

WHAT'S FAIR IS FAIR, OR IS IT? THE EFFECTS OF MERIT-RELATED
MANAGERIAL BEHAVIORS AND ORGANIZATIONAL POLICIES ON
ORGANIZATIONAL JUSTICE PERCEPTIONS

by

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A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York.

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Abstract

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By

Eric A. Lieberman

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The literature on employees' perceptions of how fairly they believe they are treated at work, or organizational justice, is voluminous, yet very few studies have attempted to identify the antecedents/predictors of justice perceptions. Furthermore, although issues of affirmative action and diversity management inherently involve fairness, there is a dearth of studies investigating these topics within an organizational justice context. The current study examined the role of merit-related managerial and organizational antecedents including actual gender-diversity representation statistics in predicting subordinates' perceptions of organizational justice and whether the effects vary by subordinate gender and trust in the organization.

I hypothesized that the antecedents would be positively associated with organizational justice with a stronger effect for women (i.e., moderated by gender). Female (N=384) and male (N=377) employees from a large financial services corporation were studied. Two of the three managerial antecedents (workgroup gender composition and female subordinate career development training) and one outcome (subordinate performance) were objective and obtained from archival records. The third managerial antecedent (manager's use of performance metrics),

two organizational antecedents (organizational formalization and perceptions of a merit-based organizational culture), four scales of organizational justice, and several outcomes of organizational justice (turnover cognitions, organizational commitment, organizational citizenship behavior, career development perceptions) were obtained via survey.

No main effects were found for gender composition and career development, however, higher proportions of women in one's workgroup was positively associated with organizational justice for women and negatively associated with organizational justice for men. All of the remaining antecedents were significantly and positively related to organizational justice and most were not moderated by gender. The relationship of organizational formalization with procedural and distributive justice was more positive when employees trusted that the formal policies were applied consistently. The main effects of organizational justice on the outcomes were consistent with the previous literature, and organizational justice was a better predictor of men's turnover cognitions than women's.

The results suggest subordinates report higher perceptions of fairness when they perceive that their managers and organization consider merit and abide by explicit rules and procedures when making business decisions. This effect generally appears to hold across the genders although in some cases the effect is stronger for women. The findings' theoretical implications as well as practical suggestions for enhancing fairness perceptions in a diversity management context are discussed.

Acknowledgements

I can say without hyperbole that this dissertation was, by far, the most arduous undertaking of my life. As I write this, I am simultaneously ecstatic, exhausted, and profoundly relieved. I am also very proud of what I have accomplished, but I cannot take of all the credit. Many people have helped to get me to this point, and I would like to acknowledge their contributions here.

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I would be remiss if I didn't also thank my warm, generous, and resilient girlfriend Jennifer Klein. Throughout the tumultuous journey down that very dark and seemingly endless tunnel that was my research process, Jen was there to reassure

me that the light was down there somewhere. Perhaps now her tear-soaked shoulder will begin to dry as my routine “I can’t do this! I’ll never graduate!” yelling and crying fits become a distant memory. Jen, if we can get through my dissertation together, we can survive anything together – je t’aime, ma biche!

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INTRODUCTION

What makes employees perceive their organizations as fair? This is a broad question, but one that organizations must answer because research suggests that an employee's perceptions of fairness can have a significant impact on important organizational outcomes such as organizational commitment and intent to leave the organization (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Unfortunately, much more is known about the effects of fairness perceptions on organizational outcomes than about the antecedent conditions that promote perceptions of fairness.

One area of investigation that provides some insight as to a possible antecedent of fairness perceptions is the research on employee reactions to affirmative action and diversity programs (e.g., Bobocel, Davey, Son Hing, & Zanna, 2001; Heilman, McCullough, & Gilbert, 1996; Nacoste, 1987). A key finding of this line of research is that selection decisions that are perceived to focus on candidates' job-relevant qualifications (i.e., merit) are viewed more positively by selected candidates, non-selected candidates, and third party observers than selection decisions involving preferential treatment on the basis of a candidate's demographic characteristics (e.g., gender). However, the generalizability of this finding is tempered by limitations in the current affirmative action literature such as a predominant reliance on laboratory designs and superficial operationalizations of merit.

In actual organizations, adherence to merit principles may be demonstrated in many ways. Managers may stress the use of valid performance evaluation criteria. Organizations may implement and enforce formalized procedures for promotions and

raises. At present, there is a dearth of prior research relating managers' behaviors and organizational characteristics to employee perceptions of fairness. Accordingly, the first objective of the present study is to investigate managerial and organizational merit-based decision making practices and policies as antecedents to employee fairness perceptions in an actual work organization.

The field of research that investigates the processes and outcomes that relate to employees' perceptions of how fairly they are treated is known as organizational justice. Prior organizational justice research has not attempted to identify actual, objective antecedents of fairness, just employees' perceptions of them. The possible link between employee perceptions of the antecedents and the objective reality of the antecedents remains largely unexplored. For instance, it is not known if managers who actually ensure that women and minorities are well represented in their departments will be perceived as being more fair by their subordinates. A more diverse representation of departmental employees could be perceived by others as objective evidence that the manager is hiring and promoting on the basis of merit, or, conversely, it could be perceived by others as objective evidence that the manager is using some type of preferential treatment strategy. The effects of such objective/actual fairness antecedents are unknown. Therefore, a second objective of the current study is to examine the relevance of actual manager behaviors, via group diversity representation variables, as antecedents to employee perceptions of fairness.

Just as individuals may have different opinions of what is fair, it is also possible that the relevance of merit-based decision making practices and policies as an antecedent to perceptions of fairness may vary across different groups in an employee population

(Lee, Pillutla, & Law, 2000) especially when the groups differ in their access to career developmental opportunities (e.g., men and women). Some organizations have instituted preferential treatment affirmative action programs to address gender and racial inequities, but because such programs may be associated with the negative reactions of some employees and may be judged as unfair due to their consideration of non-job-related qualifications (i.e., demographic characteristics; Mollica, 2003), the use of merit-based decision making practices and policies has been suggested as an alternate to preferential treatment strategies (Jones, 2003). A recent United States Supreme Court ruling underscored this suggestion. In her opinion, Justice Sandra Day O'Connor acknowledged the importance that society places on the value of merit and competition, and she "called for the pursuit of diversity through methods that give individual consideration to merit" (Taylor, 2003, p. B4). Thus attention to merit is increasingly being seen as a tactic to make organizations fair to all people. However, the merit strategy implicitly assumes that reducing or eliminating the measurement biases that contribute in part to women's and minorities' slower advancement will be perceived by all employees as fair. It is not clear from the existing research on fairness and gender that this assumption is likely to hold across the genders (Jasso, 1994; Saal & Moore, 1993; Sweeney & McFarlin, 1997) because the findings have not been consistent. Some authors found that gender had no effect on perceptions of fairness while others found potentially important gender effects.

Because some studies have found that female employees have traditionally been disadvantaged by biased performance appraisals (Glass Ceiling Commission, 1995; Phillips & Imhoff, 1997; Stith, 1996) and have had less access to alternate channels for

advancement such as mentoring and informal networking (Ibarra, 1992; Ibarra, 1993; Lyness & Heilman, in press; Lyness & Thompson, 2000; Phillips & Imhoff, 1997; Ragins & Cotton, 1991), it is likely that merit-based decision making practices and policies will have a bigger, more positive impact on women's perceptions of fairness than on men's. In contrast, men may perceive that the merit systems reduce or eliminate the advantages of their alternate channels for advancement (e.g., informal networking; Cannings & Montmarquette, 1991) and have more negative perceptions of fairness. Hence, gender may be a potentially important moderator of the relationship between merit-based decision making practices and policies and employee fairness perceptions. Thus the third objective of the current study is to investigate gender¹ as a moderator of the relationships among merit-based decision making strategies, fairness perceptions, and outcomes such as organizational commitment and turnover cognitions.

It should be noted that the same reasoning could be applied to different racial or ethnic groups. In fact, there is evidence that race and gender may have different relationships with organizational justice in some cases (Parker, Baltes, & Christiansen, 1997). However, in the interest of limiting the complexity of the hypotheses to be tested, the current study focuses exclusively on gender, and race is treated as a control variable. It should also be noted that when the research reviewed has examined both race and gender effects on fairness, only the gender-related results are discussed.

In short, the present study is designed to accomplish three broad objectives. First, managerial and organizational practices and policies are examined to understand their

¹ Throughout the current research, I use the term gender when referring to men and women collectively. This is in keeping with the current gender literature in which gender is used to connote the psychological and social aspects of being a woman or man, and sex is reserved for distinguishing the biological differences between women and men (Korabik, 1999).

relevance as antecedents to subordinate perceptions of fairness. Second, the relationship between a manager's actual behaviors regarding diversity representation and subordinates' perceptions of fairness are investigated. Third, the impact of gender on the relationships among the antecedents to fairness perceptions, fairness perceptions, and outcomes of fairness perceptions are explored.

This dissertation research makes several important contributions to the industrial and organizational psychology literature. First, it expands what is known about the antecedents of perceptions of fairness beyond that of the prior literature to include subjective and objective/actual elements of merit-based decision making. This is important for organizational justice research because not enough is known about the antecedents to the fairness perceptions that lead to important organizational outcomes. It is also important because the findings will help human resources practitioners and others to anticipate potential employee reactions to promoting a merit-based decision making strategy as a diversity management or affirmative action initiative. Second, it elucidates the role of gender in perceptions of organizational justice. Third, it goes beyond the prevalent mono-method, self-report organizational justice research by incorporating actual, non-perceptual antecedents of justice perceptions.

