FAIRNESS PERCEPTIONS AND APPRAISAL REACTIONS

The success of appraisal systems may well depend on ratees' fairness perceptions and reactions to important aspects of the appraisal process. The primary purpose of this study is to integrate the literatures on appraisal reactions and fairness perceptions to test specific, heretofore untested hypotheses. Implications of results are discussed and suggestions for future research are offered.

Performance appraisals are among the most important human resource systems in organizations insofar as they represent critical decisions integral to a variety of human resource actions and outcomes (Murphy & Cleveland, 1995). Reactions to appraisal and the appraisal process are believed to significantly influence the effectiveness and the overall viability of appraisal systems (e.g., Bernardin & Beatty, 1984; Cardy & Dobbins, 1994; Carroll & Schneier, 1982; Lawler, 1967). For instance, Murphy and Cleveland (1995, p. 314) contended that reaction criteria are almost always relevant, and an unfavorable reaction may doom the most carefully constructed appraisal system. Perceptions of fairness are important to all human resource processes (e.g., selection, performance appraisal, compensation), particularly so, to the performance appraisal process. Indeed, almost 10 years ago, Cardy and Dobbins (1994, p. 54) asserted that "with dissatisfaction and feelings of unfairness in process and inequity in evaluations, any appraisal system will be doomed to failure." Other researchers have also acknowledged the importance of fairness for the success or failure of appraisal systems (Smither, 1998; Taylor, Tracy, Renard, Harrison, & Carroll, 1995). In practice, perceived fairness of evaluations, the procedures used to evaluate performance, and the manner in which performance-related information is communicated are likely to play an integral role in shaping ratees' reactions. Yet, the literatures on appraisal reactions and fairness perceptions have evolved independent of each other.

The primary purpose of this article is to integrate these two streams of research and investigate the influence of different forms of justice or fairness perceptions on appraisal reactions. A secondary purpose is to examine relationships between appraisal reactions investigated in previous research. The article is organized as follows. The significance of studying ratees' reactions to the appraisal process is discussed first. Second, a brief overview of research on the different forms of fairness perceptions is provided. These two streams of literatures are then integrated to develop hypotheses. Results of a study conducted to test these hypotheses are discussed next. Finally, implications of results for practitioners are discussed and directions for future research are offered. The study makes several contributions to the literature.

Significance of Studying Appraisal Reactions

Several reasons commend the use reaction measures as criteria in performance appraisal research. First, many researchers have bemoaned the relative lack of research on employees' reactions to appraisals (e.g., Banks & Murphy, 1985; Bernardin & Villanova, 1986), so much so that, Murphy and Cleveland (1995, p. 310) referred to such soft criteria as the "neglected criteria" of performance appraisal research. Second, practitioners are more interested in employees' reactions to important aspects of the performance appraisal process than in psychometric or
accuracy-oriented criteria. Researchers, on the other hand, have paid more attention to psychometric and accuracy-oriented criteria than they have to criteria of interest to practitioners. This criterion gap (Balzer & Sulsky, 1990) has resulted in stifling informed dialogue between scientists and practitioners, rendering much of the research on performance appraisal of little value to practitioners (Banks & Murphy, 1985; Ilgen, Barnes-Farrell & McKellin, 1993; Keeping & Levy, 2000).

Third, the dominance of psychometric and accuracy-oriented criteria has focused attention on the rater to the exclusion of the ratee. Ratees and their reactions' to the appraisal process are just as important to the success of any appraisal system as rating and feedback behaviors of raters. For instance, several researchers have asserted that appraisal reactions play an important role in the appraisal process because they typically indicate overall system viability better than narrow psychometric indices (e.g., Bernardin & Beatty, 1984; Cardy & Dobbins, 1994; Lawler, 1967). Moreover, regardless of the psychometric soundness, an appraisal system will be ultimately unsuccessful if it is not accepted and supported by its users (Carroll & Schmeier, 1982, p. 218). Finally, reactions to appraisals are of interest in and of themselves. For instance, Murphy and Cleveland contended that reaction criteria are almost always relevant (1995, p. 314). Thus, there is a general consensus on the benefits of studying employees' reactions to the performance appraisal process (keeping & Levy, 2000).

