uncertainty and chaos (Tombaugh & White, 1990), communication should be one of the most significant aspects of such processes. Yet, previous research has shown that communication often deteriorates during these times, resulting in restricted rather than increased access to information (Cascio, 1993; Kets de Vries & Balazs, 1997; O’Neill & Lenn, 1999).

Most studies in the procedural justice area conceptualize communication in terms of the causal accounts or explanations that management provides for their initial decision (Bies & Shapiro, 1988; Brockner, DeWitt, et al., 1990; Daly & Geyer, 1994; Greenberg, 1993, 1994; Mansour-Cole & Scott, 1998). Providing an adequate explanation for the reorganization decision is one aspect of an effective communication strategy (Bies, 1987), and several researchers have found that providing surviving employees clear and rational explanations for such changes enhances perceptions of fairness (Bies & Moag, 1986; Daly & Geyer, 1994; Mansour-Cole & Scott, 1998). Our interest in communication extends beyond initial managerial explanations. We argue that fairness perceptions should also depend on additional communication elements, especially as most reorganizations unfold over an extended time period.

Any major organizational change produces uncertainty. In a reorganization context, survivors are likely to be uncertain about several issues beyond the reasons management may (or may not) offer for the change: new or altered job responsibilities, changes in career paths, potential work group modifications (coworkers and/or supervisors), timelines associated with various phases of the reorganization, and the likelihood of additional organizational changes beyond the initial reorganization (Brockner & Wiesenfeld, 1993). Survivors will be highly motivated to make sense of their current and future situations (Brockner, 1988; Weick, 1993). Thus, ongoing communication concerning all phases of the reorganization process that is perceived to be accurate, timely, and helpful will be central to sense-making and uncertainty reduction (Hecksher, 1995; Schweiger & DeNisi, 1991; Weick, 1993) and will be critical in developing positive views about fairness (Brockner & Greenberg, 1990; Novelli et al., 1995).

Bruning et al.’s (1996) work provides some empirical support for the link between effective communication and fairness perceptions. Their results indicated that employee satisfaction with the timeliness, accuracy, and value of the information that management provided during a restructuring predicted subsequent justice perceptions. Indirect support for this proposition comes from Reichers et al. (1997), who found that employees who were cynical about change in their organizations reported feeling uninformed and believed that their supervisors were remiss in communicating with them.

Consistent with the group-value model of procedural justice (Tyler & Lind, 1992), we view communication as predictive of interpersonal justice because it signals that management is sensitive to employee desires for information and full-status membership in the organization.

**Hypothesis 4:** The perceived quality of the communications received during the reorganization process will be positively related to interpersonal justice perceptions.

According to Greenberg (1993) and Colquitt (2001), informational justice includes the justifications or explanations management may offer for their decisions. Because information employees receive during a reorganization process may explicitly or implicitly convey reasons behind organizational decisions and enacted procedures, we hypothesized that the communication antecedent would also correlate with informational justice. We expected that timely, helpful, and accurate information would be associated with greater perceptions of informational justice.

**Hypothesis 5:** The perceived quality of the communications received during the reorganization process will be positively related to informational justice.

**Implementation**

An important element of a successful organizational change effort is shared monitoring of the change process and its outcomes (Beer et al., 1990; Novelli et al., 1995). We assume, as have others, that employees are not passive recipients of change (Kets de Vries & Balazs, 1997; Rousseau & Tijoriwala, 1999; Shapiro, Lewicki, & Devine, 1995). Instead, they form their own interpretations of the change process and respond according to their own understanding of it (Rousseau & Tijoriwala, 1999). The final factor that we hypothesize will affect justice perceptions relates to this very process. We argue that employees form judgments about the efficacy of a reorganization (or any workforce reconfiguration) by examining the consistency between the reorganization objectives (communicated by management at the beginning of the reorganization process) and management’s actions. That is, justice perceptions should be affected by the extent to which employees feel that the reorganization, as implemented, is accomplishing management’s stated objectives.

