FAIRNESS PERCEPTIONS AND SATISFACTION WITH COMPONENTS OF PAY SATISFACTION

Relationships between justice perceptions and pay satisfaction were examined using Colquitt’s (2001) justice scale and Heneman and Schwab’s (1985) Pay Satisfaction Scale (PSQ). LISREL results from 151 technology professionals show distributive, procedural and informational justice are differentially related to pay level, raises, benefits and structure and administration. Implications for research and pay practices are discussed.

While the perception of fairness is important to all human resource decisions and processes, it is particularly important to compensation decisions, such as pay, pay raises and benefits. Indeed, perceived fairness of compensation, the procedures used to make compensation-related decisions, and the manner in which compensation-related information is communicated play an integral role in shaping reactions to critical elements of the compensation system (Milkovich & Newman, 2008). Yet, the literatures on attitudinal reactions pertaining to compensation and fairness perceptions have evolved independently (Williams, McDaniel, & Nguyen, 2006). Even though most would readily acknowledge that fairness is important to compensation decisions, research examining the influence of fairness perceptions on reactions to components of pay is relatively scarce.

The primary purpose of this paper is to integrate these two streams of research and investigate the influence of different forms of justice or fairness perceptions on attitudinal reactions to components of compensation, such as pay level, pay raises, benefits, and structure and administration. This study examined the relationship between the four forms of justice perceptions, namely distributive justice, procedural justice, interpersonal justice and informational justice and the four dimensions of pay satisfaction, namely satisfaction with pay level, benefits, raises, and structure and administration. In doing so, the study responds to calls for more primary studies linking interactional justice perceptions to pay satisfaction (Williams et al., 2006, p. 406). And, unlike previous research that focused almost exclusively on pay level satisfaction, this study investigates the relationship between justice perceptions and not just pay level satisfaction but also the other three dimensions of pay satisfaction.

The article is organized as follows. The significance of studying employees' satisfaction with components of compensation is discussed first. Second, a brief overview of the different forms of fairness perceptions is presented. Third, relevant research on fairness perceptions and components of the pay system are integrated to develop specific, heretofore untested, 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.
Pay Satisfaction

Pay and satisfaction with pay are of great importance to employees. Pay satisfaction is a multidimensional construct composed of satisfaction with pay level, benefits, raises, and structure and administration (Heneman & Schwab, 1985). The four dimensions of pay satisfaction have been supported in several studies (Currall, Towler, Judge & Kohn, 2005; Judge, 1993; Judge & Welbourne, 1994; Nelson, Stone, Frye & Chown, 2008; Scarpello, Huber & Vanderberg, 1988). Additionally, research indicates the antecedents and consequences of pay satisfaction vary according to the various dimensions of pay (Heneman, 1985; Judge, 1993; Terpstra & Honoree, 2003).

There are several reasons for studying pay satisfaction. First, employee compensation is one of the largest costs incurred by an organization and the rising cost of employee benefits is a growing concern for employers. Second, both theory and empirical evidence suggest that there are behavioral implications resulting from pay satisfaction or dissatisfaction (Gerhart & Rynes, 2003). Indeed, after an exhaustive review of the pay satisfaction literature, Heneman and Judge (2000, p. 85) concluded that “pay dissatisfaction can have important and undesirable impacts on numerous employee outcomes.” Third, attitudinal reactions to pay are expected to mediate the relationship between compensation and work outcomes (Dreher, Ash & Bretz, 1988). Finally, understanding antecedents to pay satisfaction affords employers an opportunity to influence employees’ levels of pay satisfaction and thus, indirectly influence work outcomes (Williams et al., 2006).

Despite the importance of pay satisfaction, it is still unclear exactly what factors determine pay satisfaction and how they operate. In addition, the preponderance of research on pay satisfaction has focused on pay level satisfaction to the exclusion of satisfaction with the other dimensions of pay satisfaction: satisfaction with benefits, satisfaction with raises, and satisfaction with structure and administration. Consequently, a recent meta-analysis of pay satisfaction was restricted to only one dimension of pay satisfaction, satisfaction with pay level. In their meta-analysis, Williams et al. (2006) found that actual pay was only moderately correlated with pay level satisfaction, with a corrected correlation of .29. Given this fairly modest relationship between pay and pay level satisfaction, one approach that has been undertaken is to consider factors that influence pay satisfaction.

