THE MEDIATING EFFECT OF PROCEDURAL JUSTICE
ON THE RELATIONSHIPS BETWEEN KNOWLEDGE OF ORGANIZATIONAL
PROCEDURES AND PERSONAL AND WORK-RELATED OUTCOMES

DISSERTATION

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by

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* * * * *

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To Julie, Michael, and My Parents
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# TABLE OF CONTENTS

DEDICATION ........................................ ii
ACKNOWLEDGEMENTS ................................ iii
VITA ............................................... iv
LIST OF TABLES ..................................... vii
LIST OF FIGURES ................................... ix
INTRODUCTION .................................... 1

## CHAPTER

<table>
<thead>
<tr>
<th>I. INTRODUCTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Concept of Justice in Organizations ........</td>
<td>2</td>
</tr>
<tr>
<td>Distributive Justice ................................</td>
<td>2</td>
</tr>
<tr>
<td>Procedural Justice ................................</td>
<td>3</td>
</tr>
<tr>
<td>Statement of the Research Question .............</td>
<td>7</td>
</tr>
<tr>
<td>Importance of the Study ..........................</td>
<td>8</td>
</tr>
<tr>
<td>Organizational Justice Background ..............</td>
<td>18</td>
</tr>
<tr>
<td>Distributive Justice ................................</td>
<td>19</td>
</tr>
<tr>
<td>Procedural Justice ................................</td>
<td>22</td>
</tr>
<tr>
<td>The Mediation Model: Development of Hypotheses</td>
<td>27</td>
</tr>
<tr>
<td>Antecedents of Procedural Justice ..............</td>
<td>29</td>
</tr>
<tr>
<td>The Relationships Between Knowledge of Organizational Procedures and Personal and Work-Related Outcomes .......</td>
<td>35</td>
</tr>
<tr>
<td>Consequences of Procedural Justice ............</td>
<td>41</td>
</tr>
<tr>
<td>The Mediating Effect of Procedural Justice ......</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. RESEARCH METHODOLOGY</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Collection and Analyses</td>
<td>58</td>
</tr>
<tr>
<td>Sample Description ..........</td>
<td>59</td>
</tr>
<tr>
<td>Measures .....................</td>
<td>63</td>
</tr>
<tr>
<td>Data Analyses ...............</td>
<td>69</td>
</tr>
</tbody>
</table>
### III. RESULTS

- Regression Analyses Results ........................................ 72
  - Regressing Procedural Justice on Knowledge of Organizational Procedures ................................. 75
  - Regressing Each Outcome on Knowledge of Organizational Procedures ........................................... 76
  - Regressing Each Outcome on Procedural Justice and Knowledge of Organizational Procedures Together ........................................... 82
  - Exploratory Analyses ............................................... 97
  - Summary of Support for Hypotheses .......... 100

### IV. DISCUSSION .................................................. 105

- The Mediation Model ................................................ 107
  - The Relationship Between Knowledge of Organizational Procedures and Procedural Justice ....................... 107
  - The Relationships Between Knowledge of Organizational Procedures and Personal and Work-Related Outcomes ........................................... 110
  - The Relationships Between Procedural Justice and Personal and Work-Related Outcomes ....................... 111
  - The Mediating Effect of Procedural Justice ....................... 114
  - Limitations, Future Directions, and Implications .................................................. 116
  - Limitations of the Study ........................................ 116
  - Directions for Future Research .................................. 120
  - Theoretical and Practical Implications ........................................... 122
  - Conclusions .................................................. 128

### LIST OF REFERENCES ........................................... 131

### APPENDIX .................................................. 142
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>Description</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Summary of sample statistics</td>
<td>60</td>
</tr>
<tr>
<td>2.</td>
<td>Means and standard deviations of variables</td>
<td>73</td>
</tr>
<tr>
<td>3.</td>
<td>Correlations and scaled variable reliabilities</td>
<td>74</td>
</tr>
<tr>
<td>4.</td>
<td>Effects of knowledge of organizational procedures on procedural justice before and after controls</td>
<td>77</td>
</tr>
<tr>
<td>5.</td>
<td>Effects of knowledge of organizational procedures on organizational citizenship behavior before and after controls</td>
<td>78</td>
</tr>
<tr>
<td>6.</td>
<td>Effects of knowledge of organizational procedures on evaluation of supervisor before and after controls</td>
<td>79</td>
</tr>
<tr>
<td>7.</td>
<td>Effects of knowledge of organizational procedures on job satisfaction before and after controls</td>
<td>80</td>
</tr>
<tr>
<td>8.</td>
<td>Effects of knowledge of organizational procedures on organizational commitment before and after controls</td>
<td>81</td>
</tr>
<tr>
<td>9.</td>
<td>Effects of procedural justice and knowledge of organizational procedures on organizational citizenship behavior before and after controls</td>
<td>84</td>
</tr>
<tr>
<td>10.</td>
<td>Effects of procedural justice and knowledge of organizational procedures on evaluation of supervisor before and after controls</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>11.</td>
<td>Effects of procedural justice and knowledge of organizational procedures on job satisfaction before and after controls</td>
<td>86</td>
</tr>
<tr>
<td>12.</td>
<td>Effects of procedural justice and knowledge of organizational procedures on organizational commitment before and after controls</td>
<td>87</td>
</tr>
<tr>
<td>13.</td>
<td>Regression analyses (including control variables) for organizational citizenship behavior and evaluation of supervisor with and without procedural justice as a covariate</td>
<td>91</td>
</tr>
<tr>
<td>14.</td>
<td>Regression analyses (including control variables) for job satisfaction and organizational commitment with and without procedural justice as a covariate</td>
<td>92</td>
</tr>
<tr>
<td>15.</td>
<td>Factor analysis of the organizational citizenship behavior scale (pattern matrix after oblique rotation)</td>
<td>99</td>
</tr>
<tr>
<td>16.</td>
<td>Results of regression analyses for OCB subscales (with controls)</td>
<td>101</td>
</tr>
<tr>
<td>17.</td>
<td>Summary of support for hypotheses</td>
<td>103</td>
</tr>
<tr>
<td>FIGURES</td>
<td>PAGE</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>1. Proposed mediational model for all outcome variables</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>2. Mediational analysis for organizational citizenship behavior</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>3. Mediational analysis for evaluation of supervisor</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>4. Mediational analysis for job satisfaction</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>5. Mediational analysis for organizational commitment</td>
<td>96</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

The concept of justice often is associated with the administration and procedure of law (Thibaut & Walker, 1975). However, because justice more broadly embodies such issues as fair treatment, morality, what is properly due or merited, and impartiality, it clearly is not limited to the legal domain (Lind & Tyler, 1988). One important area where the issue of justice has received increased attention, particularly with respect to due rewards and fair treatment, is in organizational settings. Although concern with fairness in organizations is by no means a new phenomenon (e.g., Blau, 1964; Homans, 1961), attention to matters of justice has increased markedly over time. For example, determining "equitable" reward allocations (Mahoney, 1975), making "impartial" and "unbiased" employee selection decisions (Arvey, 1979), and determining what makes performance evaluation procedures "fair" (Greenberg, 1986a, 1986b) mark the continued interest in and development of the concept of justice in organizations. Indeed, research on the perceived
fairness of the outcomes employees receive (i.e., *distributive justice*) and the perceived fairness of the methods used to make such distributions (i.e., *procedural justice*) together have been labeled *organizational justice* (Greenberg, 1987a).

The Concept of Justice in Organizations

**Distributive Justice**

Early analyses of justice in organizations focused on the outcomes people received and the reactions recipients had to those allocations (for reviews, see Greenberg, 1982, 1987a, 1990c). This *distributive justice* orientation was typified by Adams’ (1963, 1965) *equity theory* and by Leventhal’s (1976a, 1980) *justice judgment model*. Whereas equity theory was concerned with peoples’ reactions to perceived pay inequities, the justice judgment model focused on the conditions under which allocators adhered to justice norms such as equity, equality, or need to create fair outcome distributions (Deutsch, 1975; Leventhal, 1976b). These approaches are considered conceptualizations of distributive justice because both focus on the fairness of outcome distributions.

Although distributive justice has made important contributions to the justice literature, it presents an overly restrictive view of justice in organizations.
What this perspective fails to consider are the processes by which outcomes are determined. Despite receiving much of the early attention from organizational researchers, distributive justice research has given way to research on the processes through which decisions are made. This procedural justice orientation has dominated the organizational justice literature for the last decade (Greenberg, 1990c).

Procedural Justice

Engendered by both the pioneering work of Thibaut & Walker (1975) on dispute resolution procedures in legal contexts and by later work on procedural elements by Leventhal (1980; Leventhal, Karuza, & Fry, 1980), the adoption of a procedural justice orientation has fostered a renewed interest in the concept of justice in organizations (Greenberg, in press). For example, research on procedural justice has provided conceptual insight into a number important organizational matters including employee compensation (Folger & Konovsky, 1989), performance evaluation (Greenberg, 1986a, 1987a), and resource allocation (Barrett-Howard & Tyler, 1986).

Thibaut & Walker (1975) were among the earliest justice researchers to conclude that the way a decision is made can influence people's reactions to that decision. Their conclusions were based on comparisons among various dispute-resolution procedures in legal
settings. Thibaut & Walker's (1975) findings emphasized that process variables, such as opportunities to express one's feelings or provide input, were especially important determinants of perceived procedural fairness. Although this approach was not developed explicitly for the study of justice in organizations, it is germane to the types of procedures used by managers to intervene in work place disputes (Sheppard, 1983).

By contrast, Leventhal's work (1980; Leventhal et al., 1980) emphasized the influence of various procedural elements on the perceived fairness of reward allocations. Leventhal et al. (1980) suggested that the fairness of an allocation procedure may be evaluated according to its structural elements (e.g., its consistent use across people and time, whether or not it is based on accurate information, if opportunities exist to enable decisions to be changed, etc.). Given the reward allocation context of Leventhal's work, the implications of his work for organizational settings is clear. Despite the differences in the process-oriented approach of Thibaut & Walker (1975) and the structural approach taken by Leventhal (1980; Leventhal, et al., 1980), both emphasize that the processes by which decisions are reached profoundly influence perceptions of fair treatment.

Recent Developments in Procedural Justice.
Consistent with the original work by Thibaut & Walker
(1975) and by Leventhal (1980; Leventhal et al., 1980), much of the research in procedural justice that has followed has focused on identifying the factors that determine whether or not a procedure will be regarded as fair. A large volume of research has been generated from investigations of the process-oriented variables originally examined by Thibaut & Walker (1975) (e.g., Earley & Lind, 1987; Folger, Rosenfeld, Grove, & Corkran, 1979; Kanfer, Sawyer, Earley, & Lind, 1987; Leung & Li, 1990; Tyler, Rasinski, & Spodick, 1985).

Although the research is less voluminous, the structural elements proposed by Leventhal et al. (1980) also have been investigated in a number of studies (e.g., Barrett-Howard & Tyler, 1986; Greenberg, 1986a, 1987c; Sheppard & Lewicki, 1987). Further research on the determinants of procedural justice has been augmented by investigations of the social determinants of fairness (Tyler & Bies, 1990). Consistent with past streams of procedural justice research that sought to identify the determinants of procedural justice, several recent studies have found that procedural justice judgments are influenced, in part, by the interpersonal treatment one receives (e.g., Bies & Shapiro, 1988; Bies & Sitkin, 1992; Folger & Bies, 1989).

The most recent development in the procedural justice literature, however, has been determining how
people react to perceived procedural justice (Greenberg, 1990c). Studies have been undertaken to study both the attitudinal and behavioral work place outcomes influenced by perceptions of procedural justice. For example, procedural justice has been demonstrated to be related to personal and work-related attitudes such as job satisfaction (e.g., Alexander & Ruderman, 1987; Fryxell & Gordon, 1989), employees' evaluations of supervisors (e.g., Alexander & Ruderman, 1987), and organizational commitment (e.g., Konovsky & Cropanzano, 1991; McFarlin & Sweeney, 1992). Procedural justice also has been shown to be related to important work behaviors such as job performance (e.g., Earley & Lind, 1987) and organizational citizenship behavior (OCB) (e.g., Moorman, 1991). OCB refers to a collection of extra-role cooperative behaviors that are not directly recognized by an organization's formal reward system. These work-related attitudes and behaviors have long been of interest to organizational researchers (for a review see Schneider, 1985). What is new, however, is that each of these outcomes recently has been shown to be affected by perceptions of procedural justice.

It is evident that a number of factors influence whether or not a procedure will be regarded as fair. In addition, it also is clear that perceptions of procedural fairness have far-reaching implications for important
employee attitudes and behaviors. It is precisely for these reasons that research on procedural justice should broaden its scope of inquiry to better understand the influences and implications of procedural justice.

Past research on the process-oriented, structural, and interpersonal determinants of procedural justice have yielded a wealth of information. Additionally, much has been discovered about the many notable attitudinal and behavioral consequences of procedural justice. Despite this profusion of knowledge, a particular query commonly is omitted from investigations of procedural justice. When asking people to consider the fairness of procedures, their responses clearly are predicated upon their familiarity with or knowledge of such procedures. What has been overlooked in procedural justice investigations are the effects procedural knowledge itself might have on judgments of procedural justice. Moreover, no one ever has considered employees' knowledge of procedures and judgments of procedural justice simultaneously to examine their effects on work outcomes.

Statement of the Research Question

This dissertation attempts to address the above oversights by measuring employees' knowledge of organizational procedures to determine its effects on procedural justice and on a variety of personal and work-
related outcomes. Specifically, this dissertation provides a test of the relationships in a theoretical model designed to clarify the relationships between knowledge of organizational procedures, perceptions of procedural fairness, OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment. It is hypothesized that procedural justice judgments mediate the relationships between knowledge of organizational procedures and each of the four specified outcomes. The model in Figure 1 illustrates the proposed mediating effect of procedural fairness perceptions on these relationships.

Importance of the Study

Similar to previous studies, this study addresses the structural (e.g., Barrett-Howard & Tyler, 1986; Greenberg, 1986a, 1987c; Sheppard & Lewicki, 1987) and the social (Bies & Shapiro, 1988; Bies & Sitkin, 1992; Tyler & Bies, 1990) determinants of procedural justice judgments. As has been demonstrated in earlier studies (e.g., Alexander & Ruderman, 1987; Konovsky & Cropanzano, 1991; Moorman, 1991), this study also attempts to determine the consequences of procedural justice. However, unlike earlier research, the proposed study will not consider procedural justice as an independent variable (e.g., Folger & Konovsky, 1989; Fryxell &
Figure 1
Proposed Mediation Model for All Outcome Variables
Gordon, 1989) nor as a dependent variable (e.g., Greenberg, 1986a, 1986b). Rather, procedural justice here is regarded as an intervening or mediating variable that explains virtually all of the influence knowledge of organizational procedures has on OCB, employees’ evaluations of supervisors, job satisfaction, and organizational commitment.

Managers and organizational theorists long have assumed that effective organizational procedures induce favorable results for both organizations and their employees (Argyris, 1964). This assumption, however, has been based more on intuitive appeal than empirical support (Kinicki, Carson, & Bohlander, 1992). What is the nature of the relationships between these procedures and desirable employee work-related outcomes? Are these relationships dependent upon the knowledge employees have of organizational procedures? If the preferred outcomes are achieved, what role do employee judgments of an organization’s procedures play in determining these favorable results? Is an organization’s answer to what makes a procedure "effective" answered, in part, by the extent to which employees regard the procedures as fair? Questions such as these have remained largely unasked in the organizational behavior literature in general and in the organizational justice literature in particular.
Although there is some support for the existence of the relationships between knowledge of organizational procedures and OCB (e.g., Organ, 1988), employees' evaluations of supervisors (e.g., Eisenberger, Fasolo, & Davis-LaMastro, 1990; Levinson, 1965), job satisfaction (e.g., Futrell & Jenkins, 1978; Locke, 1976), and organizational commitment (e.g., Kinicki et al., 1992; Ogilvie, 1987; Putti, Aryee, & Phua, 1990), no explanation of the nature of these relationships exists. In an attempt to fill this void in the literature, the present study will investigate the extent to which employee perceptions of procedural fairness account for these relationships. Stated differently, the primary contribution of this study will be to determine the mediating effect of perceptions of procedural justice on the relationships between knowledge of organizational procedures and employee OCB, evaluations of supervisors, job satisfaction, and organizational commitment.

A better understanding of how employees' knowledge of organizational procedures influences their work-related attitudes and behaviors clearly has important implications for organizations. Knowledge of how an organization's decision-making procedures affect employee attitudes and behaviors would be a valuable asset not only to practicing managers, but to organizational researchers as well. It has long been believed that the
procedures an organization establishes can contribute to beneficial work-related outcomes for the organization and positive personal outcomes for employees (e.g., Argyris, 1964; Katz & Kahn, 1978). With this in mind, many organizations make the effort to ensure their employees are knowledgeable about organizational policies and procedures (Kreps, 1990). But how is it that communicating information about organizational procedures results in these beneficial outcomes? Is it the amount or type of information that is important? Is it the manner in which the information is shared that matters? If perceptions of procedural justice do, in fact, mediate the relationships between knowledge of procedures and beneficial work-related attitudes and behaviors, perhaps managers should impress upon employees the fairness of the organization's decision-making procedures (cf. Greenberg, 1990b).

Organizational managers and researchers alike need to gain a better understanding of how external factors like organizational procedures take on internal psychological significance for employees. There currently is no knowledge of the generative mechanism through which employee knowledge of organizational procedures influences personal and work-related outcomes. It is proposed here that perceptions of procedural fairness are the generative mechanism that mediates the
relationship between knowledge of organizational procedures and each of the four proposed outcomes. It is hypothesized that relatively greater knowledge of organizational procedures is positively related to perceptions of procedural justice which, in turn, lead to increased OCB, positive evaluations of supervisors, greater job satisfaction, and increased employee commitment to the organization.