Outline of the Dissertation

In the following sections, I review the prior literature related to the current study. A diagram of the relationships to be discussed is presented in Figure 1. First an overview of the organizational justice research will familiarize the reader with the key concepts and terminology necessary for discussing fairness perceptions. This section includes an

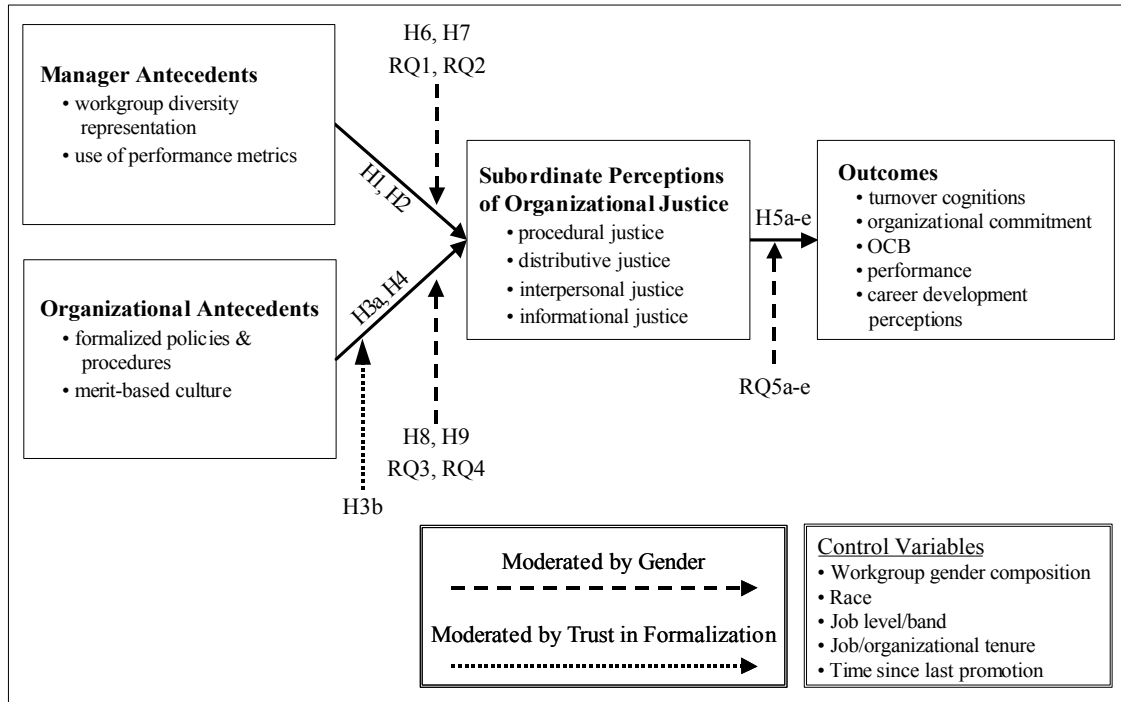


Figure 1. Path diagram of the relationships of merit-related managerial and organizational antecedents to fairness, employee perceptions of organizational justice, and fairness outcomes.

introduction to the many types of justice and a review of the findings that are relevant to the current research.

Next, using the concepts of organizational justice, I review the psychological literature on affirmative action and the role of merit as a potential antecedent to employee perceptions of fairness is discussed. In this review, I show that previous research suggests that merit may be an important predictor of employee fairness perceptions, and I argue that more robust operationalizations of “merit-based decision making” are needed.

In the next two sections, I discuss how merit principles may be manifest in managerial behaviors and organizational policies and suggest how these factors may be

used to examine the impact of merit on employee perceptions of fairness. Specifically, the review of managerial antecedents of fairness will outline the behaviors that may impact subordinates' perceptions of fairness and an argument will be made for the use of more objective/actual measures of managerial behaviors. In the section on the organizational antecedents, I suggest that organizational policies such as the creation and enforcement of standard rules for personnel decisions or formalization are likely to positively impact the fairness perceptions of employees because employees will perceive such policies as demonstrating the organization's commitment to treat all employees uniformly. I also argue that an employee's belief that the formalized policies are enforced will moderate formalization's effect as an antecedent to employee perceptions of fairness.

Having argued that merit is an important potential antecedent of employee fairness perceptions, I turn next to a discussion of how gender might potentially moderate the relationship between merit and fairness perceptions. In this section, I present a review of the literature on gender and organizational justice. I also briefly discuss the barriers to women's career advancement in order to make the argument that merit-based decision making strategies are likely to more positively impact women's perceptions of fairness than men's. My review also presents the mixed findings regarding gender's role as a moderator of the relationships among perceptions of fairness and the outcomes of fairness perceptions. Following the review of the relevant literature, I articulate and explain the specific hypotheses and research questions identified in Figure 1.

REVIEW OF THE LITERATURE

Organizational Justice: Defining Perceptions of Fairness

Because eliminating advancement barriers for all people in organizations is, at heart, an issue of fairness, the research in organizational justice provides an excellent framework for examining the impact of merit-based personnel practices and policies. The field of organizational justice investigates the processes and outcomes that influence employees' perceptions of how fairly they are treated. Many researchers go as far as using the terms justice and fairness interchangeably (e.g., Konovsky, 2000; Lind & Tyler, 1988). Prior theory and research has identified four types of justice, distributive, procedural, interpersonal, and informational justice, although distributive and procedural justice have received the most attention. This section provides the reader with an overview of the organizational justice literature including the development of the types of justice and a review of the research relevant to the current study.

Distributive Justice

Distributive justice, a term coined by early justice researcher George C. Homans (Price, 1972), has been defined as the perceived fairness of the outcomes and rewards that employees receive (Folger & Konovsky, 1989; Viswesvaran & Ones, 2002). The majority of research on distributive justice has conceptualized fairness in terms of equity theory (Adams, 1965) which has often been characterized by the phrase, "a fair day's pay for a fair day's work" (Folger & Cropanzano, 1998). In the following sections, the origins of distributive justice are discussed and relevant research findings are reviewed.

Origins of Distributive Justice

Early notions of fairness in the work context are found in social exchange theories. Social exchange theories posit that many employee attitudes and behaviors can be explained in terms of the social interactions that employees experience in organizations. By evaluating social exchanges in a manner similar to economic transactions and by comparing one's outcomes in such exchanges to the outcomes of other individuals or groups, an employee can determine whether the exchange has been favorable or unfavorable (Mowday, 1996). The social exchange theory known as equity theory (Adams, 1965) is particularly relevant to a review of distributive justice because it has been widely researched and the variables of interest have included outcomes such as pay and promotions (Greenberg, 1990b; Mowday, 1996).

According to Adams (1965), individuals compare their inputs, which include assets such as work experiences, skills, training, and education, and their outcomes, typically compensation but including non-monetary results such as job assignments or supervisor treatment, to those of other employees in order to evaluate whether a given transaction is equitable. It is important to note that because the ratio is based upon a person's perceptions of inputs and outcomes, that only those elements that the person perceives as relevant contributions and consequences will influence his/her determination of fairness and any resulting behaviors and attitudes. If a person's ratio of outcomes to inputs is equal to that of the comparison other, then the exchange will be perceived as fair. However, when a person's ratio is smaller than or larger than the comparison other's, the person will be motivated to alter the situation in a manner that will restore an equitable balance. In order to restore one's sense of equity, a person can alter the ratio by

changing his/her behavior or cognition (Folger & Cropanzano, 1998; Pinder, 1984). The choice of solutions depends on the specific conditions of the job, but, generally, people will try to maximize their positive outcomes and minimize their efforts.

Thus equity provides one possible model for discussing employees' perceived outcome fairness. Distributive justice research has predominantly employed equity as the rule by which fair exchanges are judged, but other distribution rules are conceivable. When the goal of the reward distribution is to encourage group harmony and minimize conflict, an equality approach wherein outcomes are distributed equally to all employees may offer a better model of fairness (Deutsch, 1975). For example, if a manager has to explain a given reward allocation to an employee face-to-face, the manager may adopt a more equal distribution procedure to avoid an awkward exchange with the subordinate (Greenberg, 1990a). Some theorists have suggested that gender may also influence one's preferred reward allocation strategy (Kahn, O'Leary, Krulewitz, & Lamm, 1980). Kahn et al. argue that equity is a more masculine paradigm whereas women more often would be expected to employ the equal distribution approach. Furthermore, when the aim of a given reward is to benefit those with the greatest need, a model of fairness based on social responsibility or needs may be more appropriate than one based on equity or equality (Deutsch, 1975). Equity is most appropriate when maximum productivity is the goal of the reward system. Because this goal parallels that of most work organizations, it is understandable that equity is the most cited and studied distributive justice paradigm.

Distributive Justice Research

Early research on equity theory in organizations primarily investigated the attitudinal and behavior consequences of over-payment equity (i.e., the case where a

person's ratio is larger than the that of the comparison other ; Mowday, 1996). Although some research has supported the prediction that workers will increase their performance outputs as a consequence of over-payment, wage inequity conditions have received more consistent support (Mowday, 1996). The exclusive focus on the perceived fairness of pay and other forms of compensation outcomes continued to characterize justice research through the mid-1970's. Growing concern among justice researchers about distributive justice's inability to explain the underlying processes that influence employees' fairness perceptions led scholars to search for alternative models of fairness (Byrne & Cropanzano, 2001). The newly immerging research in the legal domain regarding the relationship of various court procedures and verdict satisfaction, which eventually was named procedural justice, provided a timely and useful complement to the field of distributive justice.