Two theories of the causes of pay level satisfaction have guided research over the past 35 years, equity theory (Adams, 1965) and discrepancy theory (Lawler, 1971, 1981). Both theories suggest that the perceived amount of pay that should be received and the perceived amount of pay received are the primary determinants of pay satisfaction. Very little theory or research exists on satisfaction with benefits, raises or structure and administration of pay systems.

Researchers have argued for the incorporation of organizational justice into the study of pay satisfaction (Heneman & Judge, 2000; Miceli & Lane, 1991). Although several researchers have speculated about the relations between justice perceptions and pay satisfaction (Scarpello, 1988), the role of justice constructs as antecedents or consequences of pay satisfaction has not been clearly described. Although interest in procedural justice and distributive justice concepts has increased in recent decades, the justice literature has rarely been integrated with the pay satisfaction literature. Hundreds of studies have been conducted on pay level satisfaction and on distributive and procedural justice; however, according to Williams et al. (2006) only 11 studies examined both which prompted Williams et al. (p. 406) to call for more primary studies examining the complexities of the developing justice literature (e.g., the roles of interpersonal and informational justice) as they relate to pay satisfaction.
Justice 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 (Adams, 1965; Greenberg, 1988). A decade later, Thibaut and Walker (1975) 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 outcomes (Leventhal, 1980; Thibaut & Walker, 1975). Early procedural justice research focused on the structural aspects of procedures (e.g., voice opportunities, consistency), and demonstrated the importance of procedural fairness to human resource management processes including performance appraisal (Greenberg, 1986) and selection (Gilliland, 1994).

In 1986, Bies and Moag (1986) introduced the construct of "interactional justice" to examine the "social side of justice." They argued that perceptions of the quality of interpersonal treatment that individuals receive during the enactment of organizational procedures have a substantial influence on individuals’ overall sense of organizational justice. According to Bies and Moag, two elements are central to perceptions of interactional justice: 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. Greenberg (1993, 1994) suggested that interpersonal justice primarily alters reactions to decision outcomes because sensitivity can make people feel better about an unfavorable outcome. Informational justice primarily alters 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.

Colquitt (2001) tested Greenberg’s assertion and found support for the four-factor model in two separate samples. Using confirmatory factor analyses, he reported that the four-factor model fits 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 comprising 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 (Brockner & Greenberg, 1990; Colquitt et al., 2001; Greenberg, 1993; Jawahar, 2007).

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). "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, 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 and communication that they receive (interactional justice) (Ambrose, 2002; Bies, 2001).
Distribution and Hypotheses Development

Distributive Justice and Satisfaction with Pay Components

Research on distributive justice has established that people care about the fairness of outcomes (Adams, 1965; Greenberg, 1988). Past research suggests that distributive justice is more related to person or individual-referenced outcomes (Colquitt et al., 2001; Folger & Konovsky, 1989; McFarlin & Sweeney, 1992; Sweeney & McFarlin, 1993). Satisfaction with pay level and satisfaction with pay raises are person-referenced outcomes. Previous studies have reported a positive relationship between distributive justice and satisfaction with pay level (e.g., Miceli & Mulvey, 2000). In a Canadian sample, Tremblay, Sire and Balkin (2000) measured distributive justice with regard to pay broken down into justice based on needs, internal equity and external equity and reported that distributive justice accounted for 26% of the variance in pay level satisfaction. In their meta-analysis, Williams et al. found distributive justice to be strongly related to satisfaction with pay level ($\rho = .79$).

The concept of basing pay on performance is ingrained in American organizations (Gomes-Mejia & Welbourne, 1991) and cross-cultural research suggests that the belief that rewards should be based on performance may be universally held (Hagan & Peterson, 1999). Indeed, in their meta-analysis, Williams et al. (2006) found employee perceptions of performance-reward contingency to be strongly related to pay level satisfaction ($\rho = .57$). This suggests that distributive justice perceptions are likely to be strongly related to satisfaction with pay raises.

At least two studies have reported that distributive justice is related to satisfaction with benefits (Davis & Ward, 1995; Martin & Bennett, 1996). Failure to measure other components of pay and interactional justice perceptions might be one reason why these studies found a positive association between distributive justice and satisfaction with benefits. In most organizations, the benefits one receives or the structure and administration of pay systems are not dependent on individual contributions and tend to be the same for a group of employees (e.g., non-exempt employees). Satisfaction with benefits and satisfaction with structure and administration of pay systems are unlikely to be related to perceptions of distributive justice as these are system-referenced outcomes.