**Fairness Perceptions**

Early research on fairness focused on the fairness of the distribution of outcomes (e.g., pay). Research on distributive justice has established that people care about the fairness of outcomes (e.g., Adams, 1965; Greenberg, 1988). In 1975, Thibaut and Walker introduced the construct of procedural justice to highlight the importance of fair procedures to overall perceptions of fairness. Procedural justice refers to the fairness of the procedures used to decide on outcomes (Leventhal, 1980; Thibaut & Walker, 1975). Early procedural justice research focused on the structural aspects of procedures (e.g., voice opportunities, consistency, opportunity for appeals). This research demonstrated the importance of procedural fairness in a wide range of settings including performance appraisal (e.g., Greenberg, 1986) and selection (e.g., Gilliland, 1994).

In the 1990s, justice research broadened again as researchers began to examine the "social side" of justice. Bies and Moag (1986) introduced the construct of "interactional justice." They argued that perceptions of the quality of interpersonal treatment that individuals’ receive during the enactment of organizational procedures are likely to have a substantial influence on individuals’ overall sense of organizational justice. According to these theorists, two elements are central to perceptions of interactional justice. These are whether the reasons underlying the resource allocation decision are clearly, truthfully, and adequately explained to the affected parties and whether those responsible for implementing the decision treat the affected individuals with dignity and respect (see Bies & Moag, 1986). Greenberg (1993, 1994) suggested that interpersonal justice acts primarily to alter reactions to decision outcomes because sensitivity can make people feel better about an unfavorable outcome. Informational justice acts primarily to alter reactions to procedures as explanations provide the information needed to evaluate structural aspects of the process. Therefore, Greenberg (1993) proposed that interactional justice might actually consist of two factors, with respect and sensitivity aspects of interactional justice as one factor, and the explanation aspect of interactional justice as the second factor. In a recent study, Colquitt (2001) provided support for the four-factor model in two separate samples. Using confirmatory factor analyses, Colquitt (2001) reported that the four-factor model fit the data better than the three-factor model or models with fewer factors. Consistent with Greenberg's
(1993) proposal, Colquitt identified distributive justice, procedural justice, interpersonal justice, and informational justice as the four factors that comprise the construct of organizational justice. As with distributive justice and procedural justice, there is substantial empirical support for the effect of interactional justice on individuals' attitudes and behaviors (e.g., Brockner & Greenberg, 1990; Colquitt, et al., 2001; Greenberg, 1993).

Some researchers who adhere to the relational model of justice treat interactional justice as a component of procedural justice (Tyler & Blader, 2000; Tyler & Lind, 1992). Others treat it as a third form of justice, independent of procedural and distributive justice (Bies, 2001; Bies & Moag, 1986; Masterson, et al., 2000). "While there is some disagreement about which justice constructs are conceptually distinct from others, there is no disagreement about the importance of these constructs to individuals and the impact they have on individual behavior" (Ambrose, 2002, p. 805). In summary then, the justice literature has clearly established that people care about the fairness of their outcomes (distributive justice), the procedures to which they are subjected (procedural justice), and fairness of the interpersonal treatment that they receive (interactional justice) (Ambrose, 2002; Bies, 2001).

### Fairness and Appraisal Reactions

Of all the appraisal reactions, satisfaction has been the most frequently studied appraisal reaction (Keeping & Levy, 2000). Indeed, satisfaction with aspects of the appraisal process is regarded as one of the most consequential of the reactions to performance appraisal (e.g., Dorfman, Stephan, & Loveland, 1986; Giles & Mossholder, 1990). For instance, several researchers (e.g., Giles & Mossholder, 1990; Organ, 1988) have asserted that using satisfaction as a measure of employees' reactions affords a broader indicator of reactions than more specific, cognitively oriented criteria. In fact, cognitively oriented measures, such as perceived utility and perceived accuracy are positively related to measures of satisfaction (e.g., Keeping & Levy, 2000). In addition, because appraisals form the basis of several important decisions, satisfaction with key aspects of the appraisal process signifies recognition, status, and future prospects within the organization. Thus, favorable attitudes about reward contingencies develop when satisfaction is high than when it is low. These various psychological implications of satisfaction make it a significant determinant of future behavior and job and organizational attitudes (Taylor, et al., 1984).