Procedural Justice

In contrast to distributive justice which focuses on the perceived fairness of a given outcome, "procedural justice has been defined as the (perceived) fairness of the means or procedures used to determine that outcome" (Viswesvaran & Ones, 2002, p. 193). "In other words, the focus shifts from *what* was decided to *how* the decision was made" (Cropanzano & Folger, 1996, p. 72). In the current procedural justice literature, there is some debate over whether procedural justice is a single construct or rather a set of related, yet distinct constructs (Ambrose & Schminke, 2001; Bies & Moag, 1986; Erdogan, 2002; Erdogan, Kraimer, & Liden, 2001; Greenberg, 1990b), yet the common element among all of its incarnations is the focus on the fairness of the processes and procedures that determine outcomes rather than the fairness of the outcomes themselves.

Origins of Procedural Justice

The earliest work in procedural justice was conducted by Thibaut and Walker (1975). Their focus was on how people judged the fairness of legal decisions. In their book, the authors described several studies involving dispute resolution and arbitration strategies. These studies simulated legal decisions wherein two individuals had their dispute settled by a third party decision maker. Based on their collective findings, the authors explained fairness in terms of their process control model. The model specifies that procedural justice results from two types of participant control. The first type, called process control, refers to the degree to which one has input in choosing the method that is used to settle a dispute. The second type, decision control, refers to the amount of control one has in determining the outcomes of dispute resolution. Process control has also been labeled “voice” in order to illustrate that a person has a say in determining the processes that will be used to produce outcomes (Lind, Kanfer, & Earley, 1990; Lind & Tyler, 1988).

The significance of Thibaut and Walker’s (1975) research is that it showed that disputants placed more emphasis on process control than decision control when deciding if they were fairly treated. In other words, disputants’ perceptions of fairness had more to do with the dispute resolution process than the outcomes. These findings have been widely replicated in subsequent studies (see Colquitt et al., 2001, for a review of this literature). It is important to note that research suggests that voice is positively related to fairness perceptions even when an individual doesn’t necessarily feel that his/her voice made a difference in the processes chosen or the outcomes distributed (Folger &

Cropanzano, 1998). The mere fact that a person's opinions are sought, irrespective of their impact, seems to increase the perceived fairness of an event.

Other seminal work that shares the credit with giving rise to the field of procedural justice is Leventhal's work on procedural fairness (Leventhal, 1980; Leventhal, Karuza, & Fry, 1980). While Thibaut and Walker (1975) were primarily concerned with the fairness of legal procedures, Leventhal's focus was the non-legal organizational setting. Reacting to what he saw as equity theory's unidimensional approach to justice (i.e., focusing only on reactions to outcomes), Leventhal (1980) outlined six procedural rules that contribute to an individual's sense of procedural fairness. The consistency rule states that procedures should be enacted consistently across different individuals and over time. Leventhal notes that this rule is invoked when individuals are denied equal opportunities due to differential treatment. The bias-suppression rule requires that the decisionmaker in an allocative process refrain from allowing personal self-interests from influencing the outcome of the decision. The accuracy rule dictates that the decisions be made on the basis of valid information. This rule can be applied widely, but is particularly germane to performance evaluation. The rule may be violated when irrelevant or unreliable information is gathered or when opinions are solicited from inappropriate observers. This rule can apply directly to a manager rating a subordinate, but also in the case where one individual perceives that another is being rated according to a different standard that uses invalid information. For example, the accuracy rule applies when one employee believes he/she is being judged on merit but another is being judged on his/her friendship with the supervisor.

The correctability rule dictates that allocation processes must provide a mechanism for modifying or reversing decisions in cases where an error is believed to have been made. Essentially a grievance process, this rule also requires that the individual who will oversee the appeal follows the bias-suppression rule. The representativeness rule provides that the decision making process, “must reflect the basic concerns, values, and outlook of important subgroups in the population” (p. 43-44) affected by the decisions. It follows that this rule would predict that a woman may find decisions that affect her career advancement opportunities less fair if all of her managers are male. Finally, the ethicality rule specifies that the procedures used must be consistent with an individual’s own fundamental values. For example, valid information gathered by spying on an individual would likely negatively affect that person’s sense of procedural fairness. Thus Leventhal’s ideas regarding procedural fairness greatly broadened the scope of what was considered to affect procedural justice perceptions, and in so doing, complemented rather than contradicted the notion of process control/voice.

Procedural Justice Research

In 1985, Folger and Greenberg conducted the first study to apply procedural fairness to a work setting (Folger & Cropanzano, 1998), and since that time, the research generated on the topic of procedural justice has been voluminous (Greenberg, 1990b). Because the procedural justice literature is so vast, the remainder of this review will focus only on select key themes and findings that are relevant to the current study. For a more comprehensive review, the reader is directed to Greenberg’s (1990b) review of the procedural justice literature up to 1990 and Konovsky’s (2000) review of the literature from 1990 to 2000.

Perhaps because procedural justice emerged as a separate, yet complementary field to that of distributive justice, one of the early themes in the procedural justice literature was the attempt to distinguish it as a distinct construct. For example, in a frequently cited study examining the relationship between performance evaluation and fairness (Greenberg, 1986), participants were asked to think of an incident that was particularly fair or unfair. Then, a second sample of participants Q-sorted the responses and seven categories emerged. Finally, a third sample rated each of the categories' importance to fair evaluations. Factor analysis revealed two factors. The five procedural categories loaded on a single factor and the two categories concerned with the fairness of outcomes received loaded on a second distributive factor. This study was important because it showed that people do recognize the procedural and distributive distinction and because the categories were empirically derived.

Other research has supported this distinction (Alexander & Ruderman, 1987; Folger & Konovsky, 1989). In their recent meta-analysis, Viswesvaran and Ones (2002) estimated the true score correlation between distributive justice and procedural justice to be .66 and concluded that the two justice factors are correlated yet distinct. They supported this argument with discriminant evidence that showed each justice type predicts different outcomes. In their review of the subject, Folger and Konovsky (1989) explained that procedural justice perceptions may reflect a longer time horizon and be more related to attitudes about organizations and their authorities whereas distributive justice perceptions are more likely to be tied to fewer, more recent, more specific events and be more related to satisfaction with pay. Their own research supports this assertion. They found that procedural justice was a better predictor of organizational citizenship

behavior, trust in the supervisor and that distributive justice was only a significant predictor of pay satisfaction.

Folger and Konovsky (1989) also conducted a usefulness regression analysis that showed procedural justice's significance as a predictor remained after controlling for the effects of distributive justice. They concluded that procedural justice is an important measure of fairness in two ways. One aspect, called instrumental procedural justice, holds that procedural justice is important because fair processes lead to fair outcomes. The other, labeled non-instrumental procedural justice, declares that procedural justice may be important in of itself as a symbol that the manager and organization respect the subordinate. Their research also showed that the degree to which decision making procedures were grounded in evidence (e.g., the supervisor is familiar with your performance) was the best predictor of important outcomes. Overall, these findings along with several others support the theoretical distinction between distributive justice and procedural justice, as well as, the notion that procedural justice is comprised of multiple factors (Greenberg, 1990b).

Interactional Justice

As the efforts to define the domain of procedural justice elements continued, a new aspect of justice called interactional justice was introduced (Bies & Moag, 1986; Bies, 2001). Whereas previous conceptions of procedural justice centered around the fairness of the procedures themselves, the focus of interactional justice was on the social elements involved in implementing those procedures (Byrne & Cropanzano, 2001; Greenberg, 1993). Debate continues over whether interactional justice is conceptually or practically distinct from procedural justice (Byrne & Cropanzano, 2001), but the

preponderance of the evidence suggests that interactional justice is distinct from procedural justice and may be associated with different organizational behavior variables, particularly those involving personal interaction such as negotiation (Bies, 2001). Interactional justice has typically been treated as a single construct, but most recently, a meta-analysis (Colquitt et al., 2001) and scale validation study (Colquitt, 2001) have argued convincingly that a two factor model of interactional justice provides better fit. The first factor is interpersonal justice and involves the interpersonal treatment of the subordinate by the manager in carrying out procedures. The second interactional justice factor is informational justice and concerns the way a manager communicates information about processes and outcomes. The results of the meta-analysis (Colquitt et al., 2001) indicate that distributive, procedural, interpersonal, and informational justice have different correlates and should be examined separately. The results also indicated that interpersonal and informational justice have received the least attention of the justice types in organizational justice research.

Organizational Justice Research

As the above review illustrates, each of the types of justice (i.e., distributive, procedural, interpersonal, and informational) makes an important contribution to the study of fairness perceptions. In addition to Colquitt et al. (2001), other authors (Colquitt, 2001; Greenberg, 1986) admonish that all justice concepts should be measured in future studies hoping to attain a more complete understanding of the role of fairness in organizations. One reason it is beneficial to consider several types of fairness is to capture interactions (Konovsky, 2000). A study of 675 bank employees illustrates this point (McFarlin & Sweeney, 1992). In addition to finding main effects for distributive

justice and procedural justice on various outcomes, the researchers found that when procedural justice was low, an employee's organizational commitment and evaluation of his/her supervisor varied widely with changes in distributive justice, but when procedural justice was high, organizational commitment and supervisor evaluation varied little as a function of distributive justice. In other words, fair procedures compensated for unfair outcomes. Discoveries such as this led to efforts to identify the types of organizational attitudes and behaviors that result from differences in perceived fairness. Another reason to include several types of justice in fairness research is that different justice concepts have been linked to different antecedents and outcomes (Colquitt, 2001).