Hypothesis 1: Perceptions of distributive justice will be positively related to satisfaction with pay level (1a) and satisfaction with pay raises (1b).

Procedural Justice and Satisfaction with Pay Components

Jenkins and Lawler (1981) found involvement in compensation decisions to be related to pay satisfaction. Martin and Bennett (1996) reported a weak relationship between procedural justice regarding pay and pay satisfaction. In their meta-analysis, Williams et al. (2006) reported a strong relationship between procedural justice and satisfaction with pay level ($\rho = .42$). However, when the effect of distributive justice is statistically controlled, Tremblay et al. (2000) reported that procedural justice did not explain any variance in satisfaction with pay level. Tremblay et al.’s (2000) results are consistent with predictions of the two-factor justice model (McFarlin & Sweeney, 1992) and the agent-system model (Bies & Moag, 1986).

In general, most people believe that they are above-average performers (e.g., Alicke, Klotz, Breitenbecher, Yurak & Vredenburg, 1995) and should be rewarded for their performance (Gomes-Mejia & Welbourne, 1991); consequently, they are sensitive to pay increases and the process used to allocate pay increases (Harris, Anseel & Lievens, 2008). Thus, the extent to which procedures used to allocate pay increases are perceived to be fair is likely to be positively related to satisfaction with pay raises.
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 better predicts person-referenced outcomes than procedural justice and that procedural justice better predicts 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 likely influence reactions toward the organization or organizational systems. Satisfaction with benefits and satisfaction with structure and administration of pay systems are organization or system-referenced outcomes. 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 related to system-referenced outcomes, such as satisfaction with benefits and satisfaction with structure and administration of pay systems.

According to the relation model (formerly the group-value model) of procedural justice (Lind, 1995; Lind & Tyler, 1988) people join groups to obtain both economic resources and psychological rewards associated with group affiliation (Cropanzano & Greenberg, 1997). Employee benefits are considered group membership rewards that are designed to strengthen an employee’s relationship to the organization (McCaffery, 1992). For example, many employee benefits become more valuable over time, such as vacation time. In many cases, the procedures for the use of benefits may be the only knowledge an employee has about the benefit, not the experience of the benefit itself (e.g., retirement, long-term disability insurance). Consequently, procedural justice perceptions are likely to influence satisfaction with benefits.

Martin and Bennett (1996) found a weak, but significant relationship between procedural justice regarding benefits and benefits satisfaction. Tremblay et al (1998) found that level of involvement in decisions (procedural justice) was related to benefits satisfaction. In their 2000 study, Tremblay et al. reported that perceptions of procedural justice explained 24% of the variance in satisfaction with benefits. They also found that benefit satisfaction was based more on an accurate benefit communication program than on involvement in decisions and the choice of employee benefits.

**Hypothesis 2:** Perceptions of procedural justice will be positively related to satisfaction with pay raises (2a), satisfaction with benefits (2b), and satisfaction with structure and administration (2c).

**Interpersonal Justice and Satisfaction with Pay Components**

Most people, in general, are more likely to feel undercompensated than overcompensated. When pay is secret, employees tend to overestimate the pay of those both at their same level and below and underestimate the pay of those above them (Milkovich & Anderson, 1972). Research has shown that people are more apt to engage in upward comparisons (compare oneself with someone making more) than lateral or downward comparisons (Harris, Anseel & Lievens, 2008). Given that most people believe that they are above-average performers (e.g., Alicke et al., 1995), they are likely to feel that their performance and contributions warrant a higher pay increase than what they receive, and thus feel the outcome to be somewhat unfavorable. Interpersonal justice primarily alters reactions to decision outcomes because sensitivity can make people feel better about an unfavorable outcome (Greenberg, 1993, 1994). Relative to other components of pay, allocation of pay raises is most within the control of the supervisor. By showing sensitivity and treating the employee with respect and dignity, a supervisor may be able to
influence an employee’s level of satisfaction with the pay increase. Thus, perceptions of interpersonal justice are likely to positively influence satisfaction with pay increases.

*Hypothesis 3*: Perceptions of interpersonal justice will be positively related to satisfaction with pay raises.