Although this variable has yet to be examined in the justice area, we think it has a great deal of relevance for how fairly employees feel they have been treated and their willingness to support a change initiative. As employees observe the consistency between management’s words and actions, they form attributions about management’s level of behavioral integrity (Whitener, Brodt, Korsgaard, & Werner, 1998), which is an important predictor of perceptions of managerial trustworthiness (Mayer, Davis, & Schoorman, 1995; Whitener et al., 1998). We expect that implementation perceptions will affect interpersonal justice because they speak to issues of trust and whether employees feel they are being treated with respect and dignity. If, for example, employees perceive that management is not to be trusted because they enact procedures that are inconsistent with their initial pronouncements,
then employees are unlikely to perceive that management truly cares about their well-being. Whereas it would be difficult for employees to judge whether the reorganization is meeting longer term objectives, employees can assess, over the course of the process, whether implementation of the reorganization appears consistent with the stated strategy and short-term reorganization objectives.

We hypothesized that implementation perceptions would also predict informational justice perceptions because judgments about whether procedures are consistent with management’s stated objectives may help employees evaluate the validity of major organizational changes. Objectives say something about what the organization values, and employees may use these public objectives to evaluate the clarity and soundness of managerial reasons for the reorganization.

Hypothesis 6: Implementation perceptions will be positively related to perceptions of interpersonal fairness. That is, the more employees perceive consistency between management objectives and behavior, the greater their perceptions of interpersonal justice.

Hypothesis 7: Implementation perceptions will be positively related to perceptions of informational justice.

Consequences of Procedural, Interpersonal, and Informational Justice

Prior research in the justice area has shown that procedural justice is significantly associated with each of the four outcomes we examined in our study: job satisfaction (Dave et al., 1991; Martin & Bennett, 1996; Masterson et al., 2000; McFarlin & Sweeney, 1992; Mossholder, Bennett, & Martin, 1998; Schappe, 1996), affective organizational commitment (Brockner et al., 1993; Folger & Konovsky, 1989; Mansour-Cole & Scott, 1998; McFarlin & Sweeney, 1992), trust in management (Brockner et al., 1997; Bruning et al., 1996), and turnover intentions (Daly & Geyer, 1994).

However, as noted earlier, the procedural justice measures used in these studies often contain items that also tap aspects of interpersonal and/or informational justice. Thus, it is possible that interpersonal and informational justice may also exert independent effects on the outcome variables. In making predictions about how each of the three justice types would relate to our outcome measures, we drew mainly from Bies and Moag’s (1986) agent-system model and the meta-analytic results obtained by Colquitt et al. (2001). According to Bies and Moag, individuals use interpersonal and informational justice perceptions when determining their reactions to individual authority figures or agents (i.e., supervisors) and use procedural justice perceptions when determining how to react to the larger organization.

Affective organizational commitment and turnover intentions are two variables that have been consistently categorized as system-level outcomes. Thus, consistent with Bies and Moag’s (1986) assertions, procedural justice should be significantly correlated with both outcomes. Colquitt and Masterson’s (2000) results are supportive of this proposition.

Hypothesis 8: Procedural justice perceptions will be positively related to affective organizational commitment.
questionnaires directly to the first author in prepaid-postage envelopes. Participation was voluntary for all employees, and confidentiality of responses was assured. We received 225 surveys, yielding a response rate of 69%. One subunit of the division was not involved in the reorganization. However, we surveyed employees in this subunit because they may have been aware of the reorganization and/or knew employees in other subunits who were affected. The cover letter written to this group of workers gave them the option of not responding to questionnaire items that they were not knowledgeable about or felt were irrelevant to their work experiences (e.g., reorganization questions). Missing data from this subunit reduced the sample to 183. Incomplete questionnaires from all other respondents further reduced the sample to 163. Thirty-four percent of the participants in the final sample were employed at the U.S. location, 55% were male, and 66% were between 31 and 55 years of age. Average organizational tenure was 9.7 years and average position tenure was 2.87 years. Of the respondents, 25% were managers and the remaining 75% were considered professional staff (research scientists, technicians, analysts, clerical and secretarial employees). Data from company records indicated that the sample of respondents appeared to be representative of the entire division: 58% of employees in the division were male, average organizational tenure was approximately 9 years, and the mean age of division employees was 42. Of the division’s employees, 24% were considered managers, and the remaining 76% were classified as professional staff. Thus, it appears that respondents and nonrespondents had comparable demographic profiles.