The four personal or work-related outcomes were chosen for this study because although all have been demonstrated to be related to both knowledge of organizational procedures and procedural justice, the simultaneous effects of these two variables on any of the four outcomes has not been investigated. For example, there is recent support for the ability of procedural justice perceptions to predict OCB (e.g., Moorman, 1991), employees' evaluations of supervisors (e.g., Alexander & Ruderman, 1987), job satisfaction (e.g., Konovsky & Cropanzano, 1991), and organizational commitment (e.g., McFarlin & Sweeney, 1992). Similarly, it has been demonstrated that organizational procedures are related to OCB (e.g., Organ, 1988; 1990), employees' evaluations of supervisors (e.g., Eisenberger et al., 1990), job satisfaction (e.g., Futrell & Jenkins, 1978; Locke, 1976), and organizational commitment (e.g., Kinicki et al., 1992; Putti et al., 1990; Salancik, 1977). None of
these studies, however, has examined the relationships of procedural justice and organizational procedures on any of these four outcomes together. The present study is the first such investigation into the ability of procedural justice perceptions to explain the relationship between knowledge of organizational procedures and each of the specified personal or work-related outcomes.

Another important contribution of this study is the operationalization of "organizational procedures," an important yet neglected variable in the procedural justice literature. Because of the focus on procedural justice as a mediator of a set of organizational procedure-outcome relationships, the nature of this study requires that "organizational procedures" be operationalized. Rather than asking for respondents' fairness judgments regarding the structural or interpersonal aspects of organizational procedures (i.e., procedural justice), employees will be asked about the extent of their general knowledge of the procedures that their organization uses to make decisions across a variety of decision-making contexts.

In the present study, asking employees to simultaneously judge the fairness of several different organizational procedures yields relatively more comprehensive judgments of procedural fairness than those
typically used. For example, in contrast to earlier research, this study does not limit itself to measuring respondents' fairness judgments of a particular type of organizational decision-making procedure, such as the manner in which pay raises are determined (Folger & Konovsky, 1989), how performance is evaluated (Greenberg, 1986a; Kanfer et al., 1987), or how resources are allocated (Barrett-Howard & Tyler, 1986). Rather, this study asks employees to judge the fairness of a group of organizational procedures simultaneously for several reasons.

Logical progressions in scientific inquiry are either to progressively focus from the more general to the specific, or to broaden the scope of exploration once specific elements in a line of inquiry have been examined (Giere, 1988). As noted above, procedural justice research has thus far focused on the fairness perceptions people have of only a single organizational procedure. Although the relationships between procedural justice and a number of specific organizational procedures have been supported, there have been no empirical investigations into the relationship of procedural justice with a variety of organizational procedures considered simultaneously. It is important to fill this gap in the literature for two reasons: (1) employees in organizations clearly are concurrently affected by a set
of organizational procedures and not just one at a time; and (2) discussions of more general perceptions of procedural fairness and their effects on work-related outcomes have recently entered the procedural justice literature with little explanation of how these broad perceptions of fairness are determined.

For example, Organ & Konovsky (1989) write that "to sustain a pervasive orientation to render OCB," organizations should monitor employees' perceptions of "the general fairness of organization policies and practices" (p. 162, italics added). Similarly, Organ (1990) writes that one's determination of being in a condition of social exchange with an organization (and thereby engage in OCB), rests upon a "wholistic conception of fairness" (p. 64). To reach a better understanding of these more encompassing conceptions of procedural justice, the present study measures procedural justice judgments by asking respondents to simultaneously consider several different organizational procedures.

Unfortunately, important distinctions between different organizational procedures and their perceived fairness may be blurred as the result of having employees judge them as an aggregation. Although employees may consider a single organizational procedure and judge it to be fair or not (as is typical in procedural justice research), employees are clearly governed by a variety of
procedures. The present study recognizes that, just as they may regard a particular procedure to be fair, employees also may develop more comprehensive judgments about the procedures their organizations use to make decisions. Asking employees to consider their organization’s procedures collectively is regarded as a logical step in measuring more general, albeit indistinct, perceptions of procedural fairness.

As a field study, this study also will add to the limited number of studies that have examined procedural justice in organizational settings (for some exceptions, see Alexander & Ruderman, 1987; Folger & Konovsky, 1989; Greenberg, 1986a; Konovsky & Cropanzano, 1991; McFarlin & Sweeney, 1992). It is hoped that by assessing employee perceptions of actual workplace procedures, a better understanding of the aspects of organizational life that influence perceptions of fairness will emerge.

Specifically, the objectives of this dissertation are: (1) to determine the separate relationships of employee knowledge of organizational procedures to judgments of procedural justice and to each of the four personal or work-related outcomes; (2) to analyze the simultaneous effects of procedural knowledge and procedural justice on each of the specified outcomes; and (3) to ascertain the mediating effect of procedural justice on each of the relationships between procedural
knowledge and the four work outcomes. Toward these goals, the first section of this dissertation provides a brief history of organizational justice. The initial section also summarizes past research on the antecedents of procedural justice and the effects procedural knowledge has on judgments of procedural justice. Furthermore, research on the consequences of procedural justice is reviewed and the proposed mediating effect of procedural justice is discussed. In addition, the hypotheses to be tested are derived in the relevant sections of the first chapter. In Chapter II the sample and measures are presented as is a description of the data analyses. The results of the study and a summary of support for the hypotheses are presented in Chapter III. Last, a discussion of the implications and limitations of the study and suggestions for future research appears in Chapter IV.

Organizational Justice Background

Although the general concept of assessing fairness in social relationships is by no means a new phenomenon (e.g., Adams, 1965; Blau, 1964), the application of this construct to organizational contexts is a relatively recent development (see Greenberg, 1987a). Understanding the concept of fairness in organizations typically is described in terms of distributive justice (i.e., the
fairness of outcomes received) and procedural justice (i.e., the fairness of processes by which outcomes are determined).

**Distributive Justice**

For many years, researchers were interested in the perceived fairness of inequitable outcome distributions and on subsequent reactions to those distributions (Adams, 1965; Blau, 1964; Homans, 1961; Leventhal, 1976a). For example, Adams' (1963, 1965) equity theory states that people judge the fairness of their treatment at work by dividing the outcomes they receive (e.g., pay) by their inputs (e.g., effort) and comparing the resulting ratio to the outcome:input ratio of a comparison other (e.g., a co-worker). If the ratios are equal, a state of perceived equity is said to exist and feelings of satisfaction will result. However, if a person’s ratio is greater than the comparison other’s ratio (resulting in perceived inequitable overpayment), feelings of guilt or remorse are aroused. On the other hand, if a person’s ratio is less than the comparison other’s ratio (resulting in perceived inequitable underpayment), the person with the smaller ratio likely will feel angry or resentful. In either case, a person will be motivated to reduce the perceived inequity either cognitively (e.g., by distorting the outcomes the
comparison other receives) or behaviorally (e.g., by correspondingly exerting greater or less effort).

Another view that typified the distributive justice perspective was Leventhal's (1976a, 1980) justice judgment model. This model reflected the view that decision makers may adhere to several different types of allocation norms to proactively create fair outcome distributions (Greenberg, 1987a). As has been suggested by a number of researchers (Deutsch, 1975; Lerner, 1974; Pruitt, 1972), allocators may follow a number of allocation norms. For example, an allocator may follow a rule of equity and distribute outcomes in accordance with recipients' contributions to elicit high productivity from recipients (Lawler, 1971). Alternatively, to maintain social harmony among group members an allocator might adhere to a norm of equality, and reward all recipients the same regardless of their contributions (Leventhal, 1976b). Or an allocator could follow a norm responsive to need and give more to those whose needs are greater (Schwinger, 1986). Regardless of the allocation norm used, justice judgment theory suggests that allocators attempt to make fair allocation decisions by applying different rules to different circumstances (Leventhal, 1976a). Like Adams' (1965) equity theory, Leventhal's (1976a, 1980) approach focuses on the perceived fairness of the outcomes people receive.
Researchers also have become interested in the social determinants of distributive justice (Greenberg, in press). It has been demonstrated that showing sensitivity and concern for people regarding the outcomes they have received influences their fairness perceptions of those outcomes. For example, in a study of corporate recruiting, Bies (1986) found that job candidates who were not given a position for which they had applied perceived the outcome as more fair when the authority figure displayed concern for their predicament. In addition, results from a study by Tyler (1988) indicated that citizens' impressions of experiences with police officers and courts were very sensitive to the consideration and concern shown to their problems by authorities.

Two recent studies by Greenberg (1990a, 1993) also support the ability of allocator sensitivity to influence perceptions of distributive justice. In a field setting, Greenberg (1990a) found that the theft rate of inequitably (under)paid workers was significantly lower when the reasons for their underpayment were thoroughly and sensitively explained to them, relative to workers who did not receive adequate and sensitive explanations of their outcomes. In a study in a laboratory setting, Greenberg (1993) corroborated the results from his earlier field quasi-experiment; the amount subjects stole
(in response to perceptions of underpayment) was moderated by the validity of the information they were given and the degree of interpersonal sensitivity shown regarding their payment.

The distributive justice orientation of organizational justice has contributed much to our understanding of the determinants of perceived outcome fairness (Greenberg, 1982, 1987a). However, assessing fairness of treatment goes beyond examining individuals' reactions to outcome distributions alone. Indeed, distributive justice approaches neglect the means by which outcomes are determined (i.e., procedural justice) and their influence on fairness judgments. Recent concerns about fairness perceptions have become less content-oriented and more process-oriented (Greenberg, 1987a; 1990c). In essence, attention has shifted away from the decisions themselves and toward how the decisions are made (e.g., Folger & Greenberg, 1985; Greenberg & Folger, 1983).

Procedural Justice

Procedural justice research today has been inspired by the original work of Thibaut and Walker (1975) and Leventhal (1980; Leventhal et al., 1980). A brief review of the conceptual contributions made by both Thibaut and Walker and Leventhal will provide the necessary
background against which to view more recent developments in procedural justice.

Thibaut and Walker (1975) focused on different methods of resolving legal disputes. They noted that dispute resolution procedures involved both a process stage, wherein evidence is presented by disputants to an intervening third party, and a decision stage, the point at which the evidence is evaluated. From this, a distinction was made between process control (i.e., the extent to which disputants have control over the gathering and presentation of evidence used as the basis for reaching a decision) and decision control (i.e., the capacity of any of the parties to unilaterally determine the outcome). Concerning litigants’ perceived fairness of the procedure and objectivity of trials, Thibaut and Walker (1975) emphasized that the fairest decisions resulted when decision control rested with a disinterested third party under conditions in which the disputants themselves had input into the process used to make these decisions. More recently, Lind and Tyler (1988) have summarized the support for this phenomenon in a variety of contexts.

By contrast, work by Leventhal (1980; Leventhal et al., 1980) emphasized the role played by procedural justice in determining the fairness of reward allocations. Leventhal developed six procedural rules
that he believed individuals follow to determine the fairness of procedures used to allocate rewards. These six rules are concerned with: (1) the consistency with which the procedure is applied across both people and time; (2) the extent to which decision-makers are free from bias; (3) the accuracy of the information on which decisions are based; (4) whether there exists the opportunity to correct or change the decisions that have been made; (5) how representative the allocation process is of all concerned parties; and (6) the degree to which an allocation procedure follows conventional moral and ethical standards. Leventhal et al. (1980) also noted that these rules are not necessarily of equal importance in determining the fairness of an allocation procedure.

Recent research on organizational justice also has focused on the quality of interpersonal treatment individuals receive during the enactment of organizational procedures (i.e., interactional justice; Bies & Moag, 1986). Although not widely accepted as a separate type of organizational justice (cf. Greenberg, 1990b; Greenberg & McCarty, 1990a), Bies and Moag (1986) believe that an examination of interactional concerns should be separate from an examination of the procedure itself. In the present study, however, the concept of interactional justice is not considered a distinct type of organizational justice. Instead it is regarded as
simply the interpersonal context of procedural justice. This view is consistent with even the later writings of Bies himself (e.g., Folger & Bies, 1989; Tyler & Bies, 1990) who has noted that perceptions of procedural justice are influenced, in part, by the interpersonal treatment one receives during the enactment of organizational procedures.

In particular, the interpersonal context of procedural justice includes the interpersonal treatment people receive and the adequacy of explanations others offer with regard to organizational decisions. It has been demonstrated in several contexts that people are concerned with the interpersonal treatment they receive from others (Tyler & Bies, 1990). For example, in an open-ended survey of MBA job candidates conducted by Bies (1986), subjects identified several forms of interpersonal treatment when assessing the fairness of recruiting practices. Among the forms of treatment identified were honesty, courtesy, timely feedback, and respect for one's rights.

The importance of maintaining ethical standards of treatment has been demonstrated in other settings as well. For example, Barrett-Howard and Tyler (1986) asked subjects in a role-playing study to judge the importance of a number of criteria in defining a fair procedure. Along with other criteria of procedural fairness (e.g.,
suppression of bias, use of accurate information) ethical
treatment was found to be an important determinant of
fairness. It also has been suggested that subordinates
should consider whether they are treated with respect and
dignity when judging their superiors' fairness
(Greenberg, Bies, & Eskew, 1991). Indeed, when managing
impressions of fairness, Greenberg et al. (1991) conclude
that impressing others with one's fairness requires
treating them with respect and dignity.

Another important aspect of the interpersonal
context of procedural justice is the adequacy with which
decisions are explained by decision makers. In fact,
when managers fail to provide explanations for their
decisions the likely result will be perceptions of
unfairness (Greenberg, in press). Notable contributions
to this issue have been made by Bies and his colleagues
(Bies, 1987; Bies & Shapiro, 1988; Bies, Shapiro, &
Cummings, 1988). For example, Bies and Shapiro (1988)
found that causal information in a justification (i.e.,
mitigating circumstances) influences perceptions of
procedural fairness. However, it is not enough merely to
provide explanations -- one must also consider the
adequacy of explanations that influences perceptions of
fairness (Bies & Sitkin, 1992). Bies et al. (1988) have
developed this further with the finding that the
perceived sincerity of an explanation also influences perceptions of procedural justice.

To summarize, judgments of procedural justice extend beyond the formal procedures used to make decisions (Greenberg, 1990c). A more complete conceptualization of procedural justice also includes the perceived fairness of the interactions which enact procedures. This view is consistent with that of Greenberg (1990c, in press; Greenberg & McCarty, 1990a) who has argued that the enactment of procedures is part of the procedural justice concept. The view adopted here is in agreement with that of Greenberg and other procedural justice researchers (e.g., Tyler & Bies, 1990) and assumes that the interpersonal treatment one receives and the adequacy with which decisions are explained will influence perceptions of procedural fairness.

The Mediational Model: Development of Hypotheses

The proposed relationships of knowledge of organizational procedures, procedural justice, and the specified personal and work-related outcomes are illustrated in Figure 1 (p. 9). For example, it is expected that the more knowledgeable employees are of organizational procedures, the more fairly employees will judge the procedures (i.e., relationship a). In turn, perceptions of procedural justice are expected to
positively affect OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment (i.e., relationship b). The third set of presumed relationships consists of those between knowledge of organizational procedures and each of the four outcomes (i.e., relationship c). Although knowledge of organizational procedures is expected to be positively related to each of the four outcomes, none of these four relationships is expected to be significant after perceptions of procedural justice have been taken into account.

It is the verification of this last set of relationships that is the primary purpose of this research. To hypothesize that previously significant relationships between knowledge of procedures and each of the four outcomes will disappear when perceptions of procedural fairness are controlled is to propose complete mediation of these relationships by procedural justice (Baron & Kenny, 1986; James & Brett, 1984; Kenny, 1979). The mediational model illustrates that knowledge of organizational procedures is related to each of the four outcomes only indirectly through procedural justice; the direct relationships between knowledge of procedures and each of the outcomes will disappear when fairness perceptions are controlled. Thus, knowledge of procedures positively influences perceptions of
procedural justice which, in turn, positively influence employee OCB, evaluations of supervisors, job satisfaction, and organizational commitment. The unfilled arrow representing relationship c signifies a previously significant relationship that will no longer be significant when perceptions of procedural justice are included in the model.

**Antecedents of Procedural Justice**

As noted earlier, much of the existing work that has been done in the area of procedural justice has focused on its determinants. It is in this section that the antecedents of procedural fairness and their role in the model will be discussed.

Procedural justice in the present study is conceptualized as consisting of both the structural elements of procedures and the interpersonal aspects of the enactment of procedures. The structural elements are derived from the six rules Leventhal (1980) believed individuals follow to determine the fairness of procedures. In addition, because it has been demonstrated that judgments of procedural justice are influenced by more than just the structural characteristics of formal procedures, the interpersonal context of procedural justice also is included in the conceptualization of procedural justice. The interpersonal context includes the treatment people
receive during the enactment of procedures and the adequacy with which decisions are explained to them. In addition, the present study suggests that knowledge of organizational procedures also will affect procedural justice judgments.

The structural aspects of procedural justice. Leventhal's approach to procedural justice may be especially valuable when explaining fairness in organizational contexts (Greenberg, 1990c). Indeed, Leventhal's criteria of procedural justice have been shown to be related to managerial perceptions of fairness in a number of studies. For example, in a field study of managers' fairness experiences, Sheppard and Lewicki (1987) asked respondents the types of rules that were adhered to or violated to make a particular experience either fair or unfair. An analysis of the rules given by the managers indicated these rules included all six of Leventhal's procedural justice rules. In addition, support for three of Leventhal's six criteria comes from a study by Greenberg (1986a). In an open-ended survey of managers recalling particularly fair or unfair performance appraisals they had received, Greenberg found that five procedural justice variables and two distributive justice variables accounted for 95% of the variance associated with fairness judgments. Of the five procedural variables, three procedural rules suggested by
Leventhal were supported: (1) correctability ("ability to challenge/rebut evaluation"), (2) accuracy of information ("rater familiarity with ratee’s work"), and (3) consistency ("consistent application of standards").