**Informational Justice and Satisfaction with Pay Components**

Informational justice primarily alters reactions to procedures as explanations provide the information needed to evaluate structural aspects of the process (Greenberg, 1993, 1994). Employees are most concerned with pay level and raises and when they are concerned with either are likely to seek information pertaining to the processes used to determine pay level and raises. In such cases, they are likely to ask their supervisor. The extent to which the supervisor candidly and thoroughly communicates the rationale for the processes used and tailors this communication to the specific needs of the employee will influence the employee’s perceptions of informational justice (Bies & Moag, 1986; Colquit, 2001). Informational justice primarily alters reactions to procedures as explanations provide the information needed to evaluate structural aspects of the process (Greenberg, 1993, 1994). Consequently, informational justice may be expected to influence satisfaction with pay level, raises and the structure and administration of pay systems.

*Hypothesis 4*: Perceptions of informational justice will be positively related to satisfaction with pay level (4a), satisfaction with raises (4b) and satisfaction with structure and administration (4c).

**Method**

**Sample and Procedure**

Data were collected from the Information Technology Consulting Division of a large international consulting company. Two hundred and twenty employees of this division who were located in the Midwest United States were invited to participate in the study. Participation in the study was voluntary and anonymity was assured. One hundred and fifty one employees participated in the survey for a response rate of 68.6%. Respondents were employed as computer programmers, software engineers, systems designers, project managers and managers. Eighty-four percent of the respondents were men and 16% women. The average age of participants was 29.33 (SD = 4.47) years. On average, they had 6.31 (SD = 4.18) years of experience organizational tenure, and 4.12 (SD = 2.13) years of tenure in their present jobs.

**Measures**

**Fairness Perceptions.** Colquitt (2001) developed a scale to measure the various forms of justice perceptions. In developing the multidimensional measure of justice, Colquitt was mindful of Greenberg's (1993) plea for "convertibility" so as to make justice measures useful in various of contexts (Greenberg, 2001). This "convertibility" is accomplished by substituting appropriate outcome(s) or procedure(s) in the parentheses contained in each of the items used for measuring distributive and procedural justice (Colquitt, 2001, p. 389). The same items used by Colquitt (2001, p.389) were used to measure distributive justice (4 items, $\alpha = .83$), procedural justice (7 items, $\alpha = .83$), interpersonal justice (4 items, $\alpha = .92$),
and informational justice (5 items, $\alpha = .89$). Participants used a 5-point scale (1-to a small extent, 5-to a large extent) to respond to the items (see Column 1, Appendix A for items).

**Satisfaction Measures.** The 18-item Pay Satisfaction Questionnaire (PSQ) developed by Heneman and Schwab (1985) was used to measure satisfaction with pay level ($\alpha = .92$), satisfaction with benefits ($\alpha = .90$), satisfaction with raises ($\alpha = .75$) and satisfaction with structure and administration ($\alpha = .82$). Participants used a 5-point scale (1-very dissatisfied, 5-very satisfied) to respond to the items (see Column 1, Appendix A for items).

**Results**

**Confirmatory Factor Analysis (CFA)**

A survey was used to measure perceptions of distributive justice, procedural justice, interpersonal justice and informational justice, and satisfaction with pay level, benefits, raises and structure/administration. Anderson and Gerbing (1988) recommend specifying and testing the measurement model prior to introducing the structural model. To examine the factor structure, a CFA was conducted using LISREL 8.8 (Joreskog & Sorbom, 1993). Sample covariances served as input for all LISREL estimates. The maximum likelihood approach was used as it is regarded as the most appropriate approach for theory testing and development (Anderson & Gerbing, 1988; Joreskog & Wold, 1982).

As recommended by Hu and Bentler (1999), root mean square error of approximation (RMSEA), comparative fit index (CFI) and standardized root mean square residual (SRMR) were used to evaluate model fit. Factor structures of 3 different models were compared. The first was a one-factor model (Model 1) comprised of all the items used to measure the eight constructs. This model did not fit the data ($\chi^2 (665, N = 151) = 3160.47$, RMSEA = .16, RMSEA 90% confidence interval (.15, .16), CFI = .84, and SRMR = .10). The second model was a two-factor model (Model 2) comprised of all the items used to measure justice perceptions as one factor and all the items used to measure satisfaction with compensation components as a second factor. This model did not fit the data ($\chi^2 (664, N = 151) = 1731.73$, RMSEA = .11, RMSEA 90% confidence interval (.10, .11), CFI = .87, and SRMR = .094). The final model was the hypothesized model (Model 3) in which items used to measure each of the eight constructs were specified to load on their respective constructs. The hypothesized model was supported; fit statistics indicated good fit for the model [$\chi^2 (637, N = 151) = 888.18$, RMSEA = .05, RMSEA 90% confidence interval (.04, .053), CFI = .98, and SRMR = .06].