Potentially one could examine satisfaction with many different aspects or components of the appraisal process. Therefore, previous theory and research were used as guides to choose criteria for inclusion in the study. For instance, level of performance ratings is an important characteristic of feedback message (e.g., Ilgen, et al., 1979; Kluger & DeNisi, 1996), often the basis for many important administrative decisions (Murphy & Cleveland, 1995), and ratees' are more likely to be satisfied with higher rather than lower ratings. Therefore, satisfaction with performance ratings was included. Several models of the appraisal process have emphasized the significance of contextual factors (e.g., DeCotiis & Petit, 1978; Murphy & Cleveland, 1995). Because the appraisal system provides the immediate context within which appraisal and feedback occur, satisfaction with appraisal system was included. Several researchers have acknowledged the central role the rater plays in the appraisal process (e.g., Ilgen, et al., 1979; Cederblom, 1982; Klein, et al., 1987). Therefore, satisfaction with rater was included in the study. Finally, several theoretical models (e.g., Ilgen, et al., 1979) and reviews (e.g., Cederblom, 1982) have highlighted the central role of feedback to the appraisal process; therefore, satisfaction with feedback was included as a criterion variable. Thus, each of the appraisal reactions examined is drawn from previous theory, such that ratees' reaction toward one aspect of message (satisfaction
with performance ratings), appraisal context (satisfaction with appraisal system), rater (satisfaction with rater), and feedback (satisfaction with appraisal feedback) was examined.

**Satisfaction with Performance Ratings.** In their seminal article on consequences of feedback, Ilgen, et al., (1979) identified the sign of the feedback, whether it is seen as positive or negative, as one of the key variables in message perception. The sign of feedback is critical because of its potential influence on how people respond to ratings (Kluger & DeNisi, 1996; Landy & Farr, 1983).

Indeed, research has found that although people express a strong desire for feedback (Ashford, 1986), most appreciate positive feedback and tend to be dismissive of negative feedback (Taylor et al., 1984). Positive evaluations are seen as more accurate, are valued more and are better accepted than negative ratings (e.g., Halperin, Snyder, Shenkel & Houston, 1976; McEvoy & Buller, 1987). Higher ratings elicit positive reactions toward the appraisal (Kacmar, Wayne & Wright, 1996) and have been related to satisfaction with the appraisal process (Dipboye & de Pontbriand, 1981; Ilgen & Hamstra, 1972; Jordan & Jordan, 1993; Morran & Stockton, 1980; Podsakoff & Farh, 1989; Taylor, et al., 1984). Given that the level of ratings is a good proxy for the sign of ratings, these proposals are entirely consistent with self-enhancement theory (Schrauger, 1975) which suggests that individuals will react more positively to higher than to lower ratings.

Given that ratings and decision based on those ratings are of great significance to employees (Ilgen, et al., 1979; Murphy & Cleveland, 1995; Taylor, et al., 1984) it is not surprising that ratees will be more satisfied with higher rather than lower ratings. However, in addition to the level of ratings, ratees are also likely to be satisfied with ratings that they believe reflect their contributions. From the justice perspective, ratings that reflect their true performance and contributions relative to their inputs are likely to elicit satisfaction. For instance, research on distributive justice has established that people care about the fairness of outcomes (e.g., Adams, 1965; Greenberg, 1988). Past research suggests that distributive justice is more related to person or individual-referenced outcomes (e.g., Colquitt, et al., 2001; Folger & Konovsky, 1989; McFarlin & Sweeney, 1992; Sweeney & McFarlin, 1993). Satisfaction with performance appraisal is a person-referenced outcome and has been used as a criterion in at least one study. In a study conducted with undergraduate students, Colquitt (2001, study 1) found that perceptions of distributive justice were positively related to satisfaction with grades. Results of this study suggest that ratees are likely to be satisfied with ratings that reflect their performance and contributions to the organization.

Hypothesis 1: Distributive justice will be positively related to satisfaction with performance appraisal ratings.

**Satisfaction with Appraisal System.** Several models have highlighted the role of contextual factors in the appraisal process (DeCotiis & Petit, 1978; Murphy & Cleveland, 1995). Of the contextual factors, the appraisal system itself is likely to be an important contextual factor as it provides the immediate framework within which appraisal sessions occur, evaluations are given, and appraisal information is processed (Cederblom, 1982; Giles & Mossholder, 1990; Klein, et al., 1987). Indeed, Murphy and Cleveland (1995, p. 314) contended that "an unfavorable reaction may doom the most carefully constructed appraisal system."