Outcomes and Antecedents

In addition to attempting to specify and refine the multiple justice factors, another theme in the organizational justice literature has been to identify the outcomes and antecedents associated with fairness perceptions. To date, most research in this area has treated organizational justice as an independent variable examining the attitudinal and behavioral reactions that follow perceptions of fairness (Folger & Skarlicki, 2001; Konovsky, 2000). For example, high procedural justice has been linked to increased job satisfaction, organizational commitment, and organizational citizenship behaviors and procedural injustice may lead to retaliation against the organization (Konovsky, 2000). Lately, a few studies have begun to focus on some very promising organizational antecedents of justice that are useful in the present study. A general review of the outcomes and antecedents of organizational justice follows.

Outcomes of Perceptions of Fairness

The most common paradigm in organizational justice research is the study of how one or more types of organizational justice impacts one or more employee outcomes. One frequently examined outcome is organizational citizenship behavior (OCB) which includes actions taken by employees that support the organization but are not required nor compensated (LePine, Erez, & Johnson, 2002; Moorman, 1991). In the majority of studies, organizational citizenship behavior is measured by having managers rate questionnaire items about their subordinates, so this outcome might be more appropriately labeled “manager’s perception of the subordinate’s intent to perform organizational citizenship behaviors.” Research has found that higher levels of distributive, procedural, and interactional justice are all associated with increased OCB (Folger & Konovsky, 1989; McFarlin & Sweeney, 1992; Moorman, 1991; Sweeney & McFarlin, 1997; Tepper & Taylor, 2003) although not all forms of justice were related to OCB in every study. For example, Moorman found that only interactional justice was associated with OCB, Folger and Konovsky found that procedural justice, but not distributive justice was related to OCB, and, as heretofore noted, McFarlin and Sweeney found that distributive and procedural justice produce an interaction effect with OCB.

Research has also found that procedural justice is the strongest justice type predictor of organizational commitment (Colquitt et al., 2001; Sweeney & McFarlin, 1997), that all justice types have been found to predict trust in one’s supervisor (Alexander & Ruderman, 1987; Colquitt et al., 2001; Folger & Konovsky, 1989; Lee & Farh, 1999; Lee et al., 2000) and most satisfaction measures (Cohen-Charash & Spector, 2001). Interestingly, satisfaction with pay has been linked not just to distributive justice

as might be expected, but also to procedural justice as well (Folger & Konovsky, 1989; Lee & Farh, 1999; Sweeney & McFarlin, 1997). Most studies that have examined intent to leave (i.e., turnover) have reported that distributive justice is a stronger predictor (Colquitt et al., 2001; Foley, Kidder, & Powell, 2002) although procedural justice may also play a role (Cohen-Charash & Spector, 2001; Sweeney & McFarlin, 1997).

Another outcome of organizational justice is perception of career opportunities. Although only a few studies have examined this outcome in relation to justice perceptions, the results suggest that organizational justice is indeed strongly associated with individuals' perceptions that they can advance in their organizations. Lemons (2003) examined procedural justice and found that the perception of formal career ladders was positively related to procedural justice among undergraduates. Foley et al. (2002) examined distributive justice and found it was positively related to perceived career prospects among Hispanic law associates. While Lemons and Foley et al. each only considered a single type of justice, a study by Parker et al. (1997) examined procedural justice and distributive justice and found both to be positively related to career development perceptions among federal employees. Altogether, these studies suggest that future research may find a link between justice and career-related perceptions.

Finally, among the many fairness outcomes, performance deserves special consideration because it is the only non-self-report variable to receive any attention. In the literature review of their meta-analysis, Colquitt et al. (2001) state that no clear relationship between justice and performance is apparent since results have ranged from positive to negative to no relationships. In their meta-analysis, procedural justice

emerged as the only justice type to predict performance moderately well. Therefore, further study of performance as an outcome of organizational justice is warranted.

Antecedents of Perceptions of Fairness

Relative to outcomes, the antecedents of organizational justice have received much less attention. Most of the work in this area concentrates on the elements in the performance appraisal process that lead to enhanced perceptions of fairness. The discussion of this topic is somewhat complicated because the distinction between antecedents of fairness and fairness perceptions themselves is somewhat nebulous. In most cases, the constructs of organizational justice, particularly procedural justice, have been operationalized in terms of the antecedents to fairness. Procedural justice measures tend to focus on the elements of decision making that are theorized to impact fairness and not on direct assessments of fairness. For example, in the Q-sort study described above, Greenberg (1986) derived two scales that measure the determinants of fairness with items like “the consistent application of standards.” The scales do not explicitly include the word “fair,” such as “was your performance appraisal conducted fairly.” Therefore, Greenberg’s distributive and procedural fairness scales actually indirectly assess fairness in terms of the factors that are theorized to predict perceptions of fairness. Thus, antecedents of perceptions of fairness are behaviors, procedures, policies, et cetera that precede employees’ perceptions that particular fairness criteria are in use. For example, if a manager uses a standardized form in conducting performance appraisals of the subordinates in his/her department and the subordinates perceive that use of the form results in the consistent application of performance standards, then use of the standardized form would be considered an antecedent to perceptions of justice. In the

remainder of this section I will review the antecedents to the perceptions of organizational justice.

The research on the antecedents of organizational justice can generally be characterized as relating to manager behaviors or organizational factors. Managerial antecedents that have been linked to fairness include the quality of the leader-member exchange (LMX; Erdogan et al., 2001; Lee, 2001), impression management or the degree to which a manager actively tries to appear fair to subordinates (Greenberg, 1988; Greenberg, 1990a), and using diaries to record subordinate performance (Greenberg, 1987). Organizational antecedents that have been linked to fairness include the treatment of employees and former employees during layoffs (Gopinath & Becker, 2000; Kernan & Hanges, 2002; Konovsky & Brockner, 1993) and the degree to which the organization uses a due process model in conducting its performance appraisals (Taylor, Tracy, Renard, Harrison, & Carroll, 1995). The due process model incorporates the elements of a fair legal trial into performance appraisal systems. In order to receive due process, employees must be given adequate notice of the performance standards, be given a fair hearing (i.e., a formal appraisal), and receive a judgment based on objective, unbiased evidence.

Other antecedents have been proposed but not yet empirically examined. Greenberg and Wiethoff (2001) suggested that an organization's history of unjust treatment is likely to influence employees' current fairness perceptions. Greenberg and Wiethoff also posited that the way in which an unjust outcome is communicated will impact evaluations of fairness. If bad news is delivered in an emotionally sensitive, caring way, the authors believe that it will reduce feelings of injustice. In addition to the

style of delivery, the content of the bad news communication is expected to play a role. When the communication includes an acceptable explanation of why the outcome is necessary, individuals are expected to react less negatively. Erdogan (2002) has proposed that employees' previous performance ratings might be an antecedent of perceived fairness in addition to its current conceptualization as an outcome in the organizational justice literature suggesting that the relationship between performance and justice is cyclical.

Recent literature has demonstrated the impact that organizational antecedents such as organizational policies (e.g., degree of formalization) and managerial antecedents (e.g., mentoring) can have on justice perceptions and subsequent outcomes (Ambrose & Schminke, 2001; Ambrose & Schminke, 2003; Andrews & Kacmar, 2001; Schminke, Ambrose, & Cropanzano, 2000; Schminke, Cropanzano, & Rupp, 2002; Tepper & Taylor, 2003). This research is in its infancy, but the results so far support the idea that formalized policies and procedures, as well as, manager attitudes and behaviors positively impact employee perceptions of fairness. These results and their implications for merit-based decision making personnel strategies are discussed in greater depth later in the sections on merit-based managerial and organizational antecedents to perceptions of fairness. In those sections, I will examine the relationships among various manager behaviors, organizational policies, and employee perceptions of merit and fairness perceptions, and I will provide support for the current study's hypotheses. I conclude my review of the organizational justice literature with a discussion of some the limitations of the current organizational justice literature.

Limitations of the Current Organizational Justice Literature

As the field of organizational justice begins to mature, scholars are increasing calling for more systematic and integrated studies and research that examines practical issues in today's world of work (Colquitt et al., 2001; Greenberg, 1990b). Also, researchers should make greater use of standardized justice scales that capture multiple types of justice in the same study (Colquitt, 2001). Due to the relatively small number of studies examining the antecedents of fairness perceptions (Konovsky, 2000; Ramaswami & Singh, 2003) vis a vis the abundance of research on organizational justice as a predictor of organizational outcomes, scholars have called for more research on manager characteristics (Ramaswami & Singh, 2003), organizational policies (Ambrose & Schminke, 2003; Schminke et al., 2000; Schminke et al., 2002), and employee characteristics such as demographics (Cohen-Charash & Spector, 2001). Recently, Tom Tyler, a key figure in organizational justice research, suggested that scholars should address the changing nature of work and of the workforce by focusing on diversity and multiculturalism (the chapter cited is an account of several interviews conducted by the authors with several leaders in the organizational justice field; Byrne & Cropanzano, 2001). The present study is designed to incorporate these suggestions by investigating the impact of managerial attitudes and behaviors and organizational policies related to merit-based personnel strategies on employees' perceptions of fairness and whether those perceptions vary by gender. The implications of the current research will also be relevant to the issues of diversity management and affirmative action strategies.

A final important limitation of the organizational justice literature involves the issue of construct validity. As organizational justice scholars have noted in reviews and

meta-analyses over the past decade (Colquitt, 2001; Colquitt et al., 2001; Greenberg, 1990b; Konovsky, 2000; Lind & Tyler, 1988), the measurement of justice in the literature can be characterized as unsystematic, incomplete, and undisciplined. Several studies have utilized very different scales of the same justice concepts (e.g., Folger & Konovsky, 1989; Lemons, 2003; Moorman, 1991), and some have confused the concepts when defining their scales. For example, Alexander and Ruderman (1987) included two items regarding satisfaction with the outcomes of performance appraisal in their procedural justice scale when such items should in fact be considered distributive justice items (Folger & Konovsky, 1989), and more recently, (Bobocel et al., 2001) substituted measures of preference for merit and preference for consistency for distributive justice and procedural justice measures, respectively. Such inconsistencies make comparisons across justice studies difficult because they blur the boundaries between conceptually distinct justice types.