Evidence of convergent validity is ascertained by examining if individual indicators load significantly on hypothesized dimensions (Anderson & Gerbing, 1988, p. 416). The paths from the latent constructs to individual indicators were all statistically significant ($p < .05$) and completely standardized factor loadings ranged in values from .42 to .94 (see Appendix A).

The chi-square difference test and the confidence interval test were used to ascertain evidence of discriminant validity (Anderson & Gerbing, 1988). Results of the chi-square difference test between Model 1 and the hypothesized model (calculated chi-square difference of 2272.29 is greater than critical value of 41.34 for 28 degrees of freedom) and between Model 2 and the hypothesized model (calculated chi-square difference of 843.55 is greater than the critical value of 40.11 for 27 degrees of freedom) indicated retaining the hypothesized measurement model. The 90% confidence interval of the RMSEA values of Model 1 (.15, .16) or Model 2 (.10, .11) did not overlap with that of the hypothesized model (.04, .053). A model with more factors is considered to be significantly better than a model with fewer factors if the confidence interval of RMSEA value of the two models do not overlap. Results of chi-square tests and the non-overlapping confidence interval tests (Anderson & Gerbing, 1988) provide
evidence of discriminant validity. Means, standard deviations, and correlations between latent constructs from the PHI matrix are reported in Table 1.

Table 1

Means, Standard Deviations and Correlations between Study Variables

<table>
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<th>M</th>
<th>SD</th>
<th>1</th>
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<tbody>
<tr>
<td>Distributive justice</td>
<td>2.83</td>
<td>.86</td>
<td>(.83)</td>
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<tr>
<td>Procedural justice</td>
<td>2.47</td>
<td>.73</td>
<td>.54</td>
<td>(.83)</td>
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<tr>
<td>Interpersonal justice</td>
<td>3.52</td>
<td>.97</td>
<td>.40</td>
<td>.44</td>
<td>(.92)</td>
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<td></td>
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<tr>
<td>Informational justice</td>
<td>2.88</td>
<td>.88</td>
<td>.56</td>
<td>.62</td>
<td>.55</td>
<td>(.89)</td>
<td></td>
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<tr>
<td>Pay Level</td>
<td>2.33</td>
<td>.81</td>
<td>.47</td>
<td>.47</td>
<td>.30</td>
<td>.48</td>
<td>(.92)</td>
<td></td>
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<tr>
<td>Benefits</td>
<td>2.40</td>
<td>.81</td>
<td>.35</td>
<td>.42</td>
<td>.31</td>
<td>.42</td>
<td>.75</td>
<td>(.90)</td>
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<tr>
<td>Raises</td>
<td>2.56</td>
<td>.73</td>
<td>.47</td>
<td>.54</td>
<td>.31</td>
<td>.51</td>
<td>.74</td>
<td>.64</td>
<td>(.75)</td>
<td></td>
</tr>
<tr>
<td>Structure &amp; Admin.</td>
<td>2.38</td>
<td>.66</td>
<td>.45</td>
<td>.53</td>
<td>.36</td>
<td>.52</td>
<td>.72</td>
<td>.73</td>
<td>.74</td>
<td>(.82)</td>
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Note: correlations are significant at $p < .01$. Scale reliability is reported on the diagonal

Structural Model

To test the proposed model, the structural model included paths from distributive justice to pay level and raises, from procedural justice to raises, benefits and structure/administration from interpersonal justice to raises, and from informational justice to pay level, raises and structure/administration. All other paths were constrained to zero. This structural model had the same indicator structure as the measurement model (for indicators and loadings see Appendix A) and was fit to the data.

The structural model provided a good fit to the data, $\chi^2 (644, N = 151) = 899.33$, RMSEA = .05, RMSEA 90% confidence interval (.043, .054), CFI = .98, and SRMR = .06). An alternative model was tested by freely estimating the previously constrained paths. That is, in this alternative model, all four justice perceptions had directed paths to all four components of pay satisfaction. This alternative model also fit to the data ($\chi^2 (637, N = 151) = 888.18$, RMSEA = .051, RMSEA 90% confidence interval (.043, .059), CFI = .98, and SRMR = .07). The chi-square difference test was conducted between the hypothesized model and the alternative model. The obtained chi-square difference of 11.15 for 7 degrees of freedom was smaller than the critical chi-square value of 14.07 indicating that the less restrictive alternative model should be rejected and the hypothesized model retained (see Figure 1).