The two-factor justice model (McFarlin & Sweeney, 1992; Sweeney & McFarlin, 1993) proposes that perceptions of distributive justice are more related to person-referenced outcomes (e.g., job satisfaction) whereas perceptions of procedural justice are more related to evaluations of
organization or system-referenced outcomes (e.g., organizational commitment, perceived organizational support). Sweeney and McFarlin (1993) were able to demonstrate that distributive justice is more predictive of person-referenced outcomes than procedural justice and that procedural justice is more predictive of system-referenced outcomes than distributive justice. In a recent meta-analysis, Colquitt, et al. (2001) reported support for Sweeney and McFarlin's two-factor model particularly for person and system-referenced attitudes. The gist of Bies and Moag's (1986) agent-system model is that perceptions of procedural justice are likely to influence reactions toward the organization or organizational systems. Satisfaction with performance appraisal system is an organization or system referenced outcome. Sweeney and McFarlin's (1993) two-factor model and Bies and Moag's (1986) agent-system model suggest that perceptions of procedural justice are likely to be related to system-referenced outcomes. To date, only one study has related perceptions of procedural justice to satisfaction with appraisal system (Keeping & Levy, 2000). Procedures are judged as fair if they are implemented consistently, without self-interest, on the basis of accurate information, with opportunities to correct the decision, with the interests of all concerned parties represented, and following moral and ethical standards (see Lind & Tyler, 1988). Ratees are likely to be satisfied with performance appraisal systems that incorporate fair procedures. Therefore, procedural justice is likely to be related to satisfaction with appraisal system.

Hypothesis 2: Procedural justice will be positively related to satisfaction with performance appraisal system.

Satisfaction with Rater. Ilgen, Fisher and Taylor (1979) proposed that employee's perceptions of and responses to feedback depend not only on characteristics of the message and the ratee but also on the rater. Reviews and models by Cederblom (1982) and Klein, et al. (1987) have also highlighted the significance of rater in shaping ratees' reactions to performance appraisal. Other researchers have also asserted that supervisors play a crucial role in the success or failure of any appraisal system (e.g., Nathan, et al., 1991; Pooyan & Eberhardt, 1989).

As previously noted, interactional justice refers to the sensitivity of treatment and the adequacy of explanations offered by an organizational agent, typically one's supervisor. Bies and Moag's (1986) agent-system model proposes that interactional justice is likely to influence reactions toward the agent whereas perceptions of procedural justice are likely to influence reactions toward the organization or organizational systems. As proposed by the agent-system model, studies have documented that interactional justice influences supervisor-related outcomes whereas procedural justice influences organization-related outcomes (e.g., Masterson, et al., 2000). In addition, a number of studies have reported a strong relationship between interactional justice and satisfaction with one's supervisor (e.g., Cropanzano & Prehar, 1999; Moye, Masterson, & Bartol, 1997). In the performance appraisal context, the supervisor plays the role of a rater and evaluates performance and provides performance-related feedback. Ratees are likely to be satisfied with a rater who treats them with interpersonal sensitivity and adequately explains the performance appraisal procedure, his/her rationale for the performance evaluation, and communicates all of this information in a truthful and honest manner. Thus, perceptions of interactional justice are likely to be positively related to satisfaction with the rater. To date, no study has examined the link between perceptions of interactional justice and satisfaction with the rater.

Hypothesis 3: Interactional justice will be positively related to satisfaction with rater.

Satisfaction with Appraisal Feedback. Appraisal feedback is broader than just informing ratees' the level of ratings that will be assigned to them. Typically, feedback discussions include a
review of past accomplishments, acknowledgements of strengthens and identification of areas for future development. Indeed, almost 45 years ago, Maier (1958) highlighted the crucial role of appraisal feedback in the performance appraisal process. For instance, from the organization’s point of view, feedback serves both to keep its members’ behavior directed toward desired goals, and to stimulate and maintain high levels of effort (Payne & Hauty, 1955; Vroom, 1964). From the individual’s point of view, it serves to satisfy a need for information about the extent to which personal goals are met (Nadler, 1977), as well as a need for social comparison information about how one is performing relative to others (Festinger, 1954). Second, feedback has the potential to influence future performance (Ilgen, et al., 1979; Kluger & DeNisi, 1996). Third, it is believed to play a significant role in the development of job and organizational attitudes, particularly when it is accepted and comprehended well (Ilgen, Peterson, Martin & Boeschen, 1981; Pearson, 1991; Taylor, Fisher & Ilgen, 1984). Thus, feedback is not only important to individuals but also to organizations because of its potential influence on employee performance and a variety of attitudes and behaviors of interest to organizations. These reasons render satisfaction with feedback an important reaction because unless ratees are satisfied with the feedback, the potential benefits of feedback are unlikely to be realized.