A second wave of data (Time 2) was collected approximately 10 months after the first survey was distributed. At this point, we collected data on demographics, the outcome variables in our model (i.e., trust in management, organizational commitment), and several other variables that were not of interest to this study. This second survey was administered to all 400 employees who were working in the division at that time. A total of 254 questionnaires were returned for a response rate of 64%. Eliminating respondents who worked in the subunit that was uninvolved in the reorganization for the same reasons noted above reduced the sample size to 194. Some of the remaining respondents were new to the organization and were hired after the reorganization occurred, 62 employees responded anonymously and did not provide any identifying demographic information, and 16 employees who responded to the first survey had left the organization. Thus, we were able to successfully match 82 Time 1 respondents with their respective Time 1 survey results. Of the final sample at Time 2 (n = 82), 33% were employed at the U.S. location, 59% were male, 70% were between 31 and 55 years of age, and average organizational tenure was 10.1 years. Among the respondents, 33% were managers and the remaining 67% were professional staff.

To assess possible nonresponse bias, we compared individuals who responded to both the Time 1 and Time 2 surveys (n = 82) and individuals who responded only to the Time 1 survey (n = 81) on the demographic and study variables. There were no significant differences between the two groups on any of the measured variables.

**Measures**

The measures reflect a combination of well-established scales used in the literature and items specifically developed for this study. Employees responded to all survey items on 7-point Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree). Affective organizational commitment was assessed on the basis of six items from the organizational commitment scale developed by Mowday, Steers, and Porter (1979). Commitment was assessed on the basis of six items from the organizational commitment scale developed by Mowday, Steers, and Porter (1979).

Job satisfaction was assessed with three items (e.g., “I am satisfied with my job”; “I like the work I do.”). Turnover intentions were measured by two items: “I plan to make a genuine effort to find a new job with a new organization within the next year” and “I expect to work for this company for a long time.”

Similar to Colquitt (2001), we developed our measures of procedural, interpersonal, and informational justice by looking at seminal works in the justice literature (Leventhal, 1980; Bies & Moag, 1986) and recent conceptualizations of these dimensions (Colquitt, 2001; Greenberg, 1993). Perceptions of procedural justice were assessed by four items that reflected several of Leventhal’s procedural rules (e.g., consistency, bias suppression, accuracy). An exemplar from this scale is “Consistent standards and procedures were used in reallocating jobs among employees during the reorganization.” On the basis of recommendations made by Greenberg (1993) and Colquitt (2001), our three-item interpersonal justice scale measured how employees felt they were treated during the reorganization process (e.g., “During the reorganization, I was treated with dignity and respect”). Finally, informational justice was assessed with two items pertaining to explanations for the reorganization (e.g., “The reasons for the reorganization were clearly explained to me by management”).

Four scales, developed specifically for this study were used to assess the justice antecedents. Employee input was measured by three items (e.g., “I feel I had an adequate opportunity to provide input into the reorganization process” and “Management encouraged people to participate in important decisions concerning the reorganization”). Communication was measured by six items. Items were written to assess respondents’ evaluation of the timeliness, accuracy, and adequacy of the information they received during the reorganization process. Sample items include, “The amount of information I received about the reorganization was adequate” and “Employees received information concerning all phases of the reorganization in a timely manner.” The support scale consisted of two items: “Career counseling and support was provided to all who needed it during the reorganization” and “Adequate severance packages were provided to those who lost their jobs as a result of the reorganization.”