Additional support for Leventhal’s criteria also has been found in laboratory settings. For example, Greenberg (1987c) found evidence that using diaries to record worker performance enhanced perceptions of procedural fairness. Greenberg suggested that raters keeping diaries could be perceived as enhancing Leventhal’s accuracy of information rule. Support for Leventhal’s procedural rules also comes from the context of procedural justice as a criterion in allocation decisions. Also in a laboratory setting, Barrett-Howard and Tyler (1986) found that subjects used maintenance of ethical standards, the suppression of bias, use of accurate information, and consistency across people to best define the fairness of procedures.

Of Leventhal’s six procedural justice rules, little is known about how representativeness influences perceptions of procedural fairness. Lind and Tyler (1988) have noted that, of all the rules, representativeness is the broadest; it may be for this reason that little is known about its effects on judgments of procedural fairness. By including representativeness as a structural element of procedural
justice it is hoped that its influence on fairness perceptions may be more fully understood.

Despite the limited empirical knowledge of the representativeness rule, it has been shown that all of Leventhal's six rules are used to judge procedural justice (Lind & Tyler, 1988). Given this, it is presumed that the structural determinants of procedural justice will influence employee judgments of procedural fairness.

The social aspects of procedural justice. Judgments of procedural justice are determined by more than just the formal, structural aspects of procedures. A number of organizational justice theorists (e.g., Folger & Bies, 1989; Greenberg, 1990c; Tyler & Bies, 1990;) have noted that the interpersonal context of the enactment of procedures influences the perceived fairness of procedures. As summarized earlier, the interpersonal treatment one receives (Bies, 1986; Greenberg et al., 1991; Tyler & Bies, 1990) and the adequacy of explanations that are offered by decision makers (Bies, 1987; Bies & Shapiro, 1988; Bies et al., 1988) have been demonstrated to influence perceptions of procedural justice.

The influence of knowledge of procedures on procedural justice. The constructionist approach in cognitive psychology long has held that one's perceptions are influenced by the knowledge or information one has
regarding a stimulus (e.g., Bruner, Goodnow, & Austin, 1956; Johnson, 1955). More specifically, support for this line of reasoning also has been found in the procedural justice literature. For example, research on compensation systems in organizations suggests that open pay systems in particular have important implications for procedural justice because they (a) provide information about how others will make pay decisions and (b) provide important assurances that these procedures are not being violated (for a summary see Folger & Greenberg, 1985). These findings are consistent with Leventhal’s (1980) discussion of the procedural elements individuals consider when evaluating the fairness of allocations. He suggests that having information regarding allocative procedures or having opportunities to monitor them serve as "safeguards" to ensure that decision-makers are performing their duties properly. In turn, this knowledge assures employees that decision-makers are not abusing their powers, resulting in decisions that will be regarded as consistent and unbiased and, therefore, as procedurally fair (Leventhal, 1980).

The importance of communicating information to employees about organizational policies and procedures to increase their awareness (and, implicitly, their knowledge) also has been noted by Ogilvie (1987). He suggests that employees should frequently be provided
with information regarding the cost and value of human resource management practices and procedures designed to enhance an organization's human resources. Specifically, "secrecy about pay and vague, subjective performance measurement tend to leave ample room for perceptions of bias and inequity" (Ogilvie, 1987; p. 354). The implication is that employees who are less knowledgeable about their organization's procedures are more likely to judge those procedures to be unfair.

Although little research has been done in this area, it has been proposed that informal interpersonal communication about pay procedures may influence perceptions of procedural justice (Bies, 1987; Greenberg, 1990c). Regarding pay communication, relevant issues include information about how pay is determined and the explanations that are given to recipients about the procedures used to determine pay decisions (Greenberg & McCarty, 1990). In essence, the amount and type of information employees receive about organizational procedures (and the implicit knowledge gained from such information) can affect their fairness perceptions of those procedures. For example, a recent Hewitt Associates survey found that 72 percent of employees who understood their compensation program perceived it as fair, while only 36 percent of employees who did not
understand the system said it was fair (Schuler & Huber, 1993).

The manner in which pay raises are determined in organizations is but one type of organizational procedure of interest in the present study. It is with regard to the previous research on information sharing practices in general and pay communication practices in particular, however, that provides the theoretical and empirical links between knowledge of organizational procedures and employee perceptions of fairness. It is a simple extension of the findings regarding communication of information and perceptions of procedural fairness that is explored in the present study. It is hypothesized that the more knowledge people have about the procedures their organization uses to make decisions, the more likely it is that they will judge these procedures to be fair. It is on this basis that relationship a will be tested with the following hypothesis:

H1: There will be a significant and positive relationship between knowledge of organizational procedures and perceptions of procedural justice.

The Relationships Between Knowledge of Organizational Procedures and Personal and Work-Related Outcomes

It is typically the intent of those who establish organizational procedures that the procedures contribute to desirable work outcomes. It has long been believed that the procedures an organization establishes can
contribute to beneficial work-related outcomes for the organization and positive personal outcomes for employees (e.g., Argyris, 1964; Katz & Kahn, 1978). For example, all organizations establish procedures with regard to how to make decisions and communicate information. In turn, it is hoped these organizational procedures will positively influence, for example, the amount of citizenship behavior in which employees engage, how they feel about their supervisors, how satisfied they are with their jobs, and how committed employees are to an organization. As noted earlier, however, such beliefs have been based more on rational appeal than on empirical findings (Kinicki et al., 1992). Notwithstanding, some theoretical and empirical support does exist to support these relationships.

There is some theoretical and empirical support for the association between knowledge of organizational procedures and OCB. For example, surpassing in-role performance, going beyond contractual obligations, and a readiness to do whatever one is capable of doing for the benefit of the organization, regardless of any considerations concerning extrinsic benefits (clear components of OCB), are inherent in most conceptualizations of commitment (Organ, 1988). Moreover, a conceptual overlap between OCB and commitment does not render either concept redundant (Organ, 1988).
Drawing from this overlap, relationships have been found between the information that is communicated to employees regarding organizational procedures and the willingness of employees to exert considerable effort beyond that expected of them (Ogilvie, 1987; Putti et al., 1990).

There also is theoretical support for the relationship between knowledge of organizational procedures and employees’ evaluations of supervisors. Clearly, supervisors administer, enforce, and often provide information and explain company procedures to employees. Thus, the supervisor is a representative of the company and often is viewed as an extension of it (Levinson, 1965). Because employees view the behavior and actions of organizational agents as actions of the organization itself, Eisenberger et al.’s (1990) results indicated that employees developed positive generalized attitudes toward supervision when they believed that the organization, through communication of information, was committed to its human resource activities and decision-making policies.

Organizational procedures also have been shown to influence other attitudes such as job satisfaction (Locke, 1976). At a very general level, many job satisfaction inventories (e.g., the Minnesota Satisfaction Questionnaire, Weiss, Dawis, England, & Lofquist, 1967) include employee views of "company
policies and practices" as a facet of overall job satisfaction. More specifically, it has been suggested that the extent to which the organization (via procedures) treats employees differently influences individual job satisfaction (Locke, 1976).

Studies have shown that the information employees have about certain organizational procedures can affect job satisfaction. In a longitudinal field experiment involving pharmaceutical salesmen, Futrell and Jenkins (1978) found that the amount of information salesmen had about their pay (and the pay of others) and the manner in which it was determined positively increased the salesmen's overall job satisfaction.

In addition, in a large-scale survey of employees of two hotels/resorts, Kinicki et al. (1992) found that several employee work attitudes, especially job satisfaction, were a function of actual human resource programs, mediated by perceptions of organizational commitment to human resource efforts. They also found a strong relationship between communication from human resource functions (regarding organizational policies and procedures) and employee job satisfaction (mean $r = .46$). Admittedly, their findings are not explicitly interpreted as a relationship between the actual knowledge employees gain from the information that has been communicated to them about organizational procedures and job
satisfaction. However, implicit in this relationship is that job satisfaction is associated with the communication of information about organizational procedures.

It also has been suggested that organizational commitment can be affected by the human resource management policies and procedures of organizations (Ogilvie, 1987). Ogilvie (1987) believes that employees' perceptions of organizational policies and procedures reflect a sense of reciprocity and the level of concern that the organization appears to have for its employees. Although his field study of managers in an agricultural company did not explicitly examine employee knowledge of organizational procedures, Ogilvie (1987) does call for future studies to "examine if commitment levels vary ... as a function of communication and employee awareness of human resource management policies and practices ... " (p. 354).

Other researchers also have noted that organizational processes and procedures deserve attention as potential determinants of commitment. For example, Putti et al. (1990) found a significant positive relationship between communication relationship satisfaction (CRS) and organizational commitment. CRS refers to the extent to which information regarding organizational policies and activities is made available
to employees. Their findings indicate that organizational member satisfaction with the amount of information available to them may enhance their organizational commitment. As another illustration, a communication process that keeps employees informed with respect to valued aspects of the organization is likely to influence organizational commitment (Salancik, 1977).

To ultimately test for the mediating effect of procedural justice on the four relationships discussed above, these relationships must initially be verified. In addition, in response to Ogilvie’s (1987) suggestion that future studies should examine if work-related attitudes and behaviors vary as a function of communication and employee knowledge of organizational procedures, the following four hypotheses will be tested:

H2: There will be a significant and positive relationship between knowledge of organizational procedures and organizational citizenship behavior (OCB).

H3: There will be a significant and positive relationship between knowledge of organizational procedures and employees’ evaluations of supervisors.

H4: There will be a significant and positive relationship between knowledge of organizational procedures and job satisfaction.

H5: There will be a significant and positive relationship between knowledge of organizational procedures and organizational commitment.
**Consequences of Procedural Justice**

Although growing in number, relatively few studies have used procedural justice as a predictor of organizational behaviors and attitudes. In this section, support for four personal or work-related outcomes influenced by perceptions of procedural justice is discussed: OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment.

**Organizational citizenship behaviors.** Although research has demonstrated the ability of procedural justice to influence work-related attitudes, there is a growing body of evidence for the ability of procedural fairness judgments to influence work-related behaviors. OCB is perhaps foremost among the behavioral outcomes found to be influenced by perceptions of procedural fairness.

OCB has been defined as a group of "constructive or cooperative gestures that are neither mandatory in-role behaviors nor directly or contractually compensated by formal reward systems" (Organ & Konovsky, 1989, p. 57). Organ (1988) has identified five dimensions of OCB. These dimensions are (1) altruism, (i.e., helping others with organizational tasks or problems), (2) a conscientiousness in attendance and use of work time that far surpasses minimum requirements, (3) courtesy, (i.e., the practice of checking with others before taking action
that would affect their work), (4) *sportsmanship*, (i.e., tolerating with grace the complaints, accusations, and threats of others in the workplace), and (5) *civic virtue*, or participation in the governance and political life of the organization. The relationship of procedural justice to OCB has been suggested by Folger and Konovsky (1989) and Organ (1988, 1990) and more recently supported by Moorman (1991).

Folger and Konovsky (1989) have suggested that cognitive appraisals of overall treatment by an organization contribute to OCB. These authors offer support for this interpretation using Blau's (1964, 1968) theory of social exchange. According to this view, social exchange relationships foster obligations based on trust that are less specific than the well-defined obligations incurred in a contractual or economic exchange relationship. Although both social and economic exchange components are part of any employer-employee relationship, Organ and Konovsky (1989) suggest that to engage in OCB reflects an employee defining his relationship with the organization in terms of social exchange. One method for an individual to consider himself in a condition of social exchange would be to have an overall perception of fairness (Organ, 1988). By contrast, an individual with an overall perception of unfair treatment would likely redefine the relationship
in terms of economic exchange. The result of this redefinition would be an employee engaging in only the in-role behaviors required in the economic exchange (Organ, 1988, 1990).

There also is empirical support for the relationship between procedural justice perceptions and OCB (Ball, 1991; Martin & Bies, 1991; Moorman, 1991). Moorman (1991) explored the relationships of three types of fairness perceptions (interactional justice, formal procedures, and distributive justice) to OCB. The results from this field study indicated that the relationship between perceptions of justice and OCB was best defined in interactional terms (i.e., the interpersonal context of procedural justice). Specifically, he found that interactional justice predicted four of the five OCB dimensions (all but civic virtue) described by Organ (1988). However, perceptions of formal procedures and distributive justice were not directly related to any of the OCB dimensions. Despite this, measures of perceptions of the structural characteristics of organizational procedures are included in the present study for two reasons.

First, although Moorman (1991) conceptualizes both interactional and formal aspects of fairness as separate yet complementary dimensions of procedural justice, he operationalizes them as two distinct variables in his
model. By contrast, the view taken here is that, although a distinction can be made between perceptions of the formal elements of procedures and perceptions of the manner in which the procedures are enacted, they are simply different aspects of a single construct (i.e., procedural justice). The second reason for including measures of the formal aspects of organizational procedures is that despite the nonsignificant relationship of formal procedures on the dimensions of OCB, a general relationship between fairness perceptions and OCB was found. It is anticipated that this general relationship between fairness perceptions and OCB will be better explicated by considering the structural and interpersonal aspects together as a single measure of procedural justice.

The results obtained by Moorman (1991) suggest that the civic virtue dimension of OCB might not be relevant to conceptions of extra-role citizenship behavior. For example, keeping up-to-date and being involved in the governance of the organization could be considered in-role behaviors. As such, this dimension was excluded from the present study.

To ultimately test for the mediating effect of procedural justice judgments as proposed in the model, it is first necessary to establish a significant relationship between procedural justice and OCB.
Additionally, such a relationship also would corroborate earlier findings regarding this relationship. To verify this linkage, the following hypothesis will be tested:

H6: There will be a significant and positive relationship between perceptions of procedural justice and organizational citizenship behavior.

**Employees' evaluations of supervisors.** Perceptions of procedural fairness have more typically been linked to attitudinal, rather than behavioral outcomes. For example, procedural justice has been found to influence leader endorsement (Tyler et al., 1985) and evaluations of supervisors (Alexander & Ruderman, 1987; Tyler & Caine, 1981). In the case of Tyler et al. (1985), it was demonstrated that increased process control enhanced judgments of procedural justice and raised leader endorsement under conditions of low decision control. Non-instrumental, or value-expressive, theories suggest that under certain conditions individuals find the opportunity to express themselves rewarding in and of itself (Katz, 1960).

Similar results were reported by Tyler and Caine (1981); in both laboratcry and field settings, satisfaction with leaders (teachers) was based primarily on the procedures used to allocate outcomes, independent of the outcomes themselves. In addition, in a survey of federal employees, Alexander and Ruderman (1987) found that procedural justice accounted for more variance in
supervisor evaluation than did distributive justice. In a survey of bank employees, McFarlin and Sweeney (1992) found procedural justice to be a more important predictor of subordinates’ evaluations of supervisors than distributive justice. Research on procedural justice in performance appraisal contexts also has found that conditions which produce high perceptions of procedural justice via either voice or by providing an accurate procedure for monitoring performance also increased ratings of subjects’ supervisors (Kanfer et al., 1987; Greenberg 1987c).

Because it is necessary to verify a significant relationship between the mediator (i.e., procedural justice judgments) and the dependent variable (i.e., employees’ evaluations of supervisors) to ultimately test for the mediating effect of procedural justice as illustrated in the model, the following hypothesis will be tested:

H7: There will be a significant and positive relationship between perceptions of procedural justice and employees' evaluations of supervisors.

Job satisfaction. The finding that perceptions of procedural fairness result in increased general satisfaction (Thibaut & Walker, 1975) is well accepted. A summary of the research on legal and political procedures indicates that "...satisfaction is one of the principal consequences of procedural fairness" (Lind &
Tyler, 1988, p. 177). However, relatively little research has concerned itself with the influence of procedural fairness on the construct of job satisfaction.

Dittrich and Carrell (1979) demonstrated that fairness perceptions are related to job satisfaction but did not examine the separate effects of procedural and distributive justice. Alexander and Ruderman (1987) did account for these separate influences and demonstrated that procedural variables were superior to distributive variables in predicting job satisfaction. In addition, similar findings have been reported in a field study by Lissak, Mendes, and Lind (1983). In a survey of Canadian Armed Forces enlisted personnel, Lissak et al., (1983) found that perceptions of procedural fairness accounted for more unique variance in a measure of job satisfaction than did perceptions of distributive justice.

A more recent study also has demonstrated the ability of procedural justice to predict employee job satisfaction. Konovsky & Cropanzano (1991) separately evaluated two components of procedural justice (the structural aspects of the procedures and explanations) in a field study of employee perceptions of the fairness of drug-testing procedures. Although only explanations predicted job satisfaction, a usefulness analysis disclosed that the effects of explanations and procedural
justice on job satisfaction went beyond that of outcome fairness alone.

As with each of the specified outcomes, to ultimately test for the proposed mediating effect of procedural justice perceptions a significant relationship between these fairness judgments and job satisfaction must first be verified. To test for this relationship the following hypothesis will be used:

H8: There will be a significant and positive relationship between perceptions of procedural justice and job satisfaction.

Organizational commitment. There also is evidence to suggest that procedural justice influences organizational commitment. At its broadest, it has been shown that procedural justice judgments are particularly salient in evaluations of institutions and authorities (Lind & Tyler, 1988; Tyler, 1986). Empirical support for this relationship has been demonstrated by Folger and Konovsky (1989). They conducted a field survey of employee reactions to the practices their supervisors used to determine their most recent pay increases. They found that perceptions of the procedures used to determine salary raises (as opposed to the outcomes received) uniquely contributed to organizational commitment. It should be noted, however, it was feedback, as a component of procedural justice, that was found to be significantly correlated with organizational
commitment. A recent study by McFarlin and Sweeney (1992) also suggests that procedural justice perceptions have a significant relationship with organizational commitment. They conducted a survey of bank employees and found that procedural justice was a more important predictor of organizational commitment than distributive justice.

Using other procedural components to investigate the relationship of procedural justice to organizational commitment has been done by Konovsky & Cropanzano (1991). In this field study assessing the fairness perceptions of drug-testing procedures, they found that both the structural components of procedural justice and explanations of decisions were significantly related to affective commitment, described as the emotional commitment an individual feels toward the organization (Allen & Meyer, 1990).