In the hypothesized structural model, distributive justice was related to satisfaction with pay level ($\beta = .27$, $p < .05$) but not with satisfaction with raises ($\beta = .14$, ns). Procedural justice was related to satisfaction with benefits ($\beta = .41$, $p < .01$), satisfaction with raises ($\beta = .38$, $p < .05$) and satisfaction with structure and administration ($\beta = .32$, $p < .05$). Interpersonal justice was not significantly related to satisfaction with raises ($\beta = .12$, ns). Informational justice was related to satisfaction with pay level ($\beta = .30$, $p < .05$) and satisfaction with structure and administration ($\beta = .32$, $p < .05$), but only marginally related to satisfaction with raises ($\beta = .22$, $p < .10$). Collectively, the hypothesized model explained 27%
of the variance in satisfaction with pay level, 17% in satisfaction with benefits, 37% in satisfaction with raises and 35% of the variance in satisfaction with pay structure and administration.

**Figure 1**

*Results of Structural Equation Modeling*

![Diagram of Structural Equation Modeling]

Note: ** p<.01, *p<.05, +p<.10. Only beta values of hypothesized relationships are reported. Completely standardized factor loadings of indicators on latent variables are reported in the Appendix and are not shown here.

**Discussion**

Generally, results of this study provide support for the four-factor model of justice (Colquitt, 2001; Greenberg, 1993). With the exception of interpersonal justice, each factor predicted one or more pay satisfaction components. Overall, our model predicted the components of pay satisfaction very well accounting for 37% of the variance in pay raises, 35% in structure and administration, 27% in pay level and 17% in benefits. These results also support the well-established, two-factor distributive and procedural justice models (McFarlin & Sweeney, 1992; Sweeney & McFarlin, 1993) and the agent-system model (Bies & Moag, 1986). Our findings are consistent with most prior research (Miceli & Mulvey, 2000; Tremblay et al., 2000; Williams et al., 2006) showing distributive and procedural justice as antecedents of pay satisfaction components.
Our results for the hypothesized paths from distributive justice, Hypothesis 1, and informational justice, Hypothesis 4, to pay level are consistent with the bulk of prior research (Miceli & Mulvey, 2000; Tremblay, et al., 2000; Williams, et al., 2006). Arguably, equity is a fundamental component of justice, particularly distributive justice. In equity theory (Adams, 1965), pay is a major outcome factor. Colquitt’s (2001) distributive justice items tap equity perceptions directly asking about feelings of fairness of ones inputs to work compared to outcomes. Additionally, our finding of a significant path from informational justice to pay level satisfaction supports arguments of Bies and Moag (1986) and Greenberg (1993, 1994) and Colquitt’s (2001) findings. That is, satisfaction with one’s level of pay is affected by both equity perceptions and how clearly and candidly one’s supervisor explains and communicates the organization’s procedures and processes to subordinate employees.

Although we hypothesized all four dimensions of justice would affect satisfaction with pay raises, only the path from procedural justice was significant (p < .01) and informational justice was marginally significant (p < .10). This result is somewhat surprising, particularly since the variance accounted for pay raises, 37%, is the largest of the pay components. Examination of the justice items suggests those for procedural justice and to some extent informational justice captured important aspects of the raise process. For example, items addressing consistency, freedom from bias, voice in the process and ethical standards reflect some of the highest standards for pay raises. Informational justice items reflect the quality of some of the behaviors in procedural justice such as candidness, thoroughness and timeliness of explanations and information.

The path from interpersonal justice to pay raises was also not significant. It was the only one of the four types of justice unrelated to any component of pay satisfaction. Conceptually, interpersonal justice is one part of interactional justice (Bies & Moag, 1986; Greenberg, 1993, 1994). We had expected it to be related to pay raises since raises are normally determined by and discussed with one’s supervisor. It is likely respondents’ assessments of interaction with their managers had relatively little effect on satisfaction with raises. Williams et al. (2006) also found in their meta-analysis that the procedural justice-pay satisfaction relationship was stronger for “pay-focused measures of procedural justice” (p. 403) than for more general measures. Indeed, as seen in Table 1, the correlations of interpersonal justice with pay satisfaction were lower than those for other forms of justice. However, the interpersonal justice scale is notable due to its high mean, 3.52 and relatively large standard deviation, .97. Respondents in this sample were comparatively more satisfied with the dignity, respect and politeness of their managers than other justice related behaviors. Therefore, future research should consider alternative measures of interpersonal justice that more salient to discussion of raises and other aspects of compensation such as explanation of salary and pay structure.