Indeed, Ilgen, Peterson, Martin and Boeschen (1981, p. 327) asserted that "subordinates must react favorably to feedback and their supervisor's role in it, if future behaviors are to benefit from feedback." Others have noted that a number of problems could arise between the rater and the ratee during the discussion of appraisal and these problems could minimize or even destroy the developmental aspects of the appraisal program (Burke & Wilcox, 1969; Larson, 1984). Meyer and Walker (1961) who conducted the first investigation of factors contributing to the effectiveness of performance appraisal programs concluded that "the best predictor of whether or not the ratee took constructive action based on his performance appraisal was how well his manager had handled the appraisal feedback discussion." These comments and assertions suggest that ratees are likely to be satisfied with appraisal feedback discussions when the rater treats them with interpersonal sensitivity and adequately explains the performance appraisal procedure, his/her rationale for the performance evaluation, and communicates all this information in a truthful and honest manner. Thus, perceptions of interactional justice are likely to be positively related to satisfaction with appraisal feedback. To date, no study has examined the link between perceptions of interactional justice and satisfaction with appraisal feedback.

Hypothesis 4: Interactional justice will be positively related to satisfaction with appraisal feedback.

Hypotheses 1 through 4 propose specific relationships between justice and appraisal reactions. Previous theory and research on appraisal reactions suggest that some reactions influence other appraisal reactions. For instance, research on appraisal reactions has reported that level of ratings is positively related to satisfaction with feedback. For instance, self-reports of performance ratings were related to satisfaction with feedback (e.g., Jordan & Jordan, 1993). Studies that used actual ratings have reported a positive relationship between level of ratings and satisfaction with appraisal feedback. For instance, Dipboye and de Pontbriand (1981) found that level of most recent evaluation accounted for 25% of the variance in satisfaction with feedback. In another study, Russell and Goode (1988) reported that both recalled and actual ratings were related to satisfaction with feedback. Because level of ratings is likely to be related to satisfaction with ratings, satisfaction with ratings could have a significant influence on satisfaction with appraisal feedback.

Hypothesis 5: Satisfaction with ratings will be positively related to satisfaction with appraisal feedback.
Previous research has reported that satisfaction with the rater (e.g., Burke & Wilcox, 1969; Burke, Weitzel & Weir, 1978; Giles & Mossholder, 1991; Nathan, et al., 1991; Nemeroff & Wexley, 1979; Russell & Goode, 1988) has a significant influence on satisfaction with appraisal feedback. For instance, Nemeroff and Wexley (1979) reported a correlation of .49, Nathan, et al. (1991) a correlation of .58, Giles and Mossholder (1990) a correlation of .61, and Russell and Goode (1988) a correlation of .64 between satisfaction with rater and satisfaction with appraisal feedback.

Hypothesis 6: Satisfaction with rater will be positively related to satisfaction with appraisal feedback.

The performance appraisal system encompasses all aspects of the appraisal process. Key elements of an appraisal system include the level of ratings, feedback discussions, and the role the rater plays in evaluating performance and providing performance-related feedback. Therefore, satisfaction with ratings, satisfaction with rater, and satisfaction with feedback are likely to contribute to satisfaction with appraisal system. Indeed, studies have reported a positive relationship between satisfaction with appraisal feedback and satisfaction with appraisal system (e.g., Dipboye & de Pontbriand, 1981; Giles & Mossholder, 1990; Keeping & Levy, 2000), satisfaction with ratings and satisfaction with appraisal system (e.g., Russell & Goode, 1988), and satisfaction with rater and satisfaction with appraisal system (e.g., Giles & Mossholder, 1990).

Hypothesis 7: Satisfaction with ratings will be positively related to satisfaction with appraisal system.
Hypothesis 8: Satisfaction with rater will be positively related to satisfaction with appraisal system.
Hypothesis 9: Satisfaction with appraisal feedback will be positively related to satisfaction with appraisal system.