To test for the relationship between procedural justice judgments and organizational commitment, a condition necessary to ultimately test the proposed mediating effect of procedural justice, it is hypothesized that:

H9: There will be a significant and positive relationship between perceptions of procedural justice and organizational commitment.

Hypotheses 6 through 9 reflect relationships that already have been demonstrated to exist between
procedural justice judgments and the four specified personal and work-related outcomes. They are included in the present study for two reasons: (1) to corroborate earlier findings concerning the relationships of procedural justice with each of the four outcomes; and, more importantly, (2) to verify the significant relationships between the mediator (procedural justice judgments) and each of the specified outcomes in order to successively test for the proposed mediating effect of procedural justice judgments. As previously discussed, a necessary but not sufficient condition to demonstrate a variable's mediating effect is that it must be significantly related to any dependent variable of interest (Baron & Kenny, 1986).

The Mediating Effect of Procedural Justice

As summarized in the previous two sections, there is support for: (a) the relationships between knowledge of organizational procedures and OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment; and (b) the relationships between procedural justice judgments and these same four outcomes. However, each of these sets of relationships has been examined without respect to the other. An examination of the concurrent effects of knowledge of organizational procedures and procedural justice judgments has not yet been undertaken by procedural justice researchers.
It is maintained in this section that the relationships between knowledge of organizational procedures and each of the four specified outcomes can be explained in terms of the perceived fairness of organizational procedures. Although employees' knowledge of organizational procedures is related to each of the specified outcomes, these outcomes are not affected by procedural knowledge per se; rather, knowledge of organizational procedures influences perceptions of procedural justice which, in turn, affect each of the four outcomes. Therefore, procedural justice judgments mediate the relationships between procedural knowledge and OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment.

To illustrate this supposition, a brief examination of the theoretical support for the mediating effect of procedural justice is in order. Katz & Kahn (1978) suggest that organizational procedures (for example, those used to determine employee rewards) can lead to increased cooperative relations among members (i.e., good citizenship). However, they further point out that a necessary condition for this to occur is that the administration of system rewards must be perceived as equitable to have these desired effects.

A social exchange interpretation of OCB provides additional theoretical support for the mediating effect
of procedural justice judgments on the relationship between knowledge of organizational procedures and OCB (Organ, 1988, 1990; Organ & Konovsky, 1989). Social exchange relationships foster obligations based on trust that are not as explicit as the obligations incurred by the contractual nature of an economic exchange (Blau, 1964, 1968). One way for an employee to consider himself in a condition of social exchange would be to have an overall perception of fairness of treatment by the organization (Organ, 1988, 1990). This perception of fair treatment may, in part, be based on the knowledge employees have regarding the manner in which decisions are made in organizations. Specifically, having information about allocative procedures or having opportunities to monitor them serve as "safeguards" to ensure that decision-makers are performing their duties properly (Leventhal, 1980). In turn, this knowledge assures employees that decision-makers are not misusing their decision-making powers. The resulting decisions will more likely be regarded as consistent and unbiased and, therefore, as procedurally fair (Leventhal, 1980).

Based on this information, these relationships may be interpreted in the following manner: knowledge of organizational procedures serves as a "safeguard" to abuses of the decision-making powers of others and leads to more procedurally fair judgments. This perception of
fair treatment on behalf of the organization, in turn, leads an employee to consider himself in a condition of social exchange with the organization, thereby increasing the likelihood that he will engage in OCB.

A similar line of reasoning supports the proposed mediating effect of procedural justice judgments on the relationship between knowledge of organizational procedures and employees' evaluations of supervisors. As previously stated, information about organizational procedures that is communicated to employees affects work attitudes toward general supervision (Eisenberger et al., 1990). It also is the case that supervisors are regarded as representatives of the organization to many employees and often are viewed as an extension of it (Levinson, 1965). Therefore, it is reasonable to hypothesize that because supervisors are recognized as agents of the organization, supervisors themselves may be positively regarded because of the type and amount of procedural information they provide to employees on behalf of the organization. It is proposed here that the amount of knowledge employees have of their organization's procedures leads to increased perceptions of procedural fairness, and it is these perceptions of procedural fairness that lead employees to positively evaluate their supervisors. Intuitive appeal, rather than empirical support is the basis for this interpretation. However,
it is hoped that an empirical test of these relationships will lead to a better understanding of these associations.

Similar reasoning also applies to the proposed mediating effect of procedural justice on the relationship between knowledge of organizational procedures and job satisfaction. For example, it has been demonstrated that the amount of information employees have about their pay (and the pay of others) and the manner in which it is determined is positively related to job satisfaction (Futrell & Jenkins, 1978). It also has been suggested that the extent to which the organization (via procedures) treats employees differently influences individual job satisfaction (Locke, 1976). These findings could also be interpreted in procedural justice terms. For the former example, employees who have more information regarding their pay (and the pay of others) and how it is determined might lead them to judge the procedures more fair because of this information (Leventhal, 1980), in turn leading to their increased satisfaction. For the latter example, the inconsistent use of procedures across people reduces perceptions of procedural fairness, which in turn leads to decreased job satisfaction.

The relationship between knowledge of organizational procedures and organizational commitment may also be
mediated by perceptions of procedural justice. It has been found that organizational member satisfaction with the amount of information available to them may enhance their organizational commitment (Putti et al., 1990). In addition, an organizational communication process that keeps employees informed with respect to valued aspects of the organization (including its policies and procedures) is also likely to influence organizational commitment (Salancik, 1977). The present study suggests that these findings might be interpreted in terms of the mediating influence of procedural justice. To illustrate using the commitment examples above, perhaps open communication regarding organizational processes and activities increases employee perceptions of fairness and, in turn, these fairness perceptions affect employee commitment. In either case, it is not employees' knowledge of procedures per se that influences their commitment to an organization. Rather, it is the perceived fairness of the procedures that influences how committed they will be to an organization.

Knowledge of organizational procedures is hypothesized to be a significant predictor of each of the four specified outcomes. Furthermore, it is proposed that these relationships can be better explicated by including perceptions of the fairness of the procedures as a predictor of each of the specified outcomes in
addition to employee knowledge of these same procedures. In fact, it is hypothesized that when procedural justice judgments are added as predictors of these outcomes, only perceptions of procedural fairness will significantly predict these outcomes; the previously significant relationships between knowledge of organizational procedures and each of the four outcomes will disappear. Therefore, it is the perceived fairness of the procedures and not knowledge about them that accounts for people feeling and responding as they do to organizational procedures. Employees are more likely to engage in OCB, positively evaluate their supervisors, be satisfied with their jobs, and be committed to their organizations if they judge their organizations’ procedures to be fair -- and not simply because they are knowledgeable about their organizations’ procedures.

The supposition made here is that procedural justice judgments mediate the relationships between employees’ knowledge of organizational procedures and each of the four personal or work-related outcomes. The hypothesized mediating effect of procedural justice on the four outcomes will be tested with the following four hypotheses:

H10: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and OCB will attenuate toward zero and no longer will be significant.
H11: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and employee evaluations of supervisors will attenuate toward zero and no longer will be significant.

H12: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and job satisfaction will attenuate toward zero and no longer will be significant.

H13: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and organizational commitment will attenuate toward zero and no longer will be significant.

These hypotheses are an essential element of the tests of the relationships in the proposed mediational model because they: (1) test the linkages between perceptions of procedural justice and each of the four outcomes; and (2) clarify the relationships between knowledge of procedures and each of the four outcomes when procedural justice is controlled.
CHAPTER II
RESEARCH METHODOLOGY

This chapter describes the sample used in the study and the procedures used to collect the data. The measures used in the study are described and justified. In addition, the issue of mediation is discussed as are the techniques used to analyze the data.

Data Collection and Analyses

The respondents were 150 employees of a mid-atlantic insurance company. The organization is the nation’s second-largest provider of malpractice insurance to physicians and hospitals. The data were collected at the organization’s national headquarters where approximately 460 people are employed. The vice-president of human resources systematically selected every third person from the organization’s alphabetized employee payroll list. This method was used because of its ability to easily select potential respondents from among all of the organization’s employees. Although not a truly random sampling technique, systematic sampling should produce
sampling errors equivalent to simple random samples if there is no stratification (Fowler, 1988).

The employees were then given surveys to complete during regular working hours. Completed surveys were returned anonymously in sealed envelopes and deposited in a secure collection box located on the premises. Of the 150 surveys distributed, 130 usable surveys were returned for a sample response rate of 87%. The response rate for the population of 460 organizational employees was 35%.

Sample Description

A summary of sample characteristics is reported in Table 1. As indicated in Table 1, non-managerial (i.e., clerical and technical) employees outnumbered managerial employees by a ratio of approximately four to one (79.2% to 20.8%). Responses were obtained from employees representing all twenty of the organization’s departments, with Information Services (24.6%) and Claims Services (18.5%), accounting for the largest portions of the sample.

The mean age of the sample was 35.0 years and approximately two-thirds of the respondents were female. All respondents had completed high school and 24.6% of the sample reported completing a four-year college degree, 23.1% reported receiving some graduate school training, and 10% had completed a graduate degree. The large proportion of employees reporting "some
Table 1  
*Summary of Sample Characteristics*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Rate</td>
<td>87%</td>
</tr>
<tr>
<td>Total Sample Size</td>
<td>130</td>
</tr>
<tr>
<td>Organization Level</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>20.8%</td>
</tr>
<tr>
<td>Non-management</td>
<td>79.2%</td>
</tr>
<tr>
<td>(Clerical and Technical employees)</td>
<td></td>
</tr>
<tr>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>4.6%</td>
</tr>
<tr>
<td>Actuarial</td>
<td>1.5%</td>
</tr>
<tr>
<td>Auditing</td>
<td>1.5%</td>
</tr>
<tr>
<td>Building &amp; Grounds</td>
<td>2.3%</td>
</tr>
<tr>
<td>Claims Services</td>
<td>18.5%</td>
</tr>
<tr>
<td>Corporate Relations</td>
<td>2.3%</td>
</tr>
<tr>
<td>Data Management</td>
<td>1.5%</td>
</tr>
<tr>
<td>Human Resources</td>
<td>5.4%</td>
</tr>
<tr>
<td>Information Services</td>
<td>24.6%</td>
</tr>
<tr>
<td>Legal</td>
<td>3.1%</td>
</tr>
<tr>
<td>Mail &amp; Supply</td>
<td>.8%</td>
</tr>
<tr>
<td>Marketing</td>
<td>1.5%</td>
</tr>
<tr>
<td>Medical</td>
<td>4.6%</td>
</tr>
<tr>
<td>Management</td>
<td>3.8%</td>
</tr>
<tr>
<td>Meeting &amp; Travel</td>
<td>1.5%</td>
</tr>
<tr>
<td>Risk Management</td>
<td>5.4%</td>
</tr>
<tr>
<td>Tax</td>
<td>.8%</td>
</tr>
<tr>
<td>Underwriting</td>
<td>4.6%</td>
</tr>
<tr>
<td>Video</td>
<td>1.5%</td>
</tr>
<tr>
<td>Word Processing</td>
<td>5.4%</td>
</tr>
<tr>
<td>Gender of Respondent</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>33.8%</td>
</tr>
<tr>
<td>Female</td>
<td>66.2%</td>
</tr>
<tr>
<td>Average Age of Respondents</td>
<td>35.0 years</td>
</tr>
<tr>
<td></td>
<td>(std. dev. = 9.6)</td>
</tr>
</tbody>
</table>
### Summary of Sample Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Level</td>
<td></td>
</tr>
<tr>
<td>High School Diploma</td>
<td>23.8%</td>
</tr>
<tr>
<td>Some College Beyond High School</td>
<td>18.5%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>24.6%</td>
</tr>
<tr>
<td>Some Graduate School</td>
<td>23.1%</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>10.0%</td>
</tr>
<tr>
<td>Average Organizational Tenure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.0 years</td>
</tr>
<tr>
<td></td>
<td>(std. dev. = 3.9)</td>
</tr>
<tr>
<td>Average Job Tenure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.7 years</td>
</tr>
<tr>
<td></td>
<td>(std. dev. = 3.1)</td>
</tr>
<tr>
<td>Annual Salary</td>
<td></td>
</tr>
<tr>
<td>Less than $20,000</td>
<td>24.6%</td>
</tr>
<tr>
<td>$20,000 to $29,999</td>
<td>29.2%</td>
</tr>
<tr>
<td>$30,000 to $39,999</td>
<td>24.6%</td>
</tr>
<tr>
<td>$40,000 to $49,999</td>
<td>10.0%</td>
</tr>
<tr>
<td>$50,000 to $59,999</td>
<td>3.8%</td>
</tr>
<tr>
<td>Over $60,000</td>
<td>7.7%</td>
</tr>
</tbody>
</table>
graduate school" is due in part to the popular tuition reimbursement plan offered by the organization and the number of employees taking advantage of that program to pursue graduate degrees on a part-time basis.

The respondents were employed by this organization an average of six years and were in their current jobs in the organization an average of 3.7 years. Lastly, about half of the respondents reported an annual salary of less than $29,000 (53.8%) and only 11.5% reported earning more than $50,000 during the previous year. These demographic characteristics compared very favorably with the organization's statistics for all employees. For example, the organization's records indicate that approximately 76% of their employees are classified as technical or clerical employees (the remainder are management), 68% percent of their employees are women, and the average age of all employees is 34.5 years. In addition, the actual mean organizational tenure (5.8 years) and mean job tenure (3.3 years) for all employees corresponded very closely with the sample statistics. Information on the education levels of all employees were not on record at the organization and information on the annual salaries of all employees was not made available to the researcher. However, given the similarities of the sample statistics and the available population figures, any difficulties resulting from response bias
are unlikely to pose a serious threat to the interpretation of the results.

**Measures**

**Procedural justice.** Procedural justice was measured using two scales: the first measured the structural aspects of procedural justice (i.e., Leventhal's six procedural justice rules: consistency, bias suppression, accuracy of information, correctability, representativeness, and ethicality); the second scale was a measure of the interpersonal context of procedural justice (i.e., the interpersonal treatment one receives and the adequacy with which decisions are explained by decision-makers).

The 19 items used to measure the structural aspects of procedural justice were adapted from a questionnaire developed by Kravitz (1989). This questionnaire was developed specifically to measure the six procedural rules originally specified by Leventhal. Subjects were asked to express their disagreement or agreement with a series of statements (e.g., "The procedures used to make decisions in your organization make sure that the decisions made are based on as much accurate information as possible") using a 7-point Likert-type response scale (1 = Strongly Disagree to 7 = Strongly Agree). The complete scale is reproduced in the Appendix (p. 146).
The 8-item scale used to measure the interpersonal context of procedural justice was adapted from scales used by Konovsky & Cropanzano (1991) and Moorman (1991) and used a response scale identical to that used to measure the structural elements of procedural justice. For example, employees were asked to express their disagreement or agreement with statements such as, "With regard to carrying out the procedures at your organization, your supervisor takes steps to deal with you in a truthful manner." The scale appears in the Appendix (p. 147). The structural and interpersonal measures of procedural justice were combined to form a single scale with an estimated coefficient alpha of .95.

It should be noted that the concept of procedural justice in this study does not pertain to any particular organizational procedure. On the contrary, a more comprehensive perception of organizational fairness is sought, one that encompasses many areas of organizational decision-making processes. Accordingly, the items are worded such that respondents are asked to simultaneously consider the fairness of a variety of decision-making procedures used in their organization.

Organizational citizenship behavior. The OCB scale used was based on the dimensions originally discussed by Organ (1988) and validated by Moorman (1991) and Podsakoff, MacKenzie, Moorman, & Fetter (1990).
Specifically, the scale has been adapted from the altruism, courtesy, conscientiousness, and sportsmanship subscales used by Podsakoff et al., (1990) and Moorman (1991). Employees were asked to indicate the extent to which they disagreed or agreed with 13 statements (e.g., "I help others who have heavy workloads") using a 5-point Likert-type scale (1 = Strongly Disagree to 5 = Strongly Agree). The items were combined to form a single OCB scale with a coefficient alpha of .70. This scale appears in the Appendix on page 144.

**Evaluation of supervisor.** Respondents were asked to evaluate their supervisors using an adaptation of the Evaluation of Supervisor scale from the Michigan Organizational Assessment Questionnaire (MOAQ) (Cammann, Fichman, Jenkins, & Klesh, 1983). The scale has been used previously in procedural justice research to measure evaluations of supervisors (Alexander and Ruderman, 1987). This scale asks respondents to mark the extent of their disagreement or agreement with eight statements about their supervisor (e.g., "My supervisor is concerned about me as a person") using a 7-point Likert-type response scale (1 = Strongly Disagree to 7 = Strongly Agree). The estimated coefficient alpha for this scale was .86. The complete scale appears in the Appendix (p. 147).
Job satisfaction. The short form of the Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al., 1967) was used to measure job satisfaction. Respondents used a 5-point Likert-type response continuum (1 = Very Dissatisfied to 5 = Very Satisfied) to express the extent of their disagreement or agreement with 20 statements that follow the heading, "On my present job, this is how I feel about: (e.g., ... the chance to do different things from time to time"). Price and Mueller (1986) indicate median Hoyt internal reliability coefficients for the index of general satisfaction to be .90. The estimated coefficient alpha of the scale in the present study was .92. The job satisfaction scale appears on page 145 of the Appendix.

Organizational commitment. The organizational commitment scale used was the short form of the Organizational Commitment Questionnaire developed by Mowday, Steers, and Porter (1979). Using 7-point Likert-type scale response categories, subjects were be asked to mark the degree to which they disagreed or agreed with nine statements about their feelings toward the organization (e.g., "I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful"). Price and Mueller (1986) point out that this is a measure primarily of attitudinal, as opposed to behavioral, commitment. The
scale exhibited very good internal consistency in the present study with an estimated coefficient alpha of .91. This scale appears on page 144 in the Appendix.

Knowledge of organizational procedures.