As hypothesized, procedural justice predicted satisfaction with benefits. This finding is consistent with previous research (Martin & Bennett, 1996; Tremblay, et al., 1998; Tremblay, et al., 2000). Examination of the factor loadings of procedural justice support Tremblay et al.’s (2000) finding that benefit satisfaction was based more on accurate benefit communications and less on involvement in decisions and choice of employee benefits. For example, opportunity to appeal, express feelings about procedures and influence over outcomes had the lowest loadings while consistency, bias free and accuracy had the highest.

Finally, procedural and informational justice combined to predict satisfaction with pay structure and administration accounting for 35% of the variance. This finding is consistent with Sweeney and McFarlin's (1993) two-factor model and Bies and Moag's (1986) agent-system model that suggests system-referenced outcomes, such as satisfaction with benefits and satisfaction with structure and administration of pay systems should be related to perceptions of procedural justice. As with benefits, important factors affecting justice and hence satisfaction include procedural items of consistency, freedom from bias and accurate information provided by one’s manager in a thorough, candid and timely
manner (informational). Pay structure and administration likely differ from benefits in that workers tend to obtain pay structure and administration information from their manager while benefits information would come from HR staff.

**Potential Limitations**

Since respondents in this study were technology workers in one organization, generalizability of results is limited. And, unlike some studies that have measured antecedents of satisfaction and other outcomes such as absenteeism, turnover and performance, the scope of this study was somewhat narrower. Therefore, while contributing to the sparse literature examining justice and pay satisfaction, the addition of other variables may affect the amount of variance explained in the different pay satisfaction components. And, of course, the dependent variable in this study was limited to the four components of pay satisfaction while some studies have examined more behavioral variables such as absenteeism, turnover and performance (see Williams et al., 2006).

**Implications and Directions for Future Research**

Results of this study suggest that informational justice plays an important role in satisfaction with pay level, pay structure and administration and possibly pay raises. This is potentially an important finding since prior research (Judge & Heneman, 2000; Folger & Konovsky, 1989; Williams et al 2006) found that distributive and procedural justice provided adequate explanations of pay satisfaction. Additionally, we have argued that interpersonal justice should not be rejected as a potential antecedent to pay-related outcomes. While interpersonal justice was not related to satisfaction with raises, future research should use items more salient to pay-related interpersonal interactions. In addition, interpersonal justice might serve as a moderator, such that it interacts with pay-related outcomes to influence intentions (e.g., turnover intentions) and behaviors including positive ((i.e., citizenship behaviors) and negative (i.e., counterproductive behaviors) behaviors. Future research should investigate these possibilities.

From a practical perspective, these findings regarding informational justice suggest organizations should train managers to convey information regarding pay level, raises and pay policies to employees in a clear, complete and timely manner. Such communication is likely to increase pay satisfaction. This suggestion may be particularly salient given recent survey data from the US Society for Human Resource Management (SHRM). Results of four years’ of SHRM job satisfaction surveys indicate that managers underestimate the relative importance of compensation to workers. While employees rated compensation as first or second for job satisfaction, HR professionals rated relationships with the supervisor higher than pay (SHRM, 2007a). According to SHRM, employees become concerned with pay when the organization fails to adjust to rising market rates or does not fairly apply internal pay policies. Employees' concerns regarding pay may be partly due to lack of understanding of how their pay level is determined (SHRM, 2007b). Therefore, informational justice may be an important factor affecting employees’ perceptions of pay fairness and hence, pay satisfaction.