Colquitt (2001) notes that poor scale definition may be the reason many studies find high correlations among the justice types. An unfortunate consequence of this overlapping concepts problem is that researchers have often resorted to a one factor model of justice by simply aggregating distributive, procedural, and interactional justice items into a single scale. This practice in turn may obscure differential findings such as a gender interaction with interactional justice and no gender effect on procedural justice with respect to pay raises (Tata & Bowes-Sperry, 1996). Heeding Colquitt's admonition, the current study will utilize his four factor justice model (Colquitt, 2001) because of its demonstrated validity and because it is grounded in the major seminal theoretical works of organizational justice (e.g., Leventhal, 1980; Leventhal et al., 1980; Thibaut &

Walker, 1975). A description of the instrument based on the four factor justice model (Colquitt, 2001) is provided in the measures section.

Affirmative Action, Merit, and Fairness

Affirmative action has many definitions, some of which focus primarily on legal concerns while others focus on social or moral factors. The definition offered by the American Psychological Association (1999, August) eloquently frames the concept for the purposes of the current discussion:

affirmative action is appropriately defined as a remedy for both past and continuing discrimination based on race, ethnicity, and gender. Affirmative action plans seek to put in place voluntary and mandatory efforts by federal, state, and local governments, private employers, and schools to combat discrimination and foster fair hiring and advancement of qualified individuals. . . . At their core, however, affirmative action plans are designed to create opportunity and eliminate both conscious and inadvertent discrimination. (p. 1)

Thus by definition, affirmative action clearly involves principles of fairness. The many strategies that have been suggested for achieving the goals of affirmative action can roughly be categorized as those that give special consideration to an individual's gender (i.e., strategies based on preferential treatment) and those that do not (i.e., strategies based on merit; Konrad & Linnehan, 1995; Konrad & Linnehan, 1999).

In this section, I review the psychological research on affirmative action and build a case for the relevance of merit as an antecedent to fairness perceptions. I will show that affirmative action strategies that do not focus exclusively on a merit criterion for selecting candidates are generally associated with negative employee reactions. The presented evidence will suggest that the negative reactions may be explained in terms of justice perceptions. I will argue that personnel practices and policies that are based only on merit are likely to be linked to positive employee perceptions of fairness. I will also discuss some of the limitations of the prior affirmative action literature including the

tendency of most studies of affirmative action to employ very superficial operationalizations of the merit concept. These limitations are addressed in the present study by the implementation of more robust conceptualizations of merit-related managerial and organizational practices and procedures.

One method for implementing a merit-based strategy is to create formal rules and policies clearly stating the procedures involved. Konrad and Linnehan (1995) investigated the effectiveness of this method. The authors examined the impact of the number of formalized human resource management (HRM) structures on the employment status of women. The results showed that organizations that had more formalized HRM structures in place generally also had women in higher levels of the organizational hierarchies. The results also suggested that the types of HRM structures that had the greatest effect on employee status variables were those that explicitly targeted women rather than those that were aimed at being fair to all individuals. Konrad and Linnehan termed the former structures “identity-conscious” and argued that consideration of demographic group identity in addition to merit is necessary to remedy current and past discrimination and to achieve fair and visible representation of women in leadership roles. The researchers claimed that merit-only or “identity-blind” structures may be fair in theory, but, in practice, will not eliminate the normal, human biases that affect decision making nor the cultural biases that may be hard-wired into formal evaluation procedures (e.g., masculine ideals of leadership styles). Instead, they argued that making special efforts to employ and promote historically disadvantaged individuals is a more effective strategy. The soundness of their conclusion is somewhat diminished by their operationalization of formalization as the number of HRM structures in each

organization. Because this measure does not capture the quality of the policies or whether employees trusted them, other conceptions of formalization may yield different results. Further research is needed on this topic before the results can be generalized to other situations, but the findings are important because they illustrate that merit-only diversity strategies may have practical limitations.

Although identity-conscious structures may potentially facilitate women's career progression, there are also potential psychological disadvantages to this strategy. Employees may feel that programs that give any preference to demographic characteristics are unfair (Crosby, Iyer, Clayton, & Downing, 2003). Many authors have reported that the perception of preferential treatment on the basis of gender in selection and promotion can lead to negative reactions in men and women (Heilman, Battle, Keller, & Lee, 1998; Heilman et al., 1996; Heilman, Simon, & Repper, 1987; Tougas, Crosby, Joly, & Pelchat, 1995). In a series of laboratory studies with undergraduate and MBA students, Heilman et al. (1998) found that the female beneficiaries of preferential selection rated their own performance lower, were less likely to want to remain a leader, and were perceived as less competent and less likely to progress in their careers by others. Thus preferential selection can apparently harm the very individuals it is intended to help.

In order to gauge the strength of perception of merit's effect on affirmative action judgements, Heilman et al. (1998) employed several types of affirmative action policies incorporating different degrees of merit including a merit-only condition, a condition where two candidates have equivalent merit and gender is considered in the decision, a minimum standard of merit condition, and an entirely preferential, non-merit-based

condition. A fifth condition was intentionally ambiguous and did not reveal the extent, if any, to which merit was considered. Examining the results by condition showed that in many cases, the equivalent merit condition was not significantly different than the merit-only condition, and that in most cases the results for the ambiguous condition were not significantly different than the low merit conditions. These findings suggest that a strong merit component can ameliorate some (but not all) of the negative impact associated with preferential selection strategies, and that without evidence to the contrary, people will assume selection decisions were not based on merit.

Heilman et al. (1998) explained that the inclusion of a strong merit component may alleviate negative reactions to selection decisions because it appeals to people's sense of fairness. Communicating that merit played a major role in the decision to select a woman may imply that the position was earned and is the equitable result of demonstrated performance. Conversely, individuals may interpret the relative or complete lack of merit consideration as evidence that the beneficiary was necessarily unqualified or undeserving of the position. These explanations presume that the individuals are basing their judgements on an equity model that dictates that rewards should be proportional to an individual's contributions. As explained earlier, this type of fairness is called distributive justice. It is also possible that the strong merit conditions contribute to people's sense of fairness by indicating that a consistent and bias-free procedure was used to make the decisions. These characteristics have been linked to the perception that decision making procedures are fair (Leventhal, 1980; Leventhal et al., 1980), i.e., procedural justice as described earlier. Indeed Heilman et al.'s (1998) findings showed that the female beneficiaries and the men who had been passed over for

the position by women perceived that the leader selection process was significantly more fair in the merit-only and the equivalent merit conditions than in the other conditions.

In this study, fairness was measured by a single item asking participants to rate the fairness of the leader selection process. Although the findings reveal a link between merit-based systems and fairness perceptions, the use of a single item to measure fairness did not allow the researchers to determine if participants were basing their fairness evaluations on distributive or procedural justice principles. Use of this single fairness item is unlike typical justice research in two ways. First, although some studies have used a small number of justice items, most feature many items and thus the scale reliabilities can be established. Second and more fundamental, organizational justice scales typically ask participants to rate the characteristics of outcomes or procedures that have been theorized or empirically shown to comprise a justice dimension. In other words, they measure justice indirectly through fairness criteria, not fairness directly. Indirect fairness measures are preferable because research has shown that they are better predictors of outcomes (Colquitt et al., 2001). Not only should indirect fairness measures be used, but different types of justice should be measured. Thus if more appropriate measures of fairness perceptions had been used, it would have been easier for Heilman et al. (1998) to identify the psychological principles underlying their participants' reactions to the merit-based selection strategies. Additional limitations related to the use of a laboratory design and student participants are discussed later in this section.

An earlier laboratory study by Heilman and her colleagues (Heilman et al., 1996) attempted to focus more directly on identifying the specific justice reactions of the non-beneficiaries of affirmative action policies. In it, the researchers varied the perception of

deservedness of the leadership position and the method of selection in order to isolate distributive justice and procedural justice influences, respectively. However, it is important to note that because the study employed the same single fairness item described above (Heilman et al., 1998), Heilman et al.'s (1996) use of the terms distributive justice and procedural justice referred to the experimental treatments, not distinct justice measures. In other words, they referred to outcomes that differed by the participants' qualifications (i.e., deservedness) as distributive justice outcomes and outcomes that differed by the selection method (i.e., merit vs. preferential) as procedural justice outcomes.

The results suggested that both the procedures and the outcomes may have influenced non-beneficiaries' fairness perceptions but that the outcomes may have had a stronger influence. When the all-male participants were led to believe their performance was inferior to that of the female confederates, which was the case in the merit condition and the preferential treatment-participant inferior condition, the appointment of the female confederate to the leadership position was viewed as most fair. Also, participants were led to believe their performance was superior to that of the female confederates, the appointment of the female confederate to the leadership position was viewed as significantly less fair. Heilman et al. (1996) argued that these findings are consistent with the distributive justice explanation because they suggest that the participants based their fairness judgments on the equity of the selection outcome regardless of the selection procedure.

The study also provided some evidence that the participants may have considered other factors in addition to distributive justice. When the participants were led to believe

that both candidates demonstrated equal performance in the preferential treatment condition, the non-beneficiaries reported higher levels of fairness if a justification was provided for the selection outcome (i.e., women were receiving preferential treatment to make up for past discrimination in selecting female candidates) than when no justification was provided. This result suggests that, in some cases, the participants attended to fairness criteria other than their own performance.