The reorganization was designed to accomplish a number of important objectives. Senior management communicated these objectives to all employees at the outset of the reorganization. They were initially communicated in a company-wide meeting accompanying the announcement of the reorganization and were also contained in several written documents that were distributed to all employees during the course of the reorganization process. Thus, as is the case in many change efforts, top management stated their vision of the “new” organization and also communicated how the reorganization would be implemented in order to achieve their stated goals. We believe that employees determine for themselves whether management’s behavior is consistent with their stated objectives. The implementation scale was designed to measure employee perceptions concerning the consistency between the implementation processes that were publicly communicated and managerial behavior. Three items were written for this purpose (e.g., “I think the organization was successful in carrying out the reorganization according to the objectives it had communicated at the outset”).

Job level (1 = professional staff, 2 = manager), location (1 = United States, 2 = United Kingdom), and age served as control variables in our model. Although these variables were not of theoretical interest, they were included in our analyses because they were significantly correlated with several of the model variables.

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1 We accounted for the influence of these control variables by allowing them to correlate with all of the exogenous variables as well as to predict all of the endogenous variables in our model. However, after running this initial model, we removed any nonsignificant paths for the control variables. These paths were removed to maintain the parsimony of our model and to provide additional degrees of freedom to assess model fit.
Analyses

We used EQS Version 5.7b (Bentler, 1995) to perform a manifest indicator structural equation analysis to assess the fit between the proposed model and our data. Consistent with current practice, empirical support for the proposed model was determined by examining the magnitude of several fit indices, that is, comparative fit index (CFI), goodness of fit index (GFI), ratio of chi-square to degrees of freedom. More specifically, proposed models are considered reasonable when the value of the CFI and GFI fit statistics are .90 or higher and the chi-square test is nonsignificant. However, given the sensitivity of the chi-square test to sample size, researchers have started to interpret the ratio of the chi-square value to its degrees of freedom to assess empirical fit of a model (Kline, 1998; Maruyama, 1998). Models are considered reasonable when the ratio of the chi-square to its degrees of freedom is 5 or lower.

Although the sample size at Time 2 (n = 82) is considered small for covariance structural equation modeling and may lead to decreased power to detect nonzero path coefficients or unstable parameter estimates (Kline, 1998), we proceeded with this analysis for two reasons. One reason was to investigate the robustness and generalizability of the results obtained at Time 1. Second, a potential concern with the Time 1 data is the influence of common method bias, as all variables were collected from a single survey. In the analysis at Time 2, we used measures of justice and their antecedents collected at Time 1 as well as the outcome variables collected at Time 2 (10 months after the justice and antecedent variables were collected). Thus, we also were interested in demonstrating that the results obtained with the Time 1 data represented more than a measurement artifact.

Before performing the analyses, we examined the properties of our data to assess whether it conformed to a multivariate normal distribution. The adequacy of the parameters obtained from the maximum likelihood estimation procedure is dependent on the viability of the multivariate normality assumption. We relied on the normalized estimate of Mardia’s (G2, P) measure of multivariate kurtosis (Mardia, 1970, as described in Bentler, 1995) to assess this assumption. The normalized estimate is distributed as a unit-normal variate, and large values of this statistic are indicative of departure from multivariate normality. The normalized estimate of Mardia’s multivariate kurtosis measure was quite low at Time 1, Mardia (G2, P) = .69, and Time 2, Mardia (G2, P) = 1.13, indicating that the data did not substantially depart from a multivariate normal distribution. In order to partial out the influence of the three control variables (job level, location, and age), we allowed them to correlate with the exogenous variables and to predict the endogenous variables in Figure 1. We also incorporated several a priori covariances between the disturbance terms of the outcome variables in order to account for previously established relationships that were not the focus of this study.