"Organizational procedures" as a construct traditionally has been objectified and not measured in procedural justice research. The measure used here was an attempt to operationalize this element. To avoid dichotomizing the variable by asking if employees are merely aware of a given procedure (i.e., a "yes" or "no" response), employees were asked to indicate the extent of their knowledge or familiarity with eight different organizational decision-making procedures, procedures that currently are of interest to procedural justice researchers. These procedures include evaluating employee performance (Greenberg, 1986a, 1987c; Kanfer et al., 1987), determining pay raises (Folger & Konovsky, 1989), resolving employee conflict/disputes (Karambaya & Brett, 1989; Sheppard & Lewicki, 1987), allocating resources (Barrett-Howard & Tyler, 1986), and assigning work (Earley & Lind, 1987).

The goal was to gain insight into employee knowledge of organizational procedures without focusing their attention on the fairness of the procedures (i.e., a perception of procedural justice). Knowledge of organizational procedures presumes not only awareness,
but also reflects the degree of familiarity and understanding an employee has of a given procedure. Participants responded to the eight items (e.g., "To what extent are you knowledgeable or familiar with the procedures your organization uses to make decisions (about) ... determining pay raises") using a 5-point Likert-type response scale (1 = Not at all Knowledgeable to 5 = Extremely Knowledgeable). The estimated coefficient alpha for this scale was .94 and the scale appears in the Appendix on page 145.

Control variables. Given the potential for a number of other variables to inflate or suppress the relationships between the variables of interest in the study, data were gathered on five additional variables that were used as controls. Respondents were asked to indicate their gender, age, job type (managerial or non-managerial), length of employment with the organization, and their salary (within a given range) from the previous year. These data were collected because other researchers (e.g., Hitt & Tyler, 1991; Staines, Pottick & Fudge, 1986) have recommended that these types of variables be controlled for given their potential to affect the relationships between other variables. The scales used for the control variables appear in the Appendix on page 148.
Data Analyses

A discussion of the techniques used to analyze the data appears in this section. However, because these analyses incorporate the issue of mediation, an introduction to mediation itself is in order.

Mediation. In general, a variable functions as a mediator to the extent that it accounts for the relationship between a predictor and the criterion of interest (Baron & Kenny, 1986). Thus, a variable that mediates the relationship between two other variables represents the causal mechanism through which the independent variable influences the dependent variable.

Mediators explain how external factors take on internal psychological significance (Baron & Kenny, 1986). For example, to say that perceptions of procedural justice mediate the relationship between knowledge of organizational procedures and employee job satisfaction is to say that perceived procedural fairness addresses the issue of how or why knowledge of procedures affects job satisfaction.

Figure 1 (p. 9) illustrates the relationships hypothesized to exist between knowledge of organizational procedures, perceptions of procedural justice, and four personal or work-related outcomes. This proposed mediational model depicts knowledge of organizational procedures as the independent variable of interest,
procedural justice as a mediator variable, and each of the four personal or work-related outcomes as separate dependent variables. Thus, procedural fairness perceptions in the model are depicted to explain how external factors like organizational procedures take on internal psychological significance and, in turn, explain how or why procedural knowledge affects each of the four specified outcomes. In other words, it is suggested that knowledge of procedures itself does not significantly influence these work-related attitudes and behaviors; it is whether or not the procedures are regarded as fair that determines the extent to which employees will engage in OCB, evaluate their supervisors favorably, be satisfied with their jobs, and be committed to their organization.

A variable functions as a mediator when the following three conditions are met: (1) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e., relationship a, Figure 1); (2) variations in the mediator significantly account for variations in the dependent variable (i.e., relationship b); and, (3) when relationships a and b are controlled, a previously significant relationship between the independent and dependent variables is no longer significant, with the strongest indication of mediation occurring when
relationship c becomes zero (Baron & Kenny, 1986; Judd & Kenny, 1981a). In essence, a particular variable may be said to function as a mediator to the extent that it accounts for the relationship between the predictor and the criterion.

As recommended by Judd & Kenny (1981b), a series of regression models was estimated to test for the mediating effect of procedural justice. The series of regression models included the following equations: first, regressing procedural justice (the proposed mediator) on knowledge of organizational procedures (the independent variable); second, regressing OCB, or evaluation of supervisor, or job satisfaction, or organizational commitment [the dependent variable(s)] on knowledge of organizational procedures; and third, regressing each of the four dependent variables (one at a time) on both knowledge of organizational procedures and on procedural justice simultaneously.

Also included in each of the regression equations were the five control variables discussed earlier (i.e., age, gender, organizational tenure, job type, and salary). Separate coefficients for each set of equations were estimated and tested for significance.
CHAPTER III
RESULTS

The means, standard deviations, correlations, and internal reliabilities for the scale scores are reported in Tables 2 and 3. As reported in Table 3, all of the reliabilities (Cronbach's alphas) meet or exceed the .70 minimum established by Nunnally (1978). Also reported in Table 3 are the zero-order correlations between the variables in the study. These correlations provide partial support for the hypotheses in this study because of the significant relationships between knowledge of organizational procedures and procedural justice perceptions, between knowledge of organizational procedures and all four of the outcome variables, and between perceptions of procedural justice and three of the four outcome variables.

Regression Analyses Results

A series of regression models was estimated to test the proposed mediating effect of procedural justice perceptions. Because of the importance of controlling for certain types of variables due to their ability to
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Organizational Procedures</td>
<td>2.89</td>
<td>.99</td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>4.98</td>
<td>1.01</td>
</tr>
<tr>
<td>Organizational Citizenship Behavior</td>
<td>3.98</td>
<td>.34</td>
</tr>
<tr>
<td>Evaluation of Supervisor</td>
<td>5.18</td>
<td>1.35</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3.86</td>
<td>.62</td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>5.93</td>
<td>.90</td>
</tr>
<tr>
<td>Gender</td>
<td>1.66</td>
<td>.48</td>
</tr>
<tr>
<td>Age</td>
<td>35.02</td>
<td>9.62</td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>6.03</td>
<td>3.95</td>
</tr>
<tr>
<td>Job Type</td>
<td>1.21</td>
<td>.41</td>
</tr>
<tr>
<td>Salary</td>
<td>2.62</td>
<td>1.45</td>
</tr>
</tbody>
</table>

Note: 5-point scales were used for Organizational Citizenship Behavior (5 = Strongly Agree), Knowledge of Organizational Procedures (5 = Extremely Familiar), and Job Satisfaction (5 = Very Satisfied). 7-point scales were used for Organizational Commitment, Procedural Justice, and Evaluation of Supervisor (7 = Strongly Agree for all scales).

Gender was coded 1 = male, 2 = female. Job Type was coded 1 = non-management, 2 = management. Ranges were used for Salary with 1 = Less than $20,000 to 6 = More than $60,000.
Table 3
Correlations and Scaled Variable Reliabilities

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge of Organizational Procedures</td>
<td>(.94)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Procedural Justice</td>
<td>.33*** (.95)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Organizational Citizenship Behavior</td>
<td>.19†</td>
<td>.09 (.70)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Evaluation of Supervisor</td>
<td>.22*** .79*** .12 (.86)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Job Satisfaction</td>
<td>.27*** .68*** .14 .71*** (.92)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Organisational Commitment</td>
<td>.23*** .37*** .26** .39*** .57*** (.91)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Gender</td>
<td>-.08 -.09 .09 -.16 -.20* -.11 --</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Age</td>
<td>.22*** .00 .06 -.01 .11 .37*** .05 --</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Organisation Tenure</td>
<td>.22** .06 -.17† .18† .26** .21** .09 .51*** --</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>10. Job Type</td>
<td>.54*** .02 .05 .03 .05 .19† -.19† .39*** .21** --</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Salary</td>
<td>.36*** .02 -.16 -.06 .14 .24** -.43*** .44*** .29*** .59*** --</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* p < .05  ** p < .01  *** p < .001
inflate or suppress relations between other variables (Hitt & Tyler, 1991; Staines, Pottick & Fudge, 1986),
gender, age, organization tenure, job type, and salary
were included in the estimations of the regression
equations.

As recommended by Judd and Kenny (1981b), to test
for mediation three regression equations were estimated:
first, the mediator was regressed on the independent
variable; next, each of the four dependent variables was
regressed separately on the independent variable; and
finally, each of the four dependent variables was
regressed separately on both the independent variable and
the mediator. It is these three regression equations
that provide the tests of the linkages in the proposed
mediational model (Baron & Kenny, 1986). In addition,
the five control variables were simultaneously entered
into each equation and separate coefficients for each
equation were estimated and tested.

Regressing Procedural Justice on Knowledge of
Organizational Procedures

In the first of these three regression equations the
mediator, perceptions of procedural justice, was
regressed on the independent variable, employee knowledge
of organizational procedures, with simultaneous entry of
the five control variables. The results of this analysis
support hypothesis 1, that knowledge of organizational
procedures are significantly and positively related to perceptions of procedural fairness ($\beta = .453$, $p < .001$). As expected, employees who reported having greater knowledge of the organization’s procedures considered the procedures more fair than did employees who reported being relatively less knowledgeable about them. These results are presented in Table 4. The values reported in this table and all subsequent tables are the standardized regression coefficients (i.e., $\beta$’s) from the equations.

Regressing Each Outcome on Knowledge of Organizational Procedures

For the second set of regression equations, each of the four outcome variables (OCB, evaluation of supervisor, job satisfaction, and organizational commitment) was regressed separately on the independent variable, knowledge of organizational procedures. For this set of equations the five control variables were simultaneously entered into each equation along with the independent variable. As reported in Tables 5 through 8, these results support hypotheses 2, 3, 4, and 5; i.e., knowledge of organizational procedures was significantly and positively related to each of the four personal or work-related outcomes.

Specifically, knowledge of organizational procedures was a significant predictor of organizational citizenship behavior ($\beta = .287$, $p < .01$), evaluation of supervisor
Table 4
Effects of Knowledge of Organizational Procedures on Procedural Justice Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th>After Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>Knowledge of Organizational Procedures</td>
<td>.329</td>
<td>3.941***</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.146</td>
<td>-1.502</td>
</tr>
<tr>
<td>Age</td>
<td>.014</td>
<td>.127</td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>.042</td>
<td>.432</td>
</tr>
<tr>
<td>Job Type</td>
<td>-.205</td>
<td>-1.767†</td>
</tr>
<tr>
<td>Salary</td>
<td>-.104</td>
<td>-.849</td>
</tr>
</tbody>
</table>

R²                  | .108   | .159   |
F(1, 128) = 15.529*** |      |   F(6, 123) = 3.875** |
N                  | 130   | 130

†  p < .10
*  p < .05
** p < .01
*** p < .001
Table 5
Effects of Knowledge of Organizational Procedures on Organizational Citizenship Behavior Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
<td>β</td>
<td>t</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.187</td>
<td>2.159*</td>
<td>.287</td>
<td>2.917**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.010</td>
<td>-.102</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Age</td>
<td>.280</td>
<td>2.640**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>-.288</td>
<td>-2.973**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Type</td>
<td>.045</td>
<td>.393</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary</td>
<td>-.337</td>
<td>-2.786**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| R²                               | .035           | .177     |          |          |          |          |
| F(1, 128) = 4.661*               | F(6, 123) = 4.417*** |          |          |          |          |
| N                               | 130            | 130      |          |          |          |          |

* p < .05
** p < .01
*** p < .001
Table 6  
*Effects of Knowledge of Organizational Procedures on Evaluation of Supervisor Before and After Controls*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th>After Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Organizational Procedures</td>
<td>.218</td>
<td>.278</td>
</tr>
<tr>
<td></td>
<td>2.527*</td>
<td>2.830**</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.311</td>
<td>-.3236**</td>
</tr>
<tr>
<td>Age</td>
<td>-.036</td>
<td>-.337</td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>.267</td>
<td>2.747**</td>
</tr>
<tr>
<td>Job Type</td>
<td>-.015</td>
<td>-.132</td>
</tr>
<tr>
<td>Salary</td>
<td>-.350</td>
<td>-2.895**</td>
</tr>
</tbody>
</table>

| $R^2$ | .048 | .178 |

$F(1, 128) = 6.386^*$  
$F(6, 123) = 4.450^{***}$

| $N$  | 130  | 130  |

* $p < .05$  
** $p < .01$  
*** $p < .001$
Table 7
Effects of Knowledge of Organizational Procedures on Job Satisfaction Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th>After Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.265</td>
<td>3.113**</td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.256</td>
<td>-2.668**</td>
</tr>
<tr>
<td>Age</td>
<td>.017</td>
<td>.158</td>
</tr>
<tr>
<td>Organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure</td>
<td>.265</td>
<td>2.750**</td>
</tr>
<tr>
<td>Job Type</td>
<td>-.213</td>
<td>-1.867†</td>
</tr>
<tr>
<td>Salary</td>
<td>-.038</td>
<td>-.318</td>
</tr>
</tbody>
</table>

R²   | .070 | .190 |

F(1, 128) = 9.689**  F(6, 123) = 4.805***

N     | 130  | 130  |

† p < .10  * p < .05  ** p < .01  *** p < .001
Table 8
Effects of Knowledge of Organizational Procedures on Organizational Commitment Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th>After Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$t$</td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.235</td>
<td>2.731**</td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.126</td>
<td>-1.306</td>
</tr>
<tr>
<td>Age</td>
<td>.353</td>
<td>3.331***</td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>.014</td>
<td>.140</td>
</tr>
<tr>
<td>Job Type</td>
<td>-.075</td>
<td>-.651</td>
</tr>
<tr>
<td>Salary</td>
<td>.004</td>
<td>.029</td>
</tr>
</tbody>
</table>

$R^2$                            | .055            | .176           |

$F(1, 128) = 7.459**$ $F(6, 123) = 4.372***$

$N$                              | 130             | 130            |

$\dagger p < .10$

$*$ $p < .05$

$** p < .01$

$*** p < .001$
(β = .278, p < .01), job satisfaction (β = .312, p < .01) and organizational commitment (β = .185, p < .10).
Therefore, employees who reported being relatively more knowledgeable of organizational procedures engaged in a higher rate of organizational citizenship behavior, more positively evaluated their supervisors, reported being more satisfied with their jobs, and reported being more committed to the organization.

Regressing Each Outcome on Procedural Justice and Knowledge of Organizational Procedures Together

Thus far, two of the three conditions to establish mediation have been met: for the first of these conditions, the independent variable (knowledge of organizational procedures) has been shown to affect the mediator (procedural justice) in the first equation (see Table 4); for the second condition, the independent variable has been shown to affect each of the four separate dependent variables in the second set of equations (see Tables 5 through 8). A third condition necessary to establish the mediating effect of procedural justice, however, is that the mediator must significantly influence each of the four separate dependent variables in a third set of equations.

To establish this third condition to subsequently test for the mediating effect of procedural justice, the third set of equations regressed each of the four outcome variables separately on knowledge of organizational
procedures and procedural justice together. The five control variables remained in each of the four equations as procedural justice was added to knowledge of organizational procedures.

As reported in Table 9, the data failed to support hypothesis 6; procedural justice did not significantly predict organizational citizenship behavior ($\beta = .016$). However, procedural justice was found to significantly and positively affect the three remaining variables in the study: evaluation of supervisor, job satisfaction, and organizational commitment.

As reported in Table 10, the influence of procedural justice on evaluation of supervisor was significant ($\beta = .783, p < .001$), providing strong support for hypothesis 7. Similar results were found for employee job satisfaction. As reported in Table 11, perceptions of procedural justice were significantly and positively related to job satisfaction ($\beta = .646, p < .001$), thus providing strong support for hypothesis 8. In Table 12 are the results of the regression analyses of the effects of knowledge of organizational procedures and procedural justice on employee organizational commitment. Perceptions of procedural justice were found to be significantly and positively related to organizational commitment ($\beta = .349, p < .001$), providing strong support for hypothesis 9.
Table 9
Effects of Procedural Justice and Knowledge of Organizational Procedures on Organizational Citizenship Behavior Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th></th>
<th></th>
<th>After Controls</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$t$</td>
<td>$\beta$</td>
<td>$t$</td>
<td>$\beta$</td>
<td>$t$</td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>.027</td>
<td>.291</td>
<td>.016</td>
<td>.771</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of Organizational Procedures</td>
<td>.179</td>
<td>1.936$^+$</td>
<td>.279</td>
<td>2.617**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.007</td>
<td>-.076</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.279</td>
<td>2.627**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>-.289</td>
<td>-2.966**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Type</td>
<td>.049</td>
<td>.416</td>
<td></td>
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</tr>
<tr>
<td>Salary</td>
<td>-.336</td>
<td>-2.753**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
R^2 = .034 \quad .178
\]

\[
F(2, 127) = 2.356^+ \quad F(7, 122) = 3.761^{***}
\]

$N = 130 \quad 130$

$^+ p < .10$

$^* p < .05$

$^{**} p < .01$

$^{***} p < .001$
Table 10
Effects of Procedural Justice and Knowledge of Organizational Procedures on Evaluation of Supervisor Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th>After Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>.803</td>
<td>13.912***</td>
</tr>
<tr>
<td>Knowledge of Organizational Procedures</td>
<td>-.046</td>
<td>-.800</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.197</td>
<td>-3.310**</td>
</tr>
<tr>
<td>Age</td>
<td>-.046</td>
<td>-.713</td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>.233</td>
<td>3.921***</td>
</tr>
<tr>
<td>Job Type</td>
<td>.145</td>
<td>2.044*</td>
</tr>
<tr>
<td>Salary</td>
<td>-.269</td>
<td>-3.617***</td>
</tr>
</tbody>
</table>

\[
R^2 = .623 \quad \text{and} \quad .694
\]

\[
F(2, 127) = 104.763*** \quad F(7, 122) = 39.544***
\]

\[
N = 130 \quad \text{and} \quad 130
\]

* \( p < .05 \)

** \( p < .01 \)

*** \( p < .001 \)
Table 11
Effects of Procedural Justice and Knowledge of Organizational Procedures on Job Satisfaction Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th>After Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
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</tr>
<tr>
<td>Procedural Justice</td>
<td>.665</td>
<td>9.679***</td>
</tr>
<tr>
<td>Knowledge of Organizational Procedures</td>
<td>.046</td>
<td>.676</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.162</td>
<td>-2.227*</td>
</tr>
<tr>
<td>Age</td>
<td>.008</td>
<td>.098</td>
</tr>
<tr>
<td>Tenure</td>
<td>.238</td>
<td>3.258**</td>
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<tr>
<td>Job Type</td>
<td>-.080</td>
<td>-.920</td>
</tr>
<tr>
<td>Salary</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 \] = .465 \hspace{1cm} .540

\[ F(2, 127) = 55.189*** \hspace{1cm} F(7, 122) = 20.495*** \]

\[ N \] = 130 \hspace{1cm} 130

* \( p < .05 \)
** \( p < .01 \)
*** \( p < .001 \)
Table 12
Effects of Procedural Justice and Knowledge of Organizational Procedures on Organizational Commitment Before and After Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Controls</th>
<th></th>
<th>After Controls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>.329</td>
<td>3.722***</td>
<td>.349</td>
<td>4.161***</td>
</tr>
<tr>
<td>Knowledge of Organizational Procedures</td>
<td>.128</td>
<td>1.481</td>
<td>.027</td>
<td>.268</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.074</td>
<td>-.819</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.348</td>
<td>3.497***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization Tenure</td>
<td>-.001</td>
<td>-.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Type</td>
<td>-.003</td>
<td>-.029</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary</td>
<td></td>
<td>.040</td>
<td></td>
<td>.349</td>
</tr>
<tr>
<td>[R^2]</td>
<td>.148</td>
<td></td>
<td>.278</td>
<td></td>
</tr>
<tr>
<td>[F(2, 127) = 11.032***]</td>
<td></td>
<td></td>
<td>[F(7, 122) = 6.717***]</td>
<td></td>
</tr>
<tr>
<td>[N]</td>
<td>130</td>
<td></td>
<td>130</td>
<td></td>
</tr>
</tbody>
</table>

* \(p < .05\)
** \(p < .01\)
*** \(p < .001\)
The mediating effect of procedural justice. All of the conditions necessary to establish the mediating influence of procedural justice perceptions have been demonstrated: (1) knowledge of organizational procedures has been shown to influence procedural justice in the first equation; (2) knowledge of organizational procedures has been shown to affect each of the four personal or work-related outcomes in the second set of equations; and (3) it has been demonstrated that perceptions of procedural justice significantly influence all but one of the personal or work-related outcomes in the third set of equations.