Method

Sample

Participants were employees of a large retail chain. Two hundred and ten surveys were distributed to professional/managerial employees at the corporate office located in Midwest United States. Surveys were administered one month after the organization conducted annual performance evaluations. One hundred and sixty-three employees returned completed surveys (response rate 77.6%) directly to the researcher in the postage-paid envelope that was distributed along with the surveys. The 163 participants were employed as accountants, marketing specialists, and managers. Seventy-four percent of participants were male. The average age of participants was 46.32 years. On average, they had 18.76 years of experience in their professions and had an average organizational tenure of 13.26 years.

Measures

Organizational Justice. Colquitt (2001) developed items to measure justice perceptions as conceptualized in the seminal works that introduced the various forms of justice perceptions to the literature. In developing the multidimensional measure of organizational justice, Colquitt was mindful of Greenberg's (1993) plea for "convertibility" so as to make justice measures useful in a variety of contexts (Greenberg, 2001). This "convertibility" is accomplished by substituting appropriate outcome(s) or procedure(s) in the parenthesis contained in each of the items used for measuring distributive justice and procedural justice (see Colquitt, 2001, p. 389). The same items
used by Colquitt (2001, p. 389) were used to measure distributive justice (4 items), procedural justice (7 items), interpersonal justice (4 items) and informational justice (5 items). All justice perceptions were measured with the same 5-point scale (1-to a small extent and 5-to a large extent) used by Colquitt (2001).

**Satisfaction with Appraisal Ratings.** Colquitt (2001, p. 391) used two items to measure outcome satisfaction, the outcome being "grades received by students." Because performance appraisal/rating served as the "outcome," minor wording changes were made to the items to enhance their relevance to this study. Thus, satisfaction with performance ratings was assessed with two items: "The performance evaluation I received is acceptable," and "I am satisfied with the evaluation I received." Both items were measured on a 5-point scale with scale points of 1-strongly disagree to 5-strongly agree.

**Satisfaction with Appraisal System.** Satisfaction with the appraisal system was assessed with the 3-item scale developed by Giles and Mossholder (1990). A sample item is "Overall, I am satisfied with the performance appraisal system used to evaluate my performance." The items were measured on a 7-point scale with scale points of 1-strongly disagree to 7-strongly agree.

**Satisfaction with Rater.** Three items were used to measure satisfaction with rater. The items were "My supervisor knows how well I am doing my job," "My supervisor helps me improve my performance" and "Overall, I am satisfied with the support and guidance I receive from my supervisor." These items have been previously used to measure satisfaction with rater (e.g., Russell & Goode, 1988). The items were measured on a 7-point scale with scale points of 1-strongly disagree to 7-strongly agree.

**Satisfaction with Appraisal Feedback.** Satisfaction with appraisal feedback was measured with Giles and Mossholder's (1990) three-item scale. A sample item is "I felt quite satisfied with my last review discussion." The items were measured on a 7-point scale with scale points of 1-strongly disagree to 7-strongly agree.

**Results**

LISREL 8.5 (Joreskog & Sorbom, 1993) was used to conduct all analyses. Sample covariances served as input for all LISREL estimates. Confirmatory factor analysis of the justice items and appraisal reactions using the maximum likelihood estimation method was conducted (Anderson & Gerbing, 1988; Joreskog & Wold, 1982).

**Confirmatory Factor Analysis.** To assess model fit a variety of fit indices were used. Chi-square is an index of absolute model fit. Because the value of chi-square is inflated by sample size, many researchers use chi-square relative to its degrees of freedom, with a ratio of 2 indicating good fit (Arbuckle, 1997; Colquitt, 2001). Incremental fit index (IFI) and the comparative fit index (CFI) compare the fit of a given model to a baseline model in which there is no covariance among the variables (Bentler, 1990). The non-normed fit index (NNFI) indexes the incremental fit of the tested model from a baseline model, excluding the influence of sample size. The values of IFI, CFI, and NNFI range from 0 to 1. The closer the value of IFI, CFI, and NNFI to 1, the better the fit, and a value of .9 is regarded as good fit (Anderson & Gerbing, 1988; Williams & Anderson, 1994). Root-mean-square error of approximation (RMSEA) is an index of the discrepancy between the observed covariance matrix and the population covariance matrix (Browne & Cudeck, 1993, pp. 137-138) expressed relative to the degrees of freedom. According to Browne and Cudeck, RMSEA values between 0 and .05 indicate good fit, values between .05 and .08 indicate reasonable fit, values between .08 and .10 indicate mediocre fit, and values exceeding .10
indicate poor fit. The 90% confidence interval of RMSEA indicates that 90% of all possible randomly sampled RMSEA values will fall within the bounds of the confidence interval.