Results

Tables 1 and 2 present the means, standard deviations, coefficient alphas, and correlations among the study variables for Times 1 and 2, respectively. The fit indices for the proposed model at Time 1 were good (CFI = .90, GFI = .88), indicating that the data were consistent with our proposed model. Although the chi-square test was statistically significant, χ²(60, N = 163) = 179.82, p < .01, the chi-square to degrees of freedom ratio was very favorable (χ²/df = 3.00). The standardized path coefficients for this model are shown in Figure 2. As shown in this figure, all hypothesized paths were significant. Furthermore, the control variables exerted minimal influence on the relationships in the model. Location was a significant predictor of trust in management and informational justice, job level significantly predicted procedural fairness, and age significantly correlated with support. All of the antecedent variables significantly related to the appropriate justice variables in the manner predicted by Hypotheses 1 through 7. Hypotheses 8 through 11 were also strongly supported in that procedural justice perceptions were significantly related to the four outcome variables in the hypothesized direction. Finally, as predicted by Hypotheses 12 and 13, interpersonal and informational justice added unique amounts of variance to the prediction of trust in management.

To further explore our results, we assessed the relative contribution of the various antecedents on interpersonal and informational justice. With respect to interpersonal justice, the path coefficients for the four hypothesized relationships were relatively similar to one another, suggesting that input, support, communication quality, and implementation perceptions may be equally important in influencing perceptions of fair treatment. We tested the relative importance of the four antecedents by modifying our EQS analysis to include a constraint that the four antecedent–interpersonal justice paths be equal. If the fit of this constrained model equaled the fit of our original model, this would support the idea that the four antecedents are equally important in influencing interpersonal justice. Consistent with this view, the improvement in fit achieved with the constrained model was not significantly different from the fit of the original model, Δχ²(3, N = 163) = 2.88, p > .05. Thus, it appears that the four antecedents are equally important in terms of their effect on interpersonal justice.

For informational justice, we tested whether the contributions of implementation and communication quality were significantly different. The fit of the model in which these two paths were constrained to be equal was significantly different from the fit of the original model, Δχ²(1, N = 163) = 6.88, p < .01. Therefore, implementation is the stronger predictor of informational justice.

Finally, we looked at the contribution of the three justice variables on trust in management. The fit of the model in which these three paths were constrained to be equal was significantly different from the fit of the original model, Δχ²(2, N = 163) = 11.30, p < .01. The difference in fit was due to the procedural justice–management trust relationship being stronger than the informational justice–management trust relationship.

Before proceeding with the analysis on the Time 2 data, we examined the stability of the outcome variables over time. The test–retest reliability of organizational commitment, job satisfaction, trust in management, and the turnover intention variables were very satisfactory (.67, .55, .65, and .60, respectively), especially given the 10-month time lag between Times 1 and 2. These results suggest that employee attitudes immediately after the reorganization were still impacting attitudes approximately 1 year later. We proceeded to test the fit of our model by applying the EQS maximum likelihood estimation procedure on the Time 2 data. Thus, we tested the fit of the model depicted in Figure 1 using the antecedents and fairness ratings obtained at Time 1 with the outcome variables collected at Time 2. This analysis provides a more direct indication of the stability of our proposed model as well as the long-term impact of the reorganization effort.

Overall, the model fit very well, χ²(60, N = 82) = 90.26, p < .01, the chi-square to degrees of freedom ratio was 1.50, and the CFI and GFI values were .94 and .88, respectively. Surprisingly, these fit results appear to be slightly stronger than the fit obtained at Time 1, despite the 10-month delay between the antecedent and
### Table 1
**Descriptive Statistics, Correlations, and Reliabilities: Time 1**