Unfortunately, it is difficult to interpret this result because separate procedural justice measures were not used. Therefore alternative explanations cannot be eliminated. Heilman et al. (1996) also argued that the finding that the merit-based selection method was associated with higher perceptions of fairness except in the case where a woman had been preferentially selected over a man with inferior performance suggested that the selection procedures generally influenced fairness perceptions – a procedural justice explanation. Again, without implementing better and separate justice constructs, it is difficult to draw conclusions regarding the specific influences of distributive justice and procedural justice. Additionally, it is interesting to note that certain outcomes such as organizational citizenship were more positive in the merit conditions regardless of the selection outcome adding some support to the procedural justice explanation.

Ambiguities notwithstanding, I do agree with Heilman et al.'s (1996) conclusion that “the experience of injustice arising from preferential selection can have multiple sources.” (p. 354) So despite its limitations, this study provides further support for the idea that not all employees will uniformly interpret a manager's or an organization's attempts to act fair as fair (Parker et al., 1997), and that characteristics of the perceiver and the procedures used may affect fairness judgments.

While the Heilman studies reviewed above (Heilman et al., 1998; Heilman et al., 1996) provide important evidence that merit systems may influence fairness perceptions, a few limitations restrict the external validity of the conclusions. The use of student samples in a laboratory setting allowed the researchers to more precisely manipulate the experimental treatments, but also over simplified the key concepts. In actual organizations, employees' determinations of whether merit-based systems are in place are potentially based on many factors, not just a single selection event. Managerial factors such as the overall representation of various demographic groups in a department, the use of objective systems to monitor performance, and the provision of career development opportunities may all weigh in employees assessment of the role of merit. Organizational factors such as the use of and communication of the use of formalized selection and promotion procedures are also likely to be considered. Also, employee perceptions may be inaccurate. For example, if a merit-based strategy is used in making personnel decisions but it is not clearly communicated, employees may perceive that a woman's promotion is the result of preferential treatment (Heilman et al., 1998). Finally, as discussed hitherto, the use of a single item to represent fairness perceptions is also a drawback of the experimental design, and a more granular assessment of the justice principles would have provided a more robust understanding of how merit-based systems impact fairness perceptions.

Thus the research by Heilman and her colleagues (Heilman et al., 1998; Heilman et al., 1996) discussed above represents a useful step towards the examination of merit as an antecedent to perceptions of fairness, but the experimental designs utilized limit the interpretations of the results. Fortunately, other studies have more fully considered the

relationship of merit-based and affirmative action programs to different justice factors (Bobocel et al., 2001; Leck, Saunders, & Charbonneau, 1996; Nacoste, 1987; Parker et al., 1997). The following review of these studies will more adequately illustrate that distributive justice and procedural justice principles both play a role in understanding employee reactions to affirmative action and merit-based decisions.

One study by Bobocel et al. (2001) utilized more elaborate, yet still unconventional conceptualizations of fairness perceptions to examine merit. The researchers conducted a series of experiments that explored the effect of distributive and procedural justice principles in reducing opposition to two types of affirmative action programs. The goal of the equal treatment program was to ignore candidates' demographic characteristics and promote career development for all employees equally. The preferential treatment program favored the use of demographic characteristics as a criterion in allocating organizational outcomes. Fairness in these studies was assessed using two indirect measures developed by the authors to capture participants' preferences for merit and consistency. The authors claimed that a high preference for merit indicated a participant strongly attended to distributive justice principles of fairness, and a high preference for consistency was said to indicate that a participant strongly attended to procedural justice principles. Consistency was chosen because theory suggests that it is a criterion of procedural justice (Leventhal, 1980; Leventhal et al., 1980).

The results revealed greater overall opposition to the preferential treatment program and an interaction between preference for merit and affirmative action program type (studies 1 & 2). A stronger preference for merit was associated with opposition to

the preferential treatment program, but not the equal treatment program. This result is consistent with the distributive justice explanation.

In order to examine procedural justice issues, an assessment of preference for consistency and a third “tie” affirmative action program were added in study three. The tie program consisted of a policy of choosing women over equally qualified male candidates. This was considered a test of procedural justice principles because the tie program did not violate the merit principle of distributive justice, just the consistency criterion of procedural justice. The results for study three showed that when the affirmative action program violated distributive justice principles (i.e., preferential treatment), the preference for merit scale predicted opposition to the program, and when the affirmative action program violated procedural justice principles (i.e., the tie program), the preference for consistency scale predicted opposition to the program.

Overall, the use of the unconventional justice preference scales in Bobocel et al.’s research renders comparisons of the findings to other justice research outcomes tenuous because they tap an individual’s desire for various elements of fairness, not fairness itself, however, the results revealed the expected justice relationships. The implication of the findings for organizational justice theory is that different affirmative action or diversity program strategies appear to result in different justice reactions for employees, and the practical implication is that merit-only programs are likely to foster the least opposition.

Another study of affirmative action that focused on different types of fairness was conducted by Nacoste (1987). Nacoste examined the effects of two types of preferential selection (gender heavily weighted (less merit) vs. gender considered after minimum qualification standards are met (more merit)) and qualifications (female candidate with

superior qualifications vs. male with superior qualifications) on “procedural and outcome fairness” (the actual items were not disclosed nor described so it is unclear whether the items were direct or indirect fairness measures) and the organization’s perceived commitment to fairness. The results showed that when merit was given more consideration and when the superior candidate was selected, participants reported significantly higher levels of procedural and outcome fairness. These conditions also led to greater perceived commitment to fairness by the organization, its departments, and those responsible for the selection decision.

The manipulations in this experiment dilute the findings’ contribution to organizational justice theory because the design of both selection methods violated the consistency rule of procedural justice, however, the results corroborate Heilman et al.’s (1998) conclusion that a minimum qualification selection strategy is perceived as more fair than one that heavily favors a gender criterion. A more useful outcome of the Nacoste study was the finding that fairness perceptions predicted the perceived commitment of the organization to fairness principles which, in turn, predicted greater attraction to the organization (e.g., a greater willingness to accept a job with the organization). This finding does contribute to theory because it suggests a mechanism to explain why higher levels of perceived fairness are associated with higher levels of organization commitment (Moorman, 1991).

Overall, the research on fairness reactions to affirmative action programs, despite the use of non-standard measures, has been similar enough in approach to suggest certain general findings. First, decision making systems that focus exclusively on merit are perceived as more fair than those that consider gender as a decision criterion. Second,

both distributive and procedural justice principles appear to predict fairness reactions to affirmative action programs. Programs that violate the merit rule appear to reduce perceptions of distributive justice, and programs that use procedures that don't foster predictable, consistent outcomes seem to have a greater negative affect on perceptions of procedural justice. Third, because most studies have used homogeneous, same-gender samples, there is little information regarding the possibility of beneficiary gender by non-beneficiary gender interactions. It would be of interest to know if gender explains or moderates employees' overall reactions to merit-based systems – a noteworthy exception suggests that it might. A study by Parker et al. (1997) examined gender differences in perceptions of organizational support for affirmative action. The results showed that women perceived less support for affirmative action than men did, and that the relationship between perceived support for affirmative action and fairness was stronger for women than for men. This study did not address the relationship between merit-based selection and gender, however, and research on this topic is still needed.

Finally, a significant limitation of the affirmative action literature is the tendency towards superficial operationalizations of merit. In the affirmative action and organizational justice research that did specifically consider the effect of merit, merit has traditionally been defined as a dichotomous variable implying that the concept of merit is unambiguous, objective, can be assessed reliably, and either exists or doesn't exist. Although some research has investigated affirmative action programs that give greater or lesser consideration to merit and demographic characteristics (e.g., Heilman et al., 1998), the concept of merit was defined in all-or-none terms; in the Heilman et al (1998) study, merit was defined as a superior test score. In the real world, issues such as the actual and

perceived validity of the measures and procedures used to assess employees' merit will conceivably impact employees' reactions to merit-based decision-systems. Crosby et al. (2003) point out that the specific measure or set of measures used to define merit may even contribute to advancement barriers or advantages for different demographic groups.

Furthermore, the traditional laboratory operationalizations of merit are not only limited in terms of scope, but also in terms of timeframe. In the affirmative action studies reviewed so far, the role of merit was only considered at one point in time, the moment a candidate was selected. But in the real world of work, many processes and outcomes occur over weeks, months, and years that either demonstrate that decisions are being made according to merit or according to some other set of rules. It would therefore be illuminative to examine if employees attend to ongoing evidence of "fair-play." In terms of merit-based personnel strategies, this could mean that a manager hires, promotes, and develops equal proportions of women and men. In other words, if no preferential affirmative action-type program is in place and a manager's department is more demographically diverse, would subordinates perceive that manager as more fair? And are there specific day-to-day managerial activities, such as the use of performance metrics (i.e., standardized empirical measures of how well a person or process is functioning; Smith, 2004, March 6), that reinforce the notion that merit is the basis upon which personnel decisions are being made?

Consistent with the stated objectives, it is a goal of the current study to address the previous weak operationalizations of merit described above by incorporating broader and more robust conceptualizations of merit into the proposed investigation of merit's role as an antecedent to employee perceptions of fairness. In the following sections, I

introduce some managerial and organizational practices and policies related to merit-based decision making personnel strategies and discuss their potential impact on employee fairness perceptions.

Merit As an Antecedent of Perceptions of Fairness

In the discussion above, I introduced the principle of merit and reviewed research that suggested that when employees perceive that merit is a significant criterion in personnel decisions, it may impact their perceptions of fairness. I also argued that the previous research on merit has generally not identified realistic, actual managerial and organizational practices, procedures, and policies in real organizations that relate to employee perceptions of fairness. In the following sections, I introduce and review manager behaviors that are likely to be related to subordinates' perceptions of merit-based decision making and fairness. These include both behaviors that produce actual outcomes such as increasing the representation (i.e., proportion) of women in a department and behavioral processes such as monitoring subordinates' performance through metrics.