Because all three of these conditions hold in the predicted directions, if the effect of knowledge of organizational procedures on each of the four dependent variables is smaller in the third equation than in the second, the mediating effect of procedural justice is supported. In other words, to demonstrate that perceptions of procedural justice are a successful mediator in the model, the formerly significant relationships between knowledge of organizational procedures and each of the four dependent variables will attenuate toward zero and no longer be significant in the third and final set of equations. The successful mediation of perceptions of procedural justice was supported for three of the four personal or work-related outcomes (i.e., evaluations of supervisors, job satisfaction, and organizational commitment).
The exception to this support, however, was for the proposed mediating effect of procedural justice on the relationship between knowledge of organizational procedures and OCB. The relationship between knowledge of organizational procedures and OCB did not significantly attenuate from the second equation ($\beta = .287, p < .01$) to the third equation ($\beta = .279, p < .01$) after procedural justice was added to the regression equation. Thus, the data failed to support hypothesis 10; perceptions of procedural justice did not mediate the relationship between knowledge of organizational procedures and OCB.

By contrast, whereas in the second equation the standardized coefficient for knowledge of organizational procedures and evaluation of supervisor was $.278 (p < .01)$, this coefficient attenuated to a nonsignificant -.077 when procedural justice was added to the regression equation. Strong support was found for hypothesis 11; the previously significant relationship between knowledge of organizational procedures and evaluation of supervisors all but disappeared when these perceptions were controlled, providing strong support for the mediating effect of procedural justice on this relationship.

Strong support also was found for hypothesis 12; the previously significant relationship between knowledge of organizational procedures and employee job satisfaction in the second equation ($\beta = .312, p < .01$) was all but
eliminated and no longer was significant after procedural justice was added to the regression equation ($\beta = .020$). Clearly, perceptions of procedural justice had a nearly complete mediating effect on the relationship between knowledge of organizational procedures and employee job satisfaction.

In addition, the once significant relationship between knowledge of organizational procedures and organizational commitment from the second equation ($\beta = .185$, $p < .10$) no longer is significant in the third equation ($\beta = .027$). This attenuation toward zero after the addition of perceptions of procedural justice in the third equation provides support for hypothesis 13. Summaries of these mediational analyses appear in Tables 13 and 14.

Therefore, the influence of knowledge of organizational procedures alone, the influence of procedural justice alone, and the reductions in the independent variable coefficient magnitude indicate that fairness perceptions of organizational procedures mediate the extent to which employees positively evaluated their supervisors, their satisfaction with their jobs, and their commitment to the organization. Illustrations of the results of the mediational analyses appear in Figures 2, 3, 4, and 5. These figures indicate the significant and non-significant relationships among knowledge of organizational procedures, procedural justice, and each of the four outcomes. The
Table 13
Regression Analyses (Including Control Variables) for Organizational Citizenship Behavior and Evaluation of Supervisor With and Without Procedural Justice as a Covariate

<table>
<thead>
<tr>
<th>Variable</th>
<th>Organizational Citizenship Behavior</th>
<th>Evaluation of Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$t$</td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.287</td>
<td>2.917**</td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.177</td>
<td></td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.279</td>
<td>2.617**</td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>.016</td>
<td>.771</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.178</td>
<td></td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.001</td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$
** $p < .01$
*** $p < .001$
Table 14
Regression Analyses (Including Control Variables) for Job Satisfaction and Organizational Commitment With and Without Procedural Justice as a Covariate

<table>
<thead>
<tr>
<th>Variable</th>
<th>Job Satisfaction</th>
<th>Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$t$</td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.312</td>
<td>3.205**</td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.190</td>
<td></td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>.646</td>
<td>9.647***</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.540</td>
<td></td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.350***</td>
<td></td>
</tr>
</tbody>
</table>

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Procedural Justice

Knowledge of Organizational Procedures

Organizational Citizenship Behavior

$\beta = .438^{**}$

$\beta = .016$

$\beta = .279^{**}$

(attenuated from $\beta = .287^{**}$)

$R^2 = .178$

$F(7, 122) = 3.761^{***}$

$* = \rho < .05$

$** = \rho < .01$

$*** = \rho < .001$

Figure 2

Mediational Analysis for OCB
Figure 3
Mediation Analysis for Evaluation of Supervisor
Figure 4
Mediation Analysis for Job Satisfaction
Procedural Justice

Organizational Commitment

\[ \beta = 0.027 \]

Knowledge of Organizational Procedures

\[ \beta = 0.483^{***} \]

\[ R^2 = 0.278 \]

\[ F(7, 122) = 4.372^{***} \]

\( + = \rho < 0.10 \quad * = \rho < 0.05 \quad ** = \rho < 0.01 \quad *** = \rho < 0.001 \)

Figure 5

Mediation Analysis for Organizational Commitment
regression coefficients that appear are those taken from the third equation, when each outcome was regressed separately on the five control variables, knowledge of organizational procedures, and procedural justice.

**Exploratory Analyses**

An attempt was made to address the unanticipated inability of perceptions of procedural justice to: (a) predict OCB; and (b) mediate the relationship between procedural knowledge and OCB. In the present study, the four dimensions used to represent OCB (i.e., altruism, courtesy, conscientiousness, and sportsmanship) were combined into a single scale. Previous research on OCB often has treated the dimensions of OCB separately (e.g., Moorman, 1991; Organ, 1988). Given this fact, the single OCB scale used in the present study was factor analyzed to determine if: (a) the items identified in previous research as comprising a single dimension of OCB loaded on a single factor in the present study; and (b) regressing the separate dimensions of OCB on knowledge of procedures and procedural justice would better explain the nature of these relationships.

To determine which items should contribute to the separate scale scores, the OCB scale was factor analyzed using principle components analysis and, to allow for correlations among the factors, analytic oblique (oblimin) rotation. Oblique rotation generates both a structure and a
pattern factor matrix. Although both were considered when evaluating the rotation, it is the pattern factor matrix that is reported in Table 15. As noted by Rummel (1970), the pattern matrix is best for determining the clusters of variables defined by the oblique factors. These pattern loadings may be interpreted as measures of the unique contribution each factor makes to the variance of each of the variables.

The analysis extracted four factors for the citizenship behaviors reflecting the four hypothesized OCB dimensions. The resulting factor analysis of the rotated solution is reported in Table 15. With the exception of item 3, all items loaded significantly on their hypothesized factors in a manner consistent with earlier work by Moorman (1991). The factor loading for item 3 ("I willingly give my time to help others who have work-related problems") loaded not on the altruism subscale as expected, but cross-loaded on the courtesy subscale. As a result, item 3 was included in the courtesy subscale when the regression equations were re-estimated using the four separate OCB subscales in place of the single OCB scale used initially.

The same series of regression equations computed earlier were estimated again. However, instead of treating OCB as a single dependent variable, this time the four OCB dimensions (altruism, courtesy, conscientiousness, and sportsmanship) were entered as separate dependent variables.
Table 15
Factor Analysis of Organizational Citizenship Behavior Scale
(Pattern Matrix After Oblique Rotation)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I help others who have heavy workloads.</td>
<td>-.03657</td>
<td>.06245</td>
<td>-.07710</td>
<td>.89351</td>
</tr>
<tr>
<td>I help others who have been absent.</td>
<td>.05366</td>
<td>-.12783</td>
<td>.08602</td>
<td>.85509</td>
</tr>
<tr>
<td>I willingly give my time to help others who have work-related problems.</td>
<td>.66868</td>
<td>-.14517</td>
<td>-.04480</td>
<td>-.03995</td>
</tr>
<tr>
<td>I take steps to prevent problems with other co-workers.</td>
<td>.81121</td>
<td>.14944</td>
<td>-.12204</td>
<td>.06912</td>
</tr>
<tr>
<td>I try to avoid creating problems for co-workers.</td>
<td>.76976</td>
<td>-.06469</td>
<td>.04968</td>
<td>.04619</td>
</tr>
<tr>
<td>I touch base with others before initiating actions.</td>
<td>.42916</td>
<td>.31916</td>
<td>.25397</td>
<td>-.04098</td>
</tr>
<tr>
<td>I am mindful of how my behavior affects other peoples' jobs.</td>
<td>.34726</td>
<td>.16926</td>
<td>.08019</td>
<td>.18286</td>
</tr>
<tr>
<td>I take long lunches or breaks.</td>
<td>-.10746</td>
<td>-.00010</td>
<td>.77601</td>
<td>.07782</td>
</tr>
<tr>
<td>I take unnecessary time off work.</td>
<td>.07225</td>
<td>-.02883</td>
<td>.78872</td>
<td>.12611</td>
</tr>
<tr>
<td>I take extra breaks.</td>
<td>-.03832</td>
<td>-.01623</td>
<td>.87221</td>
<td>-.18546</td>
</tr>
<tr>
<td>I tend to make &quot;mountains out of molehills.&quot;</td>
<td>-.33266</td>
<td>.74694</td>
<td>-.02171</td>
<td>.09110</td>
</tr>
<tr>
<td>I express resentment with any new changes in my department.</td>
<td>.01933</td>
<td>.75224</td>
<td>-.12770</td>
<td>-.14230</td>
</tr>
<tr>
<td>I can find fault with what the organization is doing.</td>
<td>.11275</td>
<td>.69970</td>
<td>.12542</td>
<td>-.02271</td>
</tr>
</tbody>
</table>

Eigenvalue (Unrotated solution)                                               | 2.94     | 1.81     | 1.79      | 1.46    |
Percent of variance explained                                                 | 22.6%    | 13.9%    | 13.8%     | 11.2%   |
Cumulative percent variance explained                                         | 22.6%    | 36.5%    | 50.3%     | 61.5%   |
Using the four separate OCB subscales as dependent variables in the regression equations did not provide any additional information as to why perceptions of procedural justice failed to significantly predict OCB initially. As reported in Table 16, knowledge of organizational procedures significantly predicted only altruism and courtesy (both before and after procedural justice perceptions were controlled), but procedural justice was not significantly related to any of the four OCB measures, therefore making a discussion of any mediational effect nonsensical.

**Summary of Support for Hypotheses**

In general, the data provided strong support for the hypothesized relationships in the mediational model. Knowledge of organizational procedures was significantly and positively related to perceptions of procedural justice, supporting hypothesis 1. Similarly, hypotheses 2 through 5 also were supported: significant and positive relationships were found between knowledge of organizational procedures and OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment. The data failed to support hypothesis 6: no significant relationship was found between procedural justice judgments and OCB. However, significant and positive relationships were found between perceptions of procedural justice and each of the remaining specified outcomes, thus supporting hypotheses 7, 8, and 9.
Table 16
Results of Regression Analyses for OCB Subscales (With Controls)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Altruism</th>
<th></th>
<th></th>
<th>Consci.</th>
<th></th>
<th></th>
<th>Sportsmn.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
<td>β</td>
<td>t</td>
<td>β</td>
<td>t</td>
<td>β</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.243</td>
<td>2.465*</td>
<td>.321</td>
<td>3.167**</td>
<td>-.108</td>
<td>-1.072</td>
<td>.156</td>
<td>1.496</td>
<td></td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.174</td>
<td></td>
<td>.122</td>
<td></td>
<td>.138</td>
<td></td>
<td>.075</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>4.317***</td>
<td></td>
<td>2.847*</td>
<td></td>
<td>3.284**</td>
<td></td>
<td>1.664</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of Organizational</td>
<td>.258</td>
<td>2.419*</td>
<td>.304</td>
<td>2.763**</td>
<td>-.096</td>
<td>-.876</td>
<td>.128</td>
<td>1.134</td>
<td></td>
</tr>
<tr>
<td>Procedural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Justice</td>
<td>-.035</td>
<td>-.385</td>
<td>.038</td>
<td>.408</td>
<td>-.027</td>
<td>-.295</td>
<td>.061</td>
<td>.646</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.175</td>
<td></td>
<td>.123</td>
<td></td>
<td>.139</td>
<td></td>
<td>.078</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.001</td>
<td></td>
<td>.001</td>
<td></td>
<td>.001</td>
<td></td>
<td>.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>3.696***</td>
<td></td>
<td>2.447*</td>
<td></td>
<td>2.806**</td>
<td></td>
<td>1.479</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$
** $p < .01$
*** $p < .001$
With respect to the mediating effect of procedural justice, the data failed to support hypothesis 10, that procedural justice perceptions mediate the relationship between knowledge of organizational procedures and OCB. Because no predictive relationship existed between procedural justice and OCB (i.e., hypothesis 6 was not supported), a condition necessary to demonstrate the mediating influence of procedural justice on the relationship between knowledge of procedures and OCB was not met to subsequently demonstrate any mediating effect of procedural justice. However, judgments of procedural fairness were found to mediate the relationships between knowledge of organizational procedures and employees' evaluations of supervisors, job satisfaction, and organizational commitment, respectively supporting hypotheses 11, 12, and 13. A summary of the hypotheses and support or lack of support for each appears in Table 17.
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: There will be a significant and positive relationship between knowledge of organizational procedures and perceptions of procedural justice.</td>
<td>supported</td>
</tr>
<tr>
<td>H2: There will be a significant and positive relationship between knowledge of organizational procedures and organizational citizenship behavior (OCB).</td>
<td>supported</td>
</tr>
<tr>
<td>H3: There will be a significant and positive relationship between knowledge of organizational procedures and employees' evaluations of supervisors.</td>
<td>supported</td>
</tr>
<tr>
<td>H4: There will be a significant and positive relationship between knowledge of organizational procedures and job satisfaction.</td>
<td>supported</td>
</tr>
<tr>
<td>H5: There will be a significant and positive relationship between knowledge of organizational procedures and organizational commitment.</td>
<td>supported</td>
</tr>
<tr>
<td>H6: There will be a significant and positive relationship between perceptions of procedural justice and organizational citizenship behavior.</td>
<td>not supported</td>
</tr>
<tr>
<td>H7: There will be a significant and positive relationship between perceptions of procedural justice and employees' evaluations of supervisors.</td>
<td>supported</td>
</tr>
</tbody>
</table>
## Table 17 (continued)
### Summary of Support for Hypotheses

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H8: There will be a significant and positive relationship between perceptions of procedural justice and job satisfaction.</td>
<td>supported</td>
</tr>
<tr>
<td>H9: There will be a significant and positive relationship between perceptions of procedural justice and organizational commitment.</td>
<td>supported</td>
</tr>
<tr>
<td>H10: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and OCB will attenuate toward zero and no longer will be significant.</td>
<td>not supported</td>
</tr>
<tr>
<td>H11: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and employee evaluations of supervisors will attenuate toward zero and no longer will be significant.</td>
<td>supported</td>
</tr>
<tr>
<td>H12: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and job satisfaction will attenuate toward zero and no longer will be significant.</td>
<td>supported</td>
</tr>
<tr>
<td>H13: When procedural justice is controlled, the significant and positive relationship between knowledge of organizational procedures and organizational commitment will attenuate toward zero and no longer will be significant.</td>
<td>supported</td>
</tr>
</tbody>
</table>
CHAPTER IV
DISCUSSION

The purpose of this research was to examine the mediating effect of procedural justice on the relationships between knowledge of organizational procedures and each of four outcomes: OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment. This study is important because currently no clear explanation exists as to how and why procedural knowledge affects OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment. It was proposed and supported that it is not the knowledge employees have about their organizations per se that leads to these desirable outcomes. Rather, procedural knowledge affects judgments of procedural justice, and it is these fairness judgments that contribute to positive evaluations of supervisors, higher job satisfaction, and greater organizational commitment.