| Variable                      | M   | SD  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. Input                      | 3.89 | 1.33 | (.81) |
| 2. Communication             | 4.67 | 0.98 | .69 | (.84) |
| 3. Implementation            | 4.76 | 1.02 | .68 | .70 | (.85) |
| 4. Support                    | 5.25 | 1.01 | .42 | .49 | .43 | (.58) |
| 5. Procedural justice         | 4.75 | 1.14 | .57 | .56 | .62 | .36 | (.82) |
| 6. Interpersonal justice      | 4.68 | 1.08 | .70 | .73 | .69 | .58 | .73 | (.81) |
| 7. Informational justice      | 4.94 | 1.11 | .58 | .53 | .66 | .50 | .57 | (.75) |
| 8. Organizational commitment  | 5.44 | 0.90 | .47 | .55 | .32 | .62 | .56 | .44 | (.88) |
| 9. Management trust           | 4.44 | 1.20 | .66 | .58 | .51 | .25 | .65 | .52 | .74 | (.94) |
| 10. Job satisfaction          | 5.22 | 0.99 | .45 | .42 | .53 | .31 | .58 | .53 | .45 | .71 | .69 | (.78) |
| 11. Turnover intentions       | 3.17 | 1.35 | .21 | .16 | .24 | .22 | .33 | .27 | .23 | .45 | .38 | .57 | (.60) |
| 12. Job level                 | 1.25 | 0.44 | .14 | .19 | .24 | .13 | .34 | .27 | .20 | .18 | .13 | .17 | .03 | —   |
| 13. Location                  | 1.66 | 0.48 | .04 | .16 | .08 | .13 | .00 | .05 | .09 | .21 | .16 | .08 | .12 | .03 | —   |
| 14. Age                       | 4.94 | 1.82 | .10 | .10 | .14 | .23 | .14 | .22 | .11 | .15 | .08 | .16 | .13 | .26 | .05 | —   |
| 15. Gender                    | 1.25 | 0.44 | .11 | .14 | .14 | .13 | .07 | .16 | .17 | .10 | .09 | .04 | .07 | .33 | .00 | .06 | —   |
| 16. Tenure                    | 9.73 | 8.52 | .06 | .03 | .09 | .09 | .10 | .11 | .13 | .04 | .04 | .03 | .01 | .18 | .15 | .49 | .13 | —   |

**Note.** Correlations with absolute values greater than .15 are significant at \( p < .05 \); those with absolute values greater than .19 are significant at \( p < .01 \). Reliabilities are presented along the diagonal in parentheses. \( N \) varied between 161 and 163.

### Table 2
**Descriptive Statistics, Correlations, and Reliabilities: Time 2**

| Variable                      | M   | SD  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. Input                      | 3.97 | 1.26 | (.80) |
| 2. Communication             | 4.73 | 0.95 | .59 | (.83) |
| 3. Implementation            | 4.87 | 0.96 | .54 | .60 | (.85) |
| 4. Support                    | 5.28 | 0.94 | .26 | .40 | .32 | (.63) |
| 5. Procedural justice         | 4.99 | 0.98 | .46 | .47 | .52 | .28 | (.80) |
| 6. Interpersonal justice      | 4.76 | 0.95 | .57 | .67 | .64 | .48 | .72 | (.76) |
| 7. Informational justice      | 4.98 | 1.02 | .43 | .44 | .60 | .19 | .44 | .50 | (.76) |
| 8. Organizational commitment  | 5.50 | 0.92 | .36 | .37 | .42 | .12 | .43 | .41 | .33 | (.90) |
| 9. Management trust           | 4.71 | 1.29 | .36 | .35 | .35 | .02 | .47 | .42 | .36 | .75 | (.96) |
| 10. Job satisfaction          | 5.15 | 1.02 | .35 | .34 | .39 | .02 | .40 | .35 | .37 | .71 | .75 | (.75) |
| 11. Turnover intentions       | 3.18 | 1.39 | .15 | .18 | .33 | .19 | .27 | .21 | .29 | .60 | .53 | .62 | (.56) |
| 12. Job level                 | 1.33 | 0.47 | .05 | .08 | .16 | .05 | .38 | .30 | .13 | .20 | .21 | .09 | .10 | —   |
| 13. Location                  | 1.67 | 0.47 | .00 | .04 | .03 | .14 | .06 | .05 | .26 | .06 | .09 | .06 | .13 | .05 | —   |
| 14. Age                       | 5.05 | 1.78 | .02 | .09 | .14 | .16 | .11 | .20 | .14 | .08 | .08 | .03 | .10 | .34 | .04 | —   |
| 15. Gender                    | 1.25 | 0.44 | .07 | .15 | .12 | .07 | .03 | .13 | .23 | .02 | .06 | .03 | .08 | .27 | .10 | .14 | —   |
| 16. Tenure                    | 10.86 | 9.10 | .05 | .01 | .14 | .17 | .06 | .17 | .13 | .03 | .05 | .03 | .16 | .30 | .23 | .52 | .17 | —   |