Anderson and Gerbing (1988) recommend specifying and testing the measurement model prior to introducing the structural model. The measurement model provided a good fit to the data as indicated by the fit statistics, $\chi^2 (407, N = 163) = 582.05$, $\chi^2/df = 1.43$, IFI = .98, CFI = .98, NNFI = .98, RMSEA = .063, RMSEA 90% confidence interval (.051, .074). Evidence of convergent validity is ascertained by examining if individual indicators load significantly on hypothesized dimensions (i.e., latent constructs) (Anderson & Gerbing, 1988, p. 416). The paths from the latent constructs to individual indicators were all significant ($p < .05$), with standardized factor loadings ranging from .67 to 1. Means, standard deviations, reliabilities, and correlations between study variables are reported in Table 1.

<p>| Table 1 | Means, Standard Deviations, and Correlations Between Study Variables. |
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<td>.67</td>
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<td>Interpersonal justice</td>
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<td>Informational justice</td>
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<td>Satisfaction w/ratings</td>
<td>3.94</td>
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<td>.69</td>
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<td>.60</td>
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<td>Satisfaction w/system</td>
<td>4.52</td>
<td>1.53</td>
<td>.56</td>
<td>.63</td>
<td>.26</td>
<td>.47</td>
<td>.53</td>
<td>.92</td>
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<td>Satisfaction w/rater</td>
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<td>.40</td>
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<td>.52</td>
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<tr>
<td>Satisfaction w/feedback</td>
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Note: Scale reliabilities are in the diagonal.
(All) correlations below diagonal between scaled items significant at $p < .01$ level.
(All) correlations above diagonal between latent constructs significant at $p < .05$ level.

**Structural Model.** Having found support for the measurement model, the next step was to impose the structural model on the measurement model to test the hypothesized relationships. Based on justice research, it was predicted that distributive justice would be related to satisfaction with appraisal ratings, procedural justice would be related to satisfaction with appraisal system, and interactional justice composed of interpersonal and informational components would be related to satisfaction with the rater and satisfaction with appraisal feedback. In addition, based on previous research on appraisal reactions, it was predicted that satisfaction with ratings and rater would be related to satisfaction with appraisal feedback, and that satisfaction with ratings, rater and feedback would be related to satisfaction with appraisal system. The structural model provided a good fit to the data, $\chi^2 (389, N = 163) = 562.74$, $\chi^2/df = 1.45$, IFI = .98, CFI = .98, NNFI = .98, RMSEA = .064, RMSEA 90% confidence interval (.052, .076). Indicators used to measure the variables loaded significantly ($p < .05$) on the intended variables.
With the exception of hypothesis 7, all other hypotheses were supported ($p < .05$). Hypothesis 4 was partially supported. Path coefficients (standardized betas) of hypothesized relationships are depicted in Figure 1. Distributive justice (hypothesis 1) explained 71% of the variance in satisfaction with performance ratings. Procedural justice (hypothesis 2), satisfaction with ratings (hypothesis 7), satisfaction with rater (hypothesis 8), and satisfaction with feedback (hypothesis 9) together explained 45% of the variation in satisfaction with appraisal system. Of these variables, only procedural justice ($\beta = .41$), satisfaction with feedback ($\beta = .39$) and satisfaction with rater ($\beta = .15$) were significantly ($p < .05$) related to satisfaction with appraisal system. Perceptions of interactional justice (hypothesis 3) explained 30% of the variance in satisfaction with rater. Perceptions of interactional justice (hypothesis 4), satisfaction with ratings (hypothesis 5) and satisfaction with rater (hypothesis 6) together explained 73% of the variance in satisfaction with appraisal feedback. Of these, perceptions of informational justice ($\beta = .13$),
satisfaction with ratings ($\beta = .62$), and satisfaction with rater ($\beta = .28$) were significantly related to satisfaction with appraisal feedback.