One of the important contributions of this study is that it sheds some light on the nature of the relationship between organizational procedures and certain personal and work-related outcomes. Organizational theorists long have held that the procedures an organization uses can have
profound effects upon employees (e.g., Argyris, 1964). But how is it that these procedures affect employees’ attitudes and behaviors? By simultaneously examining employees’ knowledge of their organization’s procedures and the extent to which they judge these procedures to be fair, the nature of the relationships of these variables to each of the outcomes becomes clearer. The results from this study demonstrate that having greater knowledge of procedures increases fairness judgments of the procedures which, in turn, affect work-related outcomes. These findings indicate that an important implication for managers is that they should not simply be concerned with communicating information about organizational procedures to employees to increase their knowledge; they must also consider impressing upon employees the fairness of the procedures as well (cf. Greenberg, 1990b).

Theorists (e.g., Bies, 1987; Greenberg, 1990b; Greenberg et al., 1991) already have begun to investigate justice from an impression management perspective (Schlenker, 1980). Schlenker defines impression management as, "the conscious or unconscious attempt to control images that are projected in real or imagined social interactions" (p.6). Although impression management typically pertains to the concern an individual has about projecting an image of himself as fair (e.g., Greenberg, 1990b), it also is conceivable that one could cultivate an image of fairness on
behalf of an institution (i.e., with respect to its procedures). Because managers are representatives of an organization and often are regarded as extensions of it (Levinson, 1965), they clearly can influence not only employees' fairness impressions of themselves, but of organizational procedures as well. Indeed, attempts on behalf of organizations to establish themselves as fair in their treatment of employees may be the results of efforts to cultivate a corporate image of fairness (Greenberg, 1988). After a discussion of the mediational model, the implications of managing impressions of procedural fairness will be discussed.

The Mediational Model

Although demonstrating the mediating effect of procedural justice was the focus of this study, a number of other relationships needed to be established before attempting to test the proposed mediating effect of procedural justice. A discussion of the relationships in the model and the results of the analyses appears below.

The Relationship Between Knowledge of Organizational Procedures and Procedural Justice

Support was found for hypothesis 1; knowledge of organizational procedures was significantly and positively related to perceptions of procedural justice. This finding is consistent with research on cognition that has
demonstrated that one's perceptions are influenced by one's familiarity with or knowledge of a stimulus (e.g., Bruner et al., 1956; Johnson, 1955). In keeping with this, procedural justice researchers have found that the amount and type of information employees have about an organizational procedure influences their perceptions of the fairness of that procedure (for reviews see Folger & Greenberg, 1985; Greenberg & McCarty, 1990a). Research on this relationship has been conducted primarily with regard to pay decisions in organizations in general, and open pay systems and pay system communication in particular. For example, there is evidence to suggest that an open pay system will positively influence perceptions of procedural fairness because it: (1) provides information about how allocators make decisions about the pay people receive; and, (2) ensures that these decision-making procedures are not being violated (Folger & Greenberg, 1985). In addition, Leventhal (1980) suggested that information sharing provides a "safeguard" to the abuses of power by decision-makers, thereby increasing perceptions of procedural justice on the part of those affected by the decisions reached by others.

It also has been theorized that informal interpersonal communication may also influence procedural fairness perceptions (Bies, 1987). For example, the information employees receive about how pay is determined and the adequacy of the explanations about the procedures used to
make pay decisions may influence the fairness judgments employees make about the procedures themselves (for a review see Greenberg & McCarty, 1990a).

The present study has attempted to extend the existing support found for the relationship between employee knowledge of a particular organizational procedure (i.e., how pay decisions are made) and perceptions of procedural fairness to encompass other types of organizational procedures as well. Respondents in the present study were asked to report the extent of their knowledge of several organizational procedures simultaneously (e.g., how pay raise decisions are made, how performance is evaluated, how resource allocations are made) to determine if a relationship existed between how knowledgeable employees felt and their perceptions of procedural fairness. Consistent with earlier research on pay raise decisions, a significant relationship was found between general knowledge of procedures and perceptions of procedural fairness.

Obviously, employee perceptions of the fairness of organizational procedures may be affected by a number of factors. The importance of controlling for several demographic variables is evident in light of this fact. Although research has not indicated any particular demographic characteristic significantly predicts perceptions of procedural justice, certain individual attributes were included in the present study. Age, gender,
job type, organization tenure, and salary were controlled to ensure none would suppress or augment the relationship between knowledge of organizational procedures and perceptions of procedural fairness. After controlling for these variables, knowledge of organizational procedures was found to significantly predict perceptions of procedural justice.

The Relationships Between Knowledge of Organizational Procedures and Personal and Work-Related Outcomes

In general, support also was found for the relationships between knowledge of organizational procedures and each of the four outcomes. It was necessary to establish these relationships as a preliminary step toward establishing the mediating effect of procedural justice on these relationships. In other words, if no relationship exists between two variables, it makes no sense to investigate what might intervene between the two as a means of explaining the nature of the (absent) relationship.

Support was found for the relationships between knowledge of organizational procedures and all four of the specified outcomes: OCB, employees' evaluations of supervisors, job satisfaction, and organizational commitment. These findings are consistent with the long-held notion that the procedures organizations establish can contribute to positive work-related outcomes for the organization and positive personal outcomes for employees.
(e.g., Argyris, 1964; Katz & Kahn, 1978). However, given that all organizations establish procedures to make decisions in any number of areas, it is not particularly useful to examine the influence that the presence or absence of such procedures has on personal and work-related outcomes. Rather, the present study focuses on the relationships between the extent of employee knowledge with procedures and a variety of outcomes. The question of whether or not these relationships exist has been answered; the greater issue becomes explaining these relationships with respect to other variables also known to influence these personal and work-related outcomes.

**The Relationship Between Procedural Justice and Personal and Work-Related Outcomes**

The results indicated that procedural justice was a significant predictor of employee evaluations of supervisors, job satisfaction, and organizational commitment, relationships already well-documented in the procedural justice literature. Contrary to expectations, however, was the failure of the data to support the hypothesized relationship between procedural justice perceptions and OCB. A discussion of these results follows.

The significant relationships found between procedural justice and evaluation of supervisor, job satisfaction, and organizational commitment have been found in previous studies. For example, procedural fairness has been found to
influence leader endorsement (Tyler et al., 1985) and evaluations of supervisors (Alexander & Ruderman, 1987; McFarlin & Sweeney, 1992; Tyler & Caine, 1981). In addition, earlier findings by Alexander and Ruderman (1987) and Konovsky and Cropanzano (1991) have supported the ability of procedural justice to predict job satisfaction. Finally, previous studies also have shown that procedural justice judgments can affect organizational commitment. For example, field studies by Konovsky & Cropanzano (1991) and McFarlin & Sweeney (1992) have demonstrated that perceptions of procedural fairness are significantly related to organizational commitment.

One unanticipated result of the study was the failure of procedural justice to significantly predict OCB. Organ (1988) has contended that employees who perceive they are being fairly treated more likely will behave as good citizens. Contrary to earlier empirical studies (e.g., Moorman, 1991), procedural justice in this study neither significantly predicted OCB nor was it even a significant correlate. However, there exist several plausible explanations for the absence of any significant relationships.

For example, Moorman (1991) found a significant relationship between procedural justice and OCB, but it was only a particular type of procedural justice (i.e., "interactional") that he found to be significantly related
to OCB; the formal aspects of procedural justice were not significantly related to OCB. He treated the formal (i.e., structural) and interactional (i.e., interpersonal) components of procedural justice as separate dimensions of the construct. In the present study, the two aspects were combined into a single measure of procedural justice, consistent with the views of other procedural justice researchers (e.g., Greenberg, 1990c; Greenberg & McCarty, 1990a). The more comprehensive measure (combining the structural and interpersonal aspects) of procedural justice perceptions used in the present study may have accounted for the lack of a significant relationship between the two variables.

Another potential explanation for the lack of a significant relationship may be due to how OCB was measured in the present study; the OCB scale used in the present study was a self-report measure. By contrast, Moorman (1991) asked supervisors to evaluate the OCB of their subordinates. Moorman cites a study by Williams (1988) that attests to the greater structural stability of supervisor reports when contrasted with self-reports or co-worker reports of OCB. Nonetheless, self-report measures of OCB have been used in previous studies (for a review, see Organ, 1988) and the argument may still be made (as it was by Moorman) that OCB, by definition, consists of behaviors that may be beyond the purview of supervisors, suggesting
supervisors may not be the best source of information regarding OCB.

Finally, the psychometric properties of the OCB scale used in the present study may also explain the inability of procedural justice perceptions to predict OCB. Specifically, virtually all respondents agreed that they were, in most respects, very good citizens. First, the distribution of the OCB scores was highly skewed to the high side of the scale. Fully 88% of the respondents' scale averages fell between 3.6 and 4.4 on the OCB scale, which ranged from 1 (= Strongly Disagree) to 5 (= Strongly Agree). Secondly, because so many employees agreed they engaged in OCB, the limited variance of their responses may pose difficulties (the standard deviation of the OCB scale was .342). In addition, the acceptable, but relatively modest coefficient alpha for the OCB scale (.70) may raise concerns about the internal consistency of the measure.

The Mediating Effect of Procedural Justice

The results provide strong support for the mediating effect of procedural justice perceptions on the relationships between procedural knowledge and three of the specified outcomes. The data suggest that knowledge of organizational procedures positively influences perceptions of procedural justice which, in turn, positively influence subordinates' evaluations of their supervisors, job satisfaction, and organizational commitment. Although
knowledge of procedures alone significantly predicts these three outcomes, when perceptions of the fairness of these procedures was controlled, the relationship between knowledge of procedures and the three outcomes all but disappeared. The exception to the general support for the mediating effect of procedural justice is that procedural justice perceptions did not mediate the relationship between knowledge of procedures and OCB. These results are discussed in the following section.

Support for the mediating effect of procedural justice was evident for evaluations of supervisors, job satisfaction, and organizational commitment. This support was demonstrated in two ways: (1) procedural justice was a significant predictor of each of these three outcomes; and (2) when procedural justice was controlled, a previously significant relationship between knowledge of procedures and each of the three outcomes no longer was significant. These results indicate that, although organizational procedures can be important predictors of certain work-related outcomes (e.g., Argyris, 1964; Katz & Kahn, 1978), they do not directly account for increases in these outcomes. Rather, knowledge of the procedures affects employee fairness perceptions and it is these fairness perceptions that positively influence these outcomes.

The discussion earlier of why procedural justice failed to significantly predict OCB provides a partial explanation
as to why one should therefore not expect procedural justice to be a successful mediator of the procedural knowledge - OCB relationship: establishing a mediator-dependent variable relationship is a necessary (although not sufficient) condition to demonstrate mediation.

Perhaps the most widely recognized predictor of OCB is job satisfaction (Organ, 1988). A large number of studies have consistently found statistically reliable associations between OCB and job satisfaction (for a review, see Organ, 1988). Although these studies as a group share the limitation that they provide little foundation for causal inference, they do lend support to the existence of a meaningful OCB-job satisfaction relationship. It is likely that variables not included in the present study better account for why employees engage in OCB.

Limitations, Future Directions, and Implications

Limitations of the Study

Despite its contributions, there are several methodological and statistical limitations to the present study. The most fundamental limitation of this study is its reliance on cross-sectional, self-report data. As a correlational study, the ability to make causal statements about the hypothesized relationships is severely limited. Collecting longitudinal data would be a step toward making causal inferences about the relationships in the study.
In addition, the study's reliance on self-report data raises concerns about common method variance (Podsakoff & Organ, 1986; Williams, Cote, & Buckley, 1989). When all measures come from the same source, any deficiency in that source may contaminate all of the measures, resulting in erroneous correlations between measures. Using multiple measures for the variables (e.g., obtaining information from other sources, such as supervisor evaluations of subordinate OCB) would alleviate some of these concerns. There also is the potential for response bias to have contaminated the results. However, given the systematic sampling of respondents and the similarity of the demographic (control) characteristics of the sample to the population as a whole, this concern should be minimal. Additionally, drawing the entire sample from a single organization limits the generalizability of the results.

A final methodological limitation of the present study is its reliance on respondents' self-reported knowledge of organizational procedures. It is not so much the source of the information that is limiting as it is the faith given by the researcher to these self-reports of perceptions of knowledge; that is, employees were not given an actual test to measure their knowledge of their organization's procedures, they merely were asked to report how much they felt they knew. Self-reports of knowledge, like most self-report measures, are susceptible to numerous biases (Arnold
& Feldman, 1981; Mabe & West, 1982). A measure of factual, rather than perceived, knowledge could be developed and used to assess what employees actually know, rather than what they think they know. Although still obviously collected directly from respondents, this type of measure would be a step toward more accurately measuring employee procedural knowledge.

Another issue that needs to be addressed is that of multicollinearity. Because in a mediational model the independent variable (i.e., knowledge of organizational procedures) is presumed to affect the mediator (i.e., perceptions of procedural justice), these two variables should be correlated. Because knowledge of procedures and procedural justice are correlated, it is difficult to cleanly separate their effects on each of the four dependent variables in the model. The presence of this correlation results in multicollinearity when the effects of the independent variable and the mediator on the dependent variable are estimated (i.e., in the third equation), resulting in reduced power in the tests of these coefficients (Baron & Kenny, 1986; Cohen & Cohen, 1983). The relatively small sample used in the present study also exacerbates the issue of limited statistical power.

Baron & Kenny (1986) recommend that, in addition to looking at the significance of the coefficients, their absolute size also should be examined. The implication is
that it is possible for the independent variable to have a smaller coefficient when it alone predicts the dependent variable than when it and the mediator together are predictors but the larger coefficient is not significant and the smaller one is significant. Both the significance of the coefficients and their absolute size were examined in the present study, with no indication that multicollinearity significantly reduced the power of estimating these coefficients [see Tables 13 and 14 (pp. 91-92) for a summary].

The potential difficulties multicollinearity presents often are discussed when multicollinearity is extreme (i.e., above .80, see Billings & Wroten, 1978). Given the substantially smaller relationship between knowledge of procedures and procedural justice and the information obtained by examining the estimated coefficients as recommended by Baron & Kenny (1986), multicollinearity does not appear to pose any serious threats to the interpretation of the data.

A limitation of using multiple regression to estimate a mediational model is that it requires that two important assumptions be met. First, the use of this technique assumes there is no measurement error in the mediator. Given the psychological nature of the mediator in the present study it is quite likely to have been measured with error. The primary difficulty presented by violating this
assumption is that a mediator measured with error tends to yield an underestimate of the effect of the mediator on the dependent variable and an overestimate of the effect of the independent variable on the dependent variable when all the coefficients are positive (Judd & Kenny, 1981b). Because the presence of measurement error attenuates the size of measures of association, successful mediation may be passed over. However, given the successful mediating effect of procedural justice found for three of the four outcome variables, the mediator in the present study does not appear to have been measured with an inordinate amount of error.

The second assumption made when using multiple regression to test mediational models is that the dependent variable does not cause the mediator (Cohen & Cohen, 1983). Rather than perceptions of procedural justice leading to OCB, positive evaluations of supervisors, increased job satisfaction, and greater organizational commitment, the order of causality could be reversed. Although this causality cannot be demonstrated statistically, the theoretical support for perceptions of procedural fairness as an antecedent to these outcomes rather than as a consequence of them already has been demonstrated.

**Directions for Future Research**

In response to some of the limitations of the study, several recommendations for future research already have been made in the above section. In addition, one
increasingly common approach to deal with some of the present study's limitations is to use a structural modeling technique (e.g., LISREL-VII, Jöreskog & Sörbom, 1989) to estimate the causal parameters in a mediational model. There are two primary advantages of using such an approach. First, this technique was specifically developed for the analysis of non-experimental data (e.g., field correlational studies). Second, the complications of measurement error and causal ordering are incorporated directly into the model.

In addition to alternate statistical approaches, future research in this area should consider more complex models of these types of variables when investigating the mediating effect of fairness perceptions. For example, assessing overall fairness perceptions involves more than the judgments people make about the procedures used to determine outcomes; clearly the perceived fairness of the outcomes themselves (i.e., distributive justice) also contributes to perceptions of fair treatment by an organization. Despite the relatively greater predictive ability of procedural justice, a number of studies have found significant relationships between distributive fairness perceptions and the personal and work-related outcomes discussed here (e.g., Alexander & Ruderman, 1987; McFarlin & Sweeney, 1992; Moorman, 1991). Models including distributive justice and several outcome variables simultaneously could be tested
(e.g., using structural modeling) to better explicate the nature of the relationships among the variables.

This study provides only an introduction to: (1) the effects employees' knowledge of organizational procedures has on procedural justice judgments; and (2) the mediating effect of procedural justice on the relationships between procedural knowledge and employees' evaluations of supervisors, job satisfaction, and organizational commitment. It is recommended that future research explore the role of procedural knowledge as a determinant of procedural justice judgments. As suggested earlier, future researchers could develop a factual test of employee procedural knowledge. Such a test would overcome the reliance in this study on employees' perceptions of their procedural knowledge. Although a factual test of employees' procedural knowledge would have to be developed for use in a specific organization, the development of such a test would provide new insight into the issue and effects of procedural knowledge.

Theoretical and Practical Implications

The findings of this dissertation are noteworthy in several respects. First, the finding that procedural knowledge is a significant predictor of procedural justice perceptions suggests that explorations of the antecedents of procedural justice be broadened to incorporate this finding. Research on the antecedents of procedural justice in
organizations typically has focused on Leventhal’s six structural principles of fairness (Leventhal, 1980; Leventhal et al., 1980) and on the interpersonal context of the enactment of procedures (e.g., Tyler & Bies, 1990). Apparently, it is not only the structural aspects of procedures and the manner in which they are enacted that affect judgments of procedural justice; the knowledge employees possess about their organization’s procedures also affects these judgments. In light of this finding, perhaps current theory that attempts to identify what contributes to the perceived fairness of organizational procedures should be expanded to accommodate procedural knowledge.

Another interesting aspect of the present study that has important theoretical implications is that having knowledge about organizational decision-making processes is not directly related to beneficial organizational or personal outcomes. The results of the present study suggest that it is the extent to which employees perceive these procedures as fair, and not their knowledge about them per se, that leads to positive employee evaluations of supervisors, more satisfied workers, and a more committed workforce.