**Note.** Correlations with absolute values greater than .22 are significant at \( p < .05 \); those with absolute values greater than .28 are significant at \( p < .01 \). Reliabilities are presented along the diagonal in parentheses. The antecedent and justice measures (Variables 1–7) were collected at Time 1; the outcome variables (Variables 8–11) were assessed 10 months later (Time 2). \( N \) varied between 81 and 82.
outcome data. The standardized path coefficients are shown in Figure 3 and, as can be seen, almost all of our hypotheses are still supported. The only substantive change is that, at Time 2, Hypotheses 12 and 13 are no longer supported—interpersonal and informational justice did not predict trust in management at the later time point. In sum, these results indicate that the reorganization effort was still predicting employee outcomes, although primarily through procedural justice, almost 2 years after the initial announcement.

Discussion

In this study, we investigated the relationships surrounding survivor perceptions of procedural, interpersonal, and informational fairness. The results were very supportive of the model we developed to examine the precursors and consequences of the three justice dimensions. In terms of precursors to fairness, interpersonal justice was related to all four antecedent factors: input, support for victims, implementation perceptions, and communication quality. Informational justice was predicted by implementation perceptions and communication quality, and input, as predicted, was the sole antecedent influence on procedural justice. Thus, as argued by Colquitt (2001), our results clearly demonstrate that procedural, interpersonal, and informational justice have different correlates and that using separate measures of these dimensions allows for better understanding of the factors that are associated with these justice perceptions.

The finding that input significantly predicts procedural justice perceptions is quite consistent with earlier work in the justice area, but the finding has added significance in that it provides an empirical basis for what many scholars in the area of downsizings and layoffs have suggested—that voice or participation can enhance survivor perceptions of procedural fairness (Brockner & Greenberg, 1990; Howard & Frink, 1996; Novelli et al., 1995). Taken together, our findings regarding antecedents also advance our understanding of survivors’ justice perceptions in several ways. First, we found that input was also significantly associated with survivor perceptions of fair treatment in addition to their views on fair process. Second, although a few of the antecedent elements we considered have been examined previously, this study is the first to include them and multiple justice types in a single analysis. We believe that this improves on prior research by more accurately reflecting the complexity of the reorganization and justice environments.

Third, we found support for several antecedents that have received little empirical attention in the organizational justice literature: implementation and communication quality. Both of these variables were predictive of interpersonal and informational justice. The results concerning the implementation variable under-
score the fact that surviving employees attend to events that extend beyond the initial phases of a reorganization. They may be keenly aware of the objectives of the reorganization, and their evaluations of fairness are partially dependent on the consistency between these objectives and how they see the reorganization unfolding. That communication quality was a significant predictor of interpersonal and informational fairness lends support to a broader view of communication in the context of changes such as reorganizations. Whereas initial explanations are certainly important (Bies & Moag, 1986; Mansour-Cole & Scott, 1998), we tried to recognize that employees receive and value information that extends beyond initial justifications or explanations for the reorganization decision. We believe it is important to investigate this broader view of communication, because as is the case with many organizational changes, reorganizations typically unfold over an extended time period.

As predicted, support for victims was significantly associated with perceptions of interpersonal justice. It is important to note that over the course of the reorganization, the division grew in size. This may have “cushioned the blow” for many survivors, making them less sensitive to the treatment victims received. Thus, the relationship between victim support and interpersonal justice may actually be stronger in situations where the workforce reduction is more permanent.