In conclusion, this study supports prior research and the efficacy of the four-dimension justice model for predicting the four components of job satisfaction. Additionally, it adds to the very small number of studies that have investigated the roles of interactional and informational justice as they relate to pay satisfaction (Williams et al., 2006). A unique contribution of this study is that it uncovered the important role of informational justice in influencing satisfaction with pay level, pay structure and administration and possibly pay raises. Williams et al. (2006) meta-analysis omitted interactional and informational justice due to lack of available studies. They concluded justice and pay satisfaction were “fruitful areas” for investigation as is evidenced by results of our study.
Appendix A

Stem: Outcomes refer to compensation-related outcomes (pay, pay raises and benefits) and procedures/practices/processes refer to those related to compensation-related outcomes

<table>
<thead>
<tr>
<th>Items</th>
<th>Completely Standardized Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distributive Justice</strong></td>
<td></td>
</tr>
<tr>
<td>Do the outcomes reflect the effort you put into work?</td>
<td>.65</td>
</tr>
<tr>
<td>Are the outcomes appropriate for the work you have completed?</td>
<td>.80</td>
</tr>
<tr>
<td>Do your outcomes reflect your contributions to the organization?</td>
<td>.63</td>
</tr>
<tr>
<td>Are your outcomes justified given your performance?</td>
<td>.82</td>
</tr>
<tr>
<td><strong>Procedural Justice</strong></td>
<td></td>
</tr>
<tr>
<td>Have you been able to express your views and feelings about</td>
<td></td>
</tr>
<tr>
<td>procedures/practices of your organization?</td>
<td>.42</td>
</tr>
<tr>
<td>Have you had influence over the outcomes you receive?</td>
<td>.58</td>
</tr>
<tr>
<td>Are the procedures/practices applied consistently?</td>
<td>.82</td>
</tr>
<tr>
<td>Are the procedures/practices free of bias?</td>
<td>.77</td>
</tr>
<tr>
<td>Are the procedures/practices based on accurate information?</td>
<td>.76</td>
</tr>
<tr>
<td>If you wanted to, could you appeal the outcomes you receive?</td>
<td>.45</td>
</tr>
<tr>
<td>Are the procedures/practices based on good ethical and moral standards?</td>
<td>.76</td>
</tr>
<tr>
<td><strong>Interpersonal Justice</strong></td>
<td></td>
</tr>
<tr>
<td>To what extent has your manager:</td>
<td></td>
</tr>
<tr>
<td>Treated you in a polite manner?</td>
<td>.90</td>
</tr>
<tr>
<td>Treated you with dignity?</td>
<td>.94</td>
</tr>
<tr>
<td>Treated you with respect?</td>
<td>.92</td>
</tr>
<tr>
<td>Refrained from improper remarks or comments?</td>
<td>.62</td>
</tr>
<tr>
<td><strong>Informational Justice</strong></td>
<td></td>
</tr>
<tr>
<td>How your manager communicates with you:</td>
<td></td>
</tr>
<tr>
<td>Has he/she been candid in his/her communication with you?</td>
<td>.78</td>
</tr>
<tr>
<td>Has he/she explained your organization’s procedures/processes thoroughly?</td>
<td>.73</td>
</tr>
<tr>
<td>Were his/her explanations of procedures/processes reasonable?</td>
<td>.87</td>
</tr>
<tr>
<td>Has he/she communicated details in a timely manner?</td>
<td>.73</td>
</tr>
<tr>
<td>Has he/she seemed to tailor his/her communications to your specific needs?</td>
<td>.77</td>
</tr>
<tr>
<td><strong>Satisfaction with Pay Level</strong></td>
<td></td>
</tr>
<tr>
<td>My take-home pay</td>
<td>.80</td>
</tr>
<tr>
<td>My current salary</td>
<td>.85</td>
</tr>
<tr>
<td>My overall level of pay</td>
<td>.89</td>
</tr>
<tr>
<td>Size of my current salary</td>
<td>.88</td>
</tr>
<tr>
<td>Appendix A (continued)</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td></td>
</tr>
</tbody>
</table>

**Satisfaction with Benefits**

My benefit package  .81
Amount the company pays toward my benefits  .81
The value of my benefits  .86
The number of benefits I receive  .87

**Satisfaction with Raises**

My most recent raise  .65
Influence my supervisor has on my pay  .45
The raises that I have typically received in the past  .73
How my raises are determined  .82

**Satisfaction with Structure and Administration**

The company’s pay structure  .76
Information the company gives about pay issues of concern to me  .69
Pay of other jobs in the company  .54
Consistency of company’s pay policies  .73
Differences in pay among jobs in the company  .66
How the company administers pay  .64
References


SHRM, (2007b, Feb.27). *Do employees in your organization understand how pay decisions are made?* [SHRM Weekly Online Survey].