In subsequent sections, I review organizational policies associated with a merit-based strategy and examine their potential contribution to employee fairness perceptions. As Konrad and Linnehan (1995) showed, formal policies can indeed have an impact on the advancement of women and minorities. What still needs to be understood is how formalization will affect employees psychologically. A few researchers have recently published promising results in this area that suggest that organizational policies such as formalization and centralization do affect employees psychologically (Ambrose &

Schminke, 2003; Schminke et al., 2002), but further research should be conducted before conclusions are drawn.

Finally, I conclude the discussion of merit-based organizational antecedents to perceptions of fairness with a discussion of the various elements that might define a merit-based organizational culture. The aim here is to investigate whether a global perception of the use of merit principles predicts employee perceptions of fairness. In a nutshell, the question guiding the current research is: will making the work environment more fair in terms of merit-based personnel decisions influence employees' subjective fairness perceptions?

Merit-Based Managerial Antecedents of Perceptions of Fairness

Workgroup Diversity Representation as an Actual Managerial Antecedent to Fairness

In their seminal book on the subject of procedural justice, Lind and Tyler (1988) noted the distinction between the widely studied area of subjective procedural justice and that of objective procedural justice². The authors explained:

Objective procedural justice concerns the capacity of a procedure to conform to normative standards of justice, to make either the decisions themselves or the decision making process more fair by, for example, reducing some clearly unacceptable bias or prejudice. Subjective procedural justice concerns the capacity of each procedure to enhance the fairness judgments of those who encounter procedures. (p. 3-4)

² Lind and Tyler (1988) note that the few studies involving objective procedural justice centered primarily around legal, rather than organizational topics. In a legal context, a judge tries to maximize objective justice by ensuring that the rules of the adversarial system are applied without bias; for example, the judge may not allow a witness to give testimony that is legally irrelevant or inappropriate. This may contradict a plaintiff's or defendant's sense of fairness (i.e., subjective procedural justice) if he/she interprets this restriction as the judge unfairly interfering with the testimony.

Although the study of organizational justice is concerned with employees' subjective perceptions of their treatment by managers and organizations, objective measures of the behaviors upon which those perceptions are based would be useful in interpreting observed differences. For example, when two different employees in independently managed departments report differences in the fairness of their managers, traditional measures of fairness do not allow the researcher to account for actual differences in the managers behaviors. Without a measure of manager behaviors related to fairness, it is difficult or impossible to distinguish the effect of a manager's actual behaviors from the subordinate's subjective interpretation of those behaviors. Thus different results in perceived fairness may be attributable to one manager being more fair than the another, employees applying different standards in judging the behaviors, or a combination of the two.

There may even be circumstances when many employees believe that a procedure is structured and enacted fairly when it actually isn't in terms of objective standards – a situation termed, “false consciousness” (Lind & Tyler, 1988). Considering actual outcomes of manager behaviors would allow one to isolate the effect of real differences in managers' behaviors on subordinates' perceptions of fairness from that of subordinates' subjective, perceived differences in their managers' behaviors. Beyond providing a way to control for differences in behaviors among different managers, such a measure or set of measures would have the additional advantage of enabling an examination of the direct effect of actual manager behaviors on justice perceptions (i.e., whether subordinates' justice perceptions are related to their managers' actual behaviors or to something else entirely).

Another benefit to supplementing organizational justice research by considering actual manager behaviors such as increasing the representation of diverse employees (i.e., women and minorities) in a department is that these behaviors potentially represent a more comprehensive, longer-ranging, and more stable construct of fairness (or unfairness) than is assessed by typical justice research. In other words, examining the actual results of a manager's pattern of behaviors would assess a history of multiple, observable events over a span of time, so the construct would represent the manager's tendency to act fairly or not. This is desirable because subordinates may consider a manager's overall "reputation of fairness" when evaluating his/her fairness and/or his/her individual behaviors (Greenberg, 1990a). However, because most organizational justice research has employed and currently employs cross-sectional designs and none has examined managers' actual behaviors as an antecedent to subordinates' perceptions of fairness, it is difficult to determine if Greenberg's assertion is correct. If the manager behavior variable represents a range of previous manager decisions and the variable is strongly related to subordinate justice ratings, this would be consistent with subordinates considering a broader array of manager behaviors when formulating their perceptions of fairness.

An additional benefit of examining the quantifiable outcomes of a manager's behaviors as an antecedent to fairness is that it would allow researchers to account for cultural or climate differences across different divisions of an organization or among different organizations. Illustrating this point, one large study of a hotel chain examined 4,539 employees in 783 departments across 97 hotels found that partitioning the entire sample into two sub-samples based on two business units, different patterns of results

emerged (Simons & Roberson, 2003). Further investigation revealed that the 84 hotels in one business unit were held under a single franchise brand and had different human resource practices (e.g., incentive programs) than the hotels in the second business unit that were held under various, different brands. The different management culture of the first business unit apparently impacted the aggregate justice perceptions of the employees which, in turn, significantly impacted the fit of the authors' model. Utilizing some form of actual manager fairness measure in this study may have helped the researchers to better account for the influence of the different business units' management cultures on employees' justice perceptions by allowing the researchers to statistically separate the effect of differences in actual managerial practices from that of the cultural differences.

Given the potential benefits of capturing actual manager behaviors as potential antecedents to fairness perceptions, it is somewhat surprising that no organizational justice research to date has incorporated this type of variable – although this type of measure has been recommended as an area deserving future study (Foley et al., 2002). Part of the difficulty has been in identifying managerial behaviors that are likely to predict perceptions of fairness. One reason for this is may be that scholars in fields ranging from law to philosophy to the social sciences have not been able to agree on a common definition of fairness itself (Greenberg, 1988). As Greenberg explained, studying perceptions of fairness avoids explicitly defining fairness by leaving that determination in the “eye of the beholder.”

In the only study I could find that attempts to distinguish a manager's “being fair” from “looking fair,” Greenberg (1988) surveyed 815 managers of travel agencies and retail stores asking them to respond to two sets of items corresponding to either manager

concerns with being fair (sample item: "On the job, how concerned are you about how fairly you treat your subordinates?") or looking fair (sample item: "On the job, how concerned are you that you are leaving on impression of subordinates that you treated them fairly?"). The results showed that looking fair and being fair were conceptually distinct to managers in the sample, and that managers were significantly more concerned with appearing fair than behaving fair. Content analysis of responses to the open-ended item, "What can managers do to appear to be fair?" revealed that announcing pay raises and communicating how these and other organizational decisions are made were considered to be the most important antecedents of perceptions of managerial fairness indicating that managers felt that looking fair may be enhanced both through what is done and what is said. This implies that comprehensive models of organizational justice need to account for the effect of managers' impression management behaviors on employees' reported perceived justice (Greenberg, 1990a).

The Greenberg study (1990a) is important because it illustrates that actual manager fairness appears to be a separate construct apart from perceived fairness and that managers are aware of this distinction, however, two limitations severely reduce the utility of the findings. Ironically, the measure of "being fair" is, itself, a subjective, perception measure which confuses the comparison of actual and perceived manager behaviors. Another limitation is that only managers and no subordinates were surveyed. This is unfortunate because the data do not answer the important question of whether being fair (presumably according to some prescribed normative principles) or looking fair is more predictive of subordinate fairness perceptions. Despite these limitations, this

study makes its contribution to the literature by introducing manager fairness behaviors or “being fair” to organizational justice research.

Perhaps the difficulty in identifying and defining a manager’s behaviors as an antecedent to fairness explains why it hasn’t yet been measured in organizational justice research. Without a well articulated definition, operationalizing the construct is troublesome. One strategy that may be useful is to identify the specific fairness context in which one wishes to discuss fairness. As Lind and Tyler suggested (1988), reducing bias or prejudice is one possible context. For instance, considering a merit-based diversity management policy, managerial behaviors that may predict fairness perceptions might be defined in terms as those behaviors that potentially indicate a lack of (or the presence of) gender, racial, ethnic, or other types of bias, e.g., age, in making decisions that impact employees’ career development, mobility, and compensation. Within a manager’s span of control, workgroup diversity representation (i.e., proportions of employees in salient demographic categories such as gender), hours of employee training, hiring rates, promotion rates, and performance appraisal outcomes by gender could provide a reasonable first attempt to examine actual managerial behaviors as antecedents to their subordinates’ perceptions of fairness.

Thus actual measures of manager behaviors could be derived in the diversity management context by selecting outcome measures that assess the degree to which managers increase workgroup diversity representation. The present study incorporates two types of diversity representation statistics as outcome measures of manager antecedent-to-fairness behaviors. An explanation of the actual operationalizations of the manager behavior measures is provided in the measures section.

Managers' Use of Performance Metrics

In addition to exploring the actual diversity representation of managers' departments, it would be useful to examine other types of manager behaviors that may potentially impact subordinates' perceptions of fairness. Because merit-based decisions require evaluations of performance (Crosby et al., 2003) and because gathering accurate and unbiased information about subordinates' performance are basic criteria of procedural justice (Leventhal, 1980), the processes and methods by which managers assess subordinates' performance are likely antecedents of subordinate perceptions of fairness. Some research has been done in this area, but few studies have related the manager behaviors to perceptions of fairness. Some of the behaviors that have been examined are reviewed below and a managers' use of performance metrics is introduced (as defined previously, performance metrics are standardized empirical measures of how well a person or process is functioning; Smith, 2004, March 6).