Turning to the justice–outcome relationships, we found that our results are both consistent with older research in the procedural justice area and supportive of newer work on these relationships. Consistent with prior research, procedural fairness was strongly related to the four outcome variables: job satisfaction, trust in management, organizational commitment, and turnover intentions (Brockner & Wiesenfeld, 1993; Brockner et al., 1993; Davy et al., 1991; Mansour-Cole & Scott, 1998). Furthermore, as predicted, all three justice variables predicted trust in management at Time 1, although procedural and interpersonal justice were more important predictors of this outcome than was informational justice. By incorporating multiple measures of fairness, we have demonstrated that interpersonal and informational justice are uniquely related to particular outcome variables. However, similar to Colquitt’s findings (Colquitt et al., 2001), procedural justice played the most important role in predicting employee attitudes in this study. Given that procedural justice perceptions continued to significantly predict employee attitudes at Time 2, it is clear that organizations have much to gain by carefully attending to process issues during a reorganization.

There may be several reasons why interpersonal and informational justice had less of an effect than procedural justice on the outcomes in our study. According to Bies and Moag’s (1986) agent-system model, informational and interpersonal justice are more likely to impact agent-referenced outcomes, such as trust in management. Although our findings at Time 1 for trust in management were quite supportive of this model, had we incorporated additional outcome variables that were agent-referenced, such as

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**Figure 3.** Standardized path coefficients for hypothesized model: Time 2. Location was significantly related to informational justice ($\beta = .25$), and job level was significantly correlated with procedural justice ($\beta = .36$).

† $p < .10$.  * $p < .05$.  ** $p < .01$, one-tailed test.
leader evaluations or supervisory performance ratings, we may have seen stronger effects for these two justice types. Another reason for the weaker effects of informational and interpersonal justice may be due to the fact that the relative importance of each of the justice dimensions may be context specific. Leventhal (1980) and Cropanzano and Greenberg (1997) have discussed how the applicability of the six procedural justice rules are likely to vary depending on the situation. This same argument may be extended toward understanding the relative importance of the three justice dimensions in impacting employee outcomes. The two studies that have found significant unique effects for interpersonal and/or informational justice have been conducted in performance appraisal settings (Colquitt, 2001; Masterson et al., 2000), a context in which organizational agents (supervisors) clearly enacted the procedures. However, in contexts where agents have less discretion and the enactment of procedures is attributed more to the system than an individual agent, it is likely that procedural justice would be the dominant justice variable. Exploring the potential differential effects of the justice dimensions across different contexts is an avenue for future research.

Our model accords justice perceptions a central role in understanding how survivors react to reorganizations. However, we also recognize that reactions to reorganizations may be influenced by other variables. One set of variables that needs further investigation is the nature of job changes that may take place as a result of a reorganization. Reorganizations may have differential effects on survivors, depending on whether job changes are viewed as enriching (increased discretion and decision-making responsibility) or enlarging (the amount of work is simply increased, without a corresponding increase in discretion or responsibility). These changes may interact with justice perceptions in determining survivor responses (Brockner et al., 1993) or they may play an important role independent of fairness in shaping survivor responses (Kozlowski, et al., 1993; Mishra & Spreitzer, 1998).

More positive responses to job changes are likely to develop from enrichment. However, enriched jobs often lead to increases in role-related variables such as role ambiguity and role overload, at least in the short term. This is especially important in light of the fact that job changes in a reorganization or downsizing environment are often designed in a haphazard fashion and employees are not always adequately prepared for the demands of their new jobs. Unless employees believe that they have the psychological resources to perform their jobs, they are unlikely to respond in a positive manner (Mishra & Spreitzer, 1998). Thus, role-related variables may moderate the relationship between enrichment and employee responses such as job satisfaction and organizational commitment. Future research should investigate how job changes affect survivor responses.

Today’s organizations are highly dynamic. Thus, it is quite possible that after facing an initial workforce reconfiguration, employees may have to endure another type of restructuring. Thus, it is critical to manage the initial change process correctly so that survivors do not become embittered or cynical about future organizational changes (Reichers et al., 1997). Our results demonstrate that creating a climate of fairness is one way to effectively manage changes of this type. Workforce reconfigurations have become the norm in modern organizations (Cameron, 1998). Given the prevalence and potential impact of these changes on individual employees, it is important to continue to study the variables that facilitate positive survivor reactions. The results of this study contribute to this end by furthering our understanding of the antecedents and consequences of procedural, interpersonal, and informational justice.

References


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