LISREL's Modification Indices suggested that the fit of the model could be improved by adding two paths: a path from distributive justice to satisfaction with appraisal feedback, and a path from procedural justice to satisfaction with ratings. Model modifications often take advantage of sampling error and could be problematic (Williams, 1995). However, the one benefit of examining modifications is that it could yield tentative hypothesis for future research. The linkage from distributive justice to satisfaction with appraisal satisfaction makes sense theoretically, and has been supported by previous research (Korsgaard & Roberson, 1995). The linkage from procedural justice to satisfaction with ratings is consistent with Sweeney and McFarlin's (1993) 2-factor model. The model suggests that procedural justice will be more related to system-referenced outcomes than to person-referenced outcomes. It does not deny a relationship between procedural justice and person-referenced outcomes, such as satisfaction with ratings. When these modifications were made, the fit improved but the improvement was not noticeably significant ($\chi^2 (387, N = 163) = 547.75$, $\chi^2/df = 1.42$, IFI = .98, CFI = .98, NNFI = .98, RMSEA = .062, RMSEA 90% confidence interval (.05, .074). With the modifications, there was no change in support for the hypotheses but the variance explained in satisfaction with ratings increased from 71% to 72%, and the variance explained in satisfaction with appraisal feedback changed from 73% to 76%. The standardized betas changed which are depicted in Figure 2.
Discussion

Theory and research on justice perceptions and appraisal reactions were integrated to test specific hypotheses. This study is the first to examine the influence of the four different forms of justice perceptions on satisfaction with important aspects of the performance appraisal process. As expected, distributive justice had the most influence on satisfaction with ratings, procedural justice had the most influence on satisfaction with appraisal system, and interpersonal and informational components of interactional justice perceptions had the most influence on satisfaction with rater and with appraisal feedback. These results are consistent with the predictions of Sweeney and McFarlin's (1993) two-factor model and Bies and Moag's (1986) agent-system model.

When the structural model only included fairness perceptions and appraisal reactions, interactional justice explained 30% of the variance in satisfaction with rater and 51% of the variation in satisfaction with appraisal feedback.
variance in satisfaction with appraisal feedback. When the structural model (see Figure 1) also included relations among appraisal reactions, satisfaction with ratings had more influence on satisfaction with feedback than either of the interactional components of justice ($\beta = .62$ (satisfaction with ratings) versus $\beta = .21$ (interpersonal justice) and $\beta = .13$ (informational justice)). Satisfaction with rater also had a positive influence on satisfaction with appraisal feedback. Procedural justice and satisfaction with appraisal feedback had more influence on satisfaction with appraisal system, and contrary to expectations, satisfaction with ratings was unrelated to satisfaction with appraisal system. The two additional paths to the structural model influenced the magnitude of standardized betas but the pattern of relationships was unchanged. The modifications had little influence on the variance explained in the dependent variables or on the fit statistics.

The implications of these results are straightforward. Organizations should enhance perceptions of fairness of performance appraisal procedures. Results also highlight the important role of rater. The role of raters in ensuring interactional justice is obvious, and organizations should educate raters on how to enact their roles in an interactionally fair manner. Raters are also likely to significantly shape perceptions of distributive justice. Use of performance appraisal formats, such as forced choice format and forced distribution rating systems will have a significant negative effect on the distributive fairness of ratings, which in turn will adversely affect not only satisfaction with ratings but also satisfaction with feedback.

Clearly, more research on the role of fairness perceptions in shaping appraisal reactions is needed. Future research should extend the structural model to investigate the influence of appraisal reactions on job performance, turnover intentions and job and organizational attitudes. Although several researchers have asserted that appraisal reactions are crucial to the success of performance appraisal systems (Cardy & Dobbins, 1994), and shape future behavior and job and organizational attitudes (Taylor, et al., 1984), systematic research on these suggested relationships is virtually non-existent. These suggested relationships have theoretical significance and practical relevance and warrant research attention.

One potential limitation of this study is the use of self-report data. Reliance on self-reports raises the potential concern of effect size inflation due to same source bias. However, Keeping and Levy (2000, p. 721) investigated this issue and concluded that method bias in the measurement of appraisal reactions exits only at low and usually inconsequential levels.

References

Ilgen, D.R., & Hamstra, B.W., "Performance satisfaction as a function of the difference between expected and reported performance at five levels of reported performance," *Organizational Behavior and Human Performance*, 7, (1972), 359-370.
Taylor, M.S., Fisher, C.D., & Ilgen, D.R., "Individuals' reactions to performance feedback in organizations: A control theory perspective," In K.M. Rowland and G.R. Ferris (Eds.),