The finding that procedural knowledge only indirectly affects beneficial work-related outcomes (via perceptions of procedural fairness) is not consistent with a common organizational and managerial assumption about the
communication of procedural information. Namely, many managers assume that employees' knowledge of organizational procedures is directly related to beneficial outcomes for both employees and the organization (Kreps, 1990). A quote from the director of human resources in a small manufacturing firm reflects this assumption:

We can't afford to not communicate our programs, policies, and procedures fully. There are effectiveness, personal development, and legal reasons why everyone in the firm has to be human resource management knowledgeable. Communicating human resource management programs just does not [sic] happen; a manager has to work at it constantly (Ivancevich, 1992, p. 12).

This human resource director has made the reasonable assumption that employees should be knowledgeable of their organization's procedures. However, his reasoning suggests that communicating procedural information to employees is an end in and of itself. No consideration is given to what is communicated or, more importantly, how it is communicated.

From a practical standpoint, the findings of the present study imply that managers in organizations should pay far greater attention to both the type of information that is communicated to employees about organizational procedures and the manner in which it is communicated. Namely, managers should emphasize both the use of fair
procedures and communicating this procedural fairness to employees. Procedural knowledge alone is not the key to positive evaluations of supervisors, satisfied workers, or organizationally committed employees; it is only if the procedures are regarded as fair that these outcomes likely will result.

How does a manager accomplish the task of communicating procedural fairness to employees? Recent procedural justice research suggests that managers can cultivate impressions of fairness (e.g., Greenberg, 1990b; Greenberg et al., 1991). For example, a manager should consider what subordinates may be looking for when they judge an organization’s or manager’s decision process (Greenberg et al., 1991). Greenberg et al., (1991) suggest that subordinates consider six questions when judging the fairness of managerial behavior: Does the manager: (1) adequately consider his or her subordinates’ viewpoints? (2) appear to be neutral? (3) apply decision-making criteria consistently? (4) give subordinates timely feedback? (5) provide an explanation for his or her decisions, and (6) treat subordinates with respect and dignity?

The importance of these questions in creating an impression of fairness should not be underestimated. For example, it is usually considered fair to allow subordinates some input into making decisions that affect them (Greenberg et al., 1991). Having "voice" in how decisions are made is
considered fair not only because it provides opportunities to influence the system, but also because it demonstrates that decision-makers are concerned about employees' viewpoints (Lind & Tyler, 1988).

Additionally, by providing an explanation for their decisions, managers produce strong evidence that they have considered and taken into account the information relevant to the decision-making context (Greenberg et al., 1991). In fact, employees so strongly believe an explanation of a decision is a "right" they expect to have fulfilled (Bies & Moag, 1986) that when managers fail to give an explanation it is almost certain that perceptions of unfairness will result (Greenberg et al., 1991).

There also exist important social determinants of procedural fairness (Tyler & Bies, 1990). As discussed earlier, the interpersonal treatment one receives during the enactment of procedures and the adequacy of explanations provided influence procedural justice judgments (Folger & Bies, 1989; Tyler & Bies, 1990). Treating subordinates with respect and dignity clearly are important aspects of the interpersonal context of procedural justice. For example, it has been found that demonstrating concern and sensitivity to employees regarding procedures and their outcomes leads recipients to judge inequitable outcomes as more fair than others who are not treated with the same courtesy (Greenberg, 1993).
The interpretation of the results of this study is not meant to imply that managers should not make the effort to educate their employees about an organization's procedures. On the contrary, procedural knowledge was found to be an important determinant of several beneficial personal and work-related outcomes. What this study provides, however, is clarification of the long-held organizational and managerial assumption that the procedures an organization uses directly affect beneficial work-related outcomes for the organization and positive personal outcomes for employees (e.g., Argyris, 1964; Katz & Kahn, 1978). Specifically, procedural knowledge does not directly affect employees' evaluations of supervisors, job satisfaction, and organizational commitment; it is because the procedures are regarded as fair that these outcomes are positively affected.

Several questions were posed at the beginning of this dissertation with regard to this long-standing managerial belief including: What is the nature of the relationships between organizational procedures and desirable work-related outcomes? Are these relationships dependent upon the knowledge employees have of organizational procedures? If the preferred outcomes are achieved, what role do employee judgments of an organization's procedures play in determining these favorable results? Is an organization's answer to what makes a procedure "effective" answered, in
part, by the extent to which employees regard the procedures as fair? The results of this study have addressed these questions: procedural knowledge is important, but only to the extent that it affects judgments of procedural justice; it is these fairness judgments alone that predict employees' evaluations of supervisors, job satisfaction, and organizational commitment.

The results of this study suggest that managers should not simply devote their energy to providing procedural information to employees in an effort to make them more knowledgeable; they also should make the effort to impress upon employees the fairness of the organization's procedures (cf. Greenberg, 1990b). Knowledge of organizational procedures itself was not demonstrated to have any direct effect on evaluations of supervisors, job satisfaction, or organizational commitment. The influence of procedural knowledge on these outcomes was only indirect, i.e., through the procedural justice perceptions employees formed. It may be that cultivating an image of fairness on behalf of an institution (i.e., with regard to its procedures) benefits not only the manager, but the organization as well.

Conclusions

The stated objectives of this dissertation were: (1) to determine the separate relationships of employee knowledge of organizational procedures with judgments of procedural
justice, OCB, employees’ evaluations of supervisors, job satisfaction, and organizational commitment; (2) to analyze the simultaneous effects of procedural knowledge and procedural justice on each of the specified outcomes; and (3) to ascertain the mediating effect of procedural justice on each of the relationships between procedural knowledge and the four work outcomes. With the exception of the hypothesized procedural justice-OCB relationship, and the hypothesized mediating effect of procedural justice on the relationship between procedural knowledge and OCB, all hypothesized relationships and mediating effects were supported. The results indicated that procedural justice judgments are the mechanism through which knowledge of procedures positively influences employees’ evaluations of supervisors, job satisfaction, and employee commitment to the organization.

Recent research on procedural justice has brought renewed interest to the concept of justice in organizations. However, all previous research in this area has ignored a potentially important determinant of procedural justice judgments: the knowledge employees have about their organization’s procedures. Moreover, by considering the simultaneous effects of procedural knowledge and procedural justice on OCB, employees’ evaluations of supervisors, job satisfaction, and organizational commitment, this study has
clarified the nature of the relationships between these variables.

The concept of fairness in organizations is neither a new concept nor is it one in which interest will soon wane. By shifting their focus away from outcomes themselves to the processes by which outcomes are determined, organizational justice researchers have augmented the already important issue of fairness in organizations. Because the concept of justice incorporates values that are important not just in legal settings but in society at large, researchers likely will continue to explore organizational justice and gain new insights for the foreseeable future.
REFERENCES


Martin, C.L., & Bies, R.J. (1991, August). Just laid off, but still a "good citizen"? Only if the process is fair. Paper presented at the annual meeting of the Academy of Management, Miami Beach, FL.


APPENDIX

SURVEY INSTRUMENT
EXPLANATION OF STUDY

Dear Employee:

This questionnaire is designed to find out how you and others feel about your jobs and your organization. These data will provide me with some of the information I will need to better understand how people feel about their work.

If this questionnaire is to be useful, it is important that you answer every question and to do so frankly and honestly. There are no right or wrong answers to these questions, since I am interested in what you think and how you feel about your work. It should take you approximately 30 minutes to complete the questionnaire.

Your answers to these questions are completely confidential; your name is NOT required nor is it desired. In addition, this questionnaire is not coded in any way to identify participants. No one at this organization will ever have access to your individual answers.

After you complete the questionnaire, please seal it in the envelope provided and deposit it in the marked collection box.

Thank you in advance for your cooperation and assistance. I hope you find the questionnaire interesting and thought provoking.
SECTION A:  For each item circle the extent to which you agree with the following statements. To do this, use the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly</td>
<td>Slightly</td>
<td>Neither Agree</td>
<td>Slightly Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>A1.</td>
<td>I help others who have heavy work loads.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A2.</td>
<td>I help others who have been absent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A3.</td>
<td>I willingly give my time to help others who have work-related problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A4.</td>
<td>I take steps to prevent problems with other co-workers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A5.</td>
<td>I try to avoid creating problems for co-workers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A6.</td>
<td>I touch base with others before initiating actions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A7.</td>
<td>I am mindful of how my behavior affects other peoples' jobs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A8.</td>
<td>I take long lunches or breaks. (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A9.</td>
<td>I take unnecessary time off work. (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A10.</td>
<td>I take extra breaks. (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A11.</td>
<td>I tend to make &quot;mountains out of molehills.&quot; (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A12.</td>
<td>I express resentment with any new changes in my department. (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>A13.</td>
<td>I can find fault with what the organization is doing. (R)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

SECTION B:  Listed below are a series of statements that represent possible feelings individuals might have about the company or organization for which they work. With respect to your own feelings about your organization, please indicate the degree of your disagreement or agreement with each statement. To do this use the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Moderately Disagree</td>
<td>Slightly Disagree</td>
<td>Neither Agree</td>
<td>Slightly Agree</td>
<td>Moderately Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>B1.</td>
<td>I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B2.</td>
<td>I talk up this organization to my friends as a great organization to work for.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B3.</td>
<td>I would accept almost any type of job assignment in order to keep working for this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B4.</td>
<td>I find that my values and the organization's values are very similar.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B5.</td>
<td>I am proud to tell others I am part of this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B6.</td>
<td>This organization really inspires the very best in me in the way of job performance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B7.</td>
<td>I am extremely glad I chose this organization to work for over others I was considering at the time I joined.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B8.</td>
<td>I care about the fate of this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>B9.</td>
<td>For me this is the best of all possible organizations for which to work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
SECTION C: Use the following scale to answer the questions in this section:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all Knowledgeable</td>
<td>Slightly Knowledgeable</td>
<td>Moderately Knowledgeable</td>
<td>Quite Knowledgeable</td>
<td>Extremely Knowledgeable</td>
</tr>
</tbody>
</table>

To what extent are you knowledgeable or familiar with the procedures your organization uses to make decisions in the following areas?

C1. Making hiring decisions  1 2 3 4 5  
C2. Determining pay raises  1 2 3 4 5  
C3. Evaluating employee performance  1 2 3 4 5  
C4. Promoting/advancing employees  1 2 3 4 5  
C5. Resolving employee conflict/disputes  1 2 3 4 5  
C6. Allocating resources  1 2 3 4 5  
C7. Assigning work/projects  1 2 3 4 5  
C8. Terminating/laying off employees  1 2 3 4 5  

SECTION D: Circle the extent to which you are dissatisfied or satisfied with each statement about your job. To do this use the following scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Dissatisfied</td>
<td>Neither Satisfied</td>
<td>Slightly Satisfied</td>
<td>Quite Satisfied</td>
<td>Very Satisfied</td>
</tr>
</tbody>
</table>

"On my present job, this is how I feel about":

D1. Being able to keep busy all the time.  1 2 3 4 5  
D2. The chance to work alone on the job.  1 2 3 4 5  
D3. The chance to do different things from time to time.  1 2 3 4 5  
D4. The chance to be "somebody" in the community.  1 2 3 4 5  
D5. The way my boss handles his/her workers.  1 2 3 4 5  
D6. The competence of my supervisor in making decisions.  1 2 3 4 5  
D7. Being able to do things that don't go against my conscience.  1 2 3 4 5  
D8. The way my job provides for steady employment.  1 2 3 4 5  
D9. The chance to do things for other people.  1 2 3 4 5  
D10. The chance to tell people what to do.  1 2 3 4 5  
D11. The chance to do something that makes use of my abilities.  1 2 3 4 5  
D12. The way company policies are put into use.  1 2 3 4 5  
D13. My pay and the amount of work that I do.  1 2 3 4 5  
D14. The chances for advancement on this job.  1 2 3 4 5  
D15. The freedom to use my own judgment.  1 2 3 4 5  
D16. The chance to try my own methods of doing the job.  1 2 3 4 5  
D17. The working conditions.  1 2 3 4 5  
D18. The way my coworkers get along with each other.  1 2 3 4 5  
D19. The praise I get for doing a good job.  1 2 3 4 5  
D20. The feeling of accomplishment I get from the job.  1 2 3 4 5
SECTION E: The questions in this section ask you how you feel about the procedures used to make decisions in your organization. Indicate the extent to which you disagree or agree with each statement. To do this use the following scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Moderately Disagree</td>
<td>Slightly Disagree</td>
<td>Neither Agree Nor Disagree</td>
<td>Slightly Agree</td>
<td>Moderately Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

The procedures used to make decisions in your organization:

E1. ... allow supervisors to get away with using an inconsistent approach in making decisions. (R) 1 2 3 4 5 6 7
E2. ... are consistently applied from one time to the next. 1 2 3 4 5 6 7
E3. ... are consistently applied across different employees. 1 2 3 4 5 6 7
E4. ... make sure that any biases supervisors have will not affect the decisions they make. 1 2 3 4 5 6 7
E5. ... are unbiased. 1 2 3 4 5 6 7
E6. ... dictate that the decisions made will not be influenced by any personal biases people have. 1 2 3 4 5 6 7
E7. ... make sure that the decisions made are based on as much accurate information as possible. 1 2 3 4 5 6 7
E8. ... take into account all the relevant information that should be when decisions are made. 1 2 3 4 5 6 7
E9. ... maximize the tendency for decisions to be based on highly accurate information. 1 2 3 4 5 6 7
E10. ... increase the likelihood that improper decisions will be changed. 1 2 3 4 5 6 7
E11. ... make it very probable that improper decisions will be reviewed. 1 2 3 4 5 6 7
E12. ... provide an opportunity for the reversal of improper decisions. 1 2 3 4 5 6 7
E13. ... do not take into consideration the basic concerns, values, and outlook of employees. (R) 1 2 3 4 5 6 7
E14. ... do not take into consideration the basic concerns, values, and outlook of management. (R) 1 2 3 4 5 6 7
E15. ... guarantee that all involved parties can have their say about what outcomes are received. 1 2 3 4 5 6 7
E16. ... ensure that all involved parties can influence decisions. 1 2 3 4 5 6 7
E17. ... are consistent with basic ethical standards. 1 2 3 4 5 6 7
E18. ... are not consistent with my own values. (R) 1 2 3 4 5 6 7
E19. ... are unethical. (R) 1 2 3 4 5 6 7
SECTION F: For this section and the next one (Section G), your "supervisor" refers to the person to whom you directly report. Circle the extent to which you disagree or agree with the following statements. To do this use the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Moderately Disagree</td>
<td>Slightly Disagree</td>
<td>Neither Agree</td>
<td>Slightly Agree</td>
<td>Moderately Agree</td>
<td>Strongly Agree</td>
<td></td>
</tr>
</tbody>
</table>

With regard to your supervisor carrying out the procedures at your organization, your supervisor:

F1. ... considers your viewpoint.  
F2. ... provides you with timely feedback about decisions and their implications.  
F3. ... treats you with kindness and consideration.  
F4. ... considers your rights as an employee.  
F5. ... takes steps to deal with you in a truthful manner.  
F6. ... provides reasonable explanations for the decisions s/he makes.  
F7. ... gives adequate reasons for the decisions s/he makes.  
F8. ... attempts to describe the situational factors affecting the decisions s/he makes.

SECTION G: Using the scale below, indicate the extent to which you disagree or agree with each statement about your supervisor.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Moderately Disagree</td>
<td>Slightly Disagree</td>
<td>Neither Agree</td>
<td>Slightly Agree</td>
<td>Moderately Agree</td>
<td>Strongly Agree</td>
<td></td>
</tr>
</tbody>
</table>

G1. My supervisor is concerned about me as a person.  
G2. My supervisor gives me opportunities for training and development.  
G3. My supervisor encourages me to speak up when I disagree with a decision.  
G4. My supervisor is someone I can trust.  
G5. My supervisor criticizes poor performers. (R)  
G6. My supervisor helps poor performers learn to do their jobs better.
The following information is needed to help the investigator with the statistical analyses of the data. This information will allow comparisons among different groups of employees and comparisons with similar employees in other organizations. All of your responses are strictly confidential; none of your responses will ever be seen by anyone at your organization. I appreciate your help providing this very important information.

1. Are you - (circle one)
   (1) Male
   (2) Female

2. How old were you on your last birthday?
   ________ years

3. What is your education level (indicate highest completed)?
   (1) Some high school
   (2) Graduated from high school or G.E.D.
   (3) Some college or technical training beyond high school (1 - 3 years)
   (4) Graduated from college (B.A., B.S., or other Bachelor's degree)
   (5) Some graduate school
   (6) Graduate degree (Masters, Ph.D., M.D., etc.)

4. When did you first come to work for this organization?
   ________ month, 19________ year

5. When did you start your present job in this organization?
   ________ month, 19________ year

6. In which department do you work?
   ______________________ (write in)

7. What type of job do you currently have in the organization?
   (1) Non-managerial (would include clerical and technical employees)
   (2) Managerial

8. Which of the following salary ranges is nearest to your total income from your job last year?
   (1) Less than $20,000
   (2) $20,000 to 29,999
   (3) $30,000 to 39,999
   (4) $40,000 to 49,999
   (5) $50,000 to 59,999
   (6) Over $60,000

9. How large is the company for which you work (your location or facility)?
   (1) Fewer than 50 employees
   (2) 51 to 150 employees
   (3) 151 to 250 employees
   (4) 251 to 400 employees
   (5) 401 to 600 employees
   (6) More than 600 employees

THIS COMPLETES THE QUESTIONNAIRE. COULD YOU PLEASE ANSWER THESE FINAL TWO QUESTIONS?

1. Approximately how long did it take you to complete this questionnaire?
   (1) Less than 25 minutes
   (2) 25 to 30 minutes
   (3) 30 to 35 minutes
   (4) 35 to 40 minutes
   (5) 40 to 45 minutes
   (6) More than 45 minutes

2. How seriously did you answer the questions in the survey?
   (1) Not at all seriously
   (2) A little seriously
   (3) Somewhat seriously
   (4) Quite seriously
   (5) Very seriously

I appreciate your cooperation in spending time to answer these questions. Once again, thank you.