One type of behavior that managers use to assess subordinates' performance is monitoring. Komaki and her colleagues (Komaki, 1986; Komaki, Desselles, & Bowman, 1989; Komaki, Zlotnick, & Jensen, 1986) developed and tested a model of supervisor behaviors suggesting that monitoring subordinate performance is an essential component of effective management. They found that highly effective supervisors spent more time collecting performance information about subordinates and that observing subordinates or inspecting their work was the best predictor of effectiveness. Based on the theory of operant conditioning, the authors argued that monitoring is related to managerial effectiveness because gathering data about subordinates' performance allows a manager to better link outcomes such as rewards to the subordinates' performance, and that the

contingency between performance and outcomes is what drives future subordinate behaviors.

Niehoff and Moorman (1993) extended Komaki and associates' (Komaki, 1986; Komaki et al., 1989; Komaki et al., 1986) research to investigate the relationship between performance monitoring and organizational justice. Niehoff and Moorman argued that performance monitoring should positively impact perceptions of procedural justice because gathering evidence of subordinates' performance should help to increase the accuracy of the information used in performance appraisals, reduce personal biases by providing greater knowledge of subordinates' skills and abilities, and increase the consistency of performance appraisals over time and across individuals. The researchers tested their hypothesis in an organizational setting by asking subordinates to report the frequency with which their supervisors observed the subordinates' work and to rate their perceptions of organizational justice. Niehoff and Moorman found that supervisors' monitoring subordinates' performance by observation was significantly related to positive perceptions of procedural justice as well as distributive and interactional justice.

Niehoff and Moorman's (1993) results are important because they provide preliminary evidence of a link between managers' behaviors and perceptions of fairness. However, as the authors discuss in their conclusion, more research is needed in order to identify the specific manager behaviors that relate to positive subordinate fairness perceptions. They suggest exploring the content of monitoring to develop a more comprehensive understanding the managerial antecedents to employee perceptions of fairness. Niehoff and Moorman also suggest that future research on monitoring should

explore possible moderators of the association between performance monitoring and organizational justice. The current study incorporates both of these recommendations.

One laboratory study did examine specific manager monitoring behaviors and their relationship to fairness perceptions (Greenberg, 1987). Arguing that merely observing subordinates' performance doesn't necessarily indicate to subordinates that a manager is recording the information for careful consideration at a later time, Greenberg investigated the impact of a manager's use of a diary in monitoring. As participants performed a clerical task, their supervisors either observed their activities or observed their activities and recorded information in a diary. Then the supervisors rendered a performance appraisal. There was also a third, control condition where supervisors completed a performance appraisal without any type of performance monitoring. The results showed that both the performance appraisal outcomes and the performance appraisal process were perceived as more fair when the evaluators used diaries to document the participants' performance than when observation alone or no observation was used. This study is notable because it identified a specific method by which managers can monitor the performance of their subordinates, but its limited external validity should be addressed by replication of the findings in an actual organizational setting.

Today, as organizations increasingly depend upon the use of metrics and measurement for information to support their fact-based business decisions (Church, 2000), managers are turning to the use of performance metrics to monitor and evaluate their business functions and their subordinates (Callahan, 2003). In the context of a manager monitoring subordinates' performance, performance metrics can include

productivity reports, attendance records, training scores, counting the number of weekly assignments completed on time, etc.

In organizations that emphasize the use of merit-based decision making personnel strategies, the use of performance metrics supports the merit strategy in two ways. The first is related to actual manager behaviors. By definition, merit-based decisions require a valid assessment of merit, and performance metrics provide a consistent, more objective source of performance data for personnel decisions. If consistent, relevant performance indicators are used to evaluate subordinates, the manager is more likely to make personnel decisions that actually are consistent with the merit strategy. The second way the use of performance metrics supports the merit strategy is related to subjective perceptions of fairness. As Niehoff and Moorman (1993) and Greenberg (1987) suggested, monitoring behaviors fulfill several of the criteria for positive procedural justice perceptions (Leventhal, 1980) so a managers' use of performance metrics should signal to subordinates that they are being fairly evaluated based on their performance. Therefore, building on the prior research, an important objective of the present study is to investigate managers' use of performance metrics as an important antecedent to employee perceptions of fairness.

In order for a merit-based decision making policy to work, not only must merit be accurately assessed by managers, but consistent procedures must link merit to the decision making processes and outcomes. Organizations hoping to implement a merit-based approach need to create formalized policies and procedures that ensure that the measured performance is the only criterion considered. In the following section, I review

the prior research and discuss formalization as a merit-based organizational antecedent of perceptions of fairness.

Merit-Based Organizational Antecedents of Perceptions of Fairness

Formalization

A current theme in the organizational justice literature that is particularly relevant to the fairness perceptions of merit-based diversity programs is the search for organizational contexts that impact fairness perceptions. Because justice perceptions are greatly influenced by organizational procedures, researchers have begun to focus on elements of organizational policies as antecedents to perceptions of fairness. Three recent works (Ambrose & Schminke, 2003; Schminke et al., 2000; Schminke et al., 2002) have introduced what the researchers termed organizational structure into the justice literature. Noting that no empirical research relating organizational structure to organizational justice had yet been conducted, Schminke et al. (2000) examined the effect of centralization, formalization, and organization size on procedural justice and interactional justice across eleven organizations. The results showed that lower centralization of decision making processes was predictive of high procedural justice and that organization size was positively related to interactional justice. The authors tested both the direct effect of formalization and its quadratic effect to test their hypothesis that formalization operates as an inverted U-shaped function wherein optimal fairness perceptions are the result of moderate formalization and very low or very high formalization reduces procedural justice but found that neither effect predicted the examined types of justice.

This study is revealing in that it shows that structural policies of an organization can, indeed, influence individuals' perceptions of fairness, however, several limitations suggest that further investigation of formalization is needed before it can be dismissed as an antecedent of fairness. First, the procedural justice scale consisted of only three items that did not represent the full domain of the construct (c.f., Leventhal, 1980). Two of their items focused on voice and one was concerned with bias of the decision making system. Because this line of organizational justice research is so new, it is important to test the formalization hypothesis with a more comprehensive justice scale. Second, this study did not measure the effect of formalization on fairness outcomes. It would be useful to know if formalization is related to outcomes such as employees' organizational commitment. Third, because their focus was on the inter-organizational level, the authors aggregated the subjective formalization measures given by the individuals in each organization into a single measure that was used to represent the degree of formalization of each organization. I believe this approach is flawed because it does not account for individual differences in perception. In fact, the authors' own calculations of intra-organization-rater reliability showed considerable variation (the r_{wg} statistic ranged from .60 to .93 with a mean of .78). Admittedly, they were attempting to derive a single measure to represent each organization, not measure individuals' perceptions of formalization. However, the individual-level measure may be more useful in research that seeks to determine how different groups of employees (e.g., different demographic groups) react when they perceive their organizations to be formalized. Conceivably, men and women could have very different views of formalization based on different experiences with the organization's systems. Therefore, in evaluating the effect of actual

formalization policies on employee outcomes, it would be useful to be able to account for individual subjective perceptions of formalization.

Related to the third, a fourth limitation is that the formalization operationalization only captured whether written rules, policies, and procedures existed, not whether employees believed the formalized systems to be enforced and applied uniformly to all types of employees. Even if all employees agree that their organization is highly formalized, if certain individuals believe that the formal procedures are not applied to certain privileged types of employees, it is likely that this opinion would moderate the relationship between reported formalization and procedural justice. In other words, the employees have to believe that the formal system works in order for it to influence their fairness perceptions.

Illustrating the previous point, after conducting interviews in one British bank that was attempting to increase the representation of women in its junior and senior management ranks, Liff and Ward (2001) found when employees viewed the promotion process as “opaque and overly dependent on personal contacts and subjective decision making,” (p. 25) that formal development and appraisal systems were viewed as largely irrelevant to advancement. Addressing the issue that the impact of formalization may vary by important demographic variables such as race or gender, another group of researchers surmised after conducting interviews to assess an organization’s diversity climate, “Caucasian men look at formal processes and conclude that the company policies are fair and inclusive. Women, on the other hand, being aware of informal processes that are discriminatory, are less likely than men to believe that equality has been obtained,” (Mor Barak, Cherin, & Berkman, 1998, p. 98).

Because of its design, Liff and Ward's (2001) study could not quantify whether differences existed in males' and females' perceptions of organizational formalization or whether such differences subsequently affected other attitudes relevant to career advancement. However, a previous, more quantitative study (Vinson & Holloway, 1977) explicitly examined the relationship of formalization and race and concluded that formalization is related to employees' work attitudes and that the relationship can vary by race. Specifically, Vinson and Holloway found that African Americans employed in companies characterized by high formalization perceived less discrimination in the allocation of rewards such as raises and promotions than African Americans employed in companies characterized by only moderate formalization.

This finding reflects an interaction between race and formalization because Caucasians' perceptions of discrimination did not vary between the two levels of formalization. According to the authors, one way that a high degree of formalization might reduce perceptions of discrimination is by reducing supervisor discretion, and thus potential for bias, in reward allocation. When formal rules and policies for such allocations exist, they should mediate the impact of supervisors' subjective judgments on reward allocation. Furthermore, the historical discrimination of African Americans may explain why formalization affects their attitudes more than those of Caucasians'. Following this logic, it seems likely that other groups that have been traditionally disadvantaged by ambiguity in decision making processes (e.g., women) would have similar reactions to formalization.

Following the same reasoning, it is likely that formalization would have more of an impact on the organizational justice perceptions of employees with less stature and

power. Employees who are lower in an organization's hierarchy tend to have less influence over organizational outcomes and are more likely to depend on the organization's formal systems to obtain fair rewards. Schminke et al. (2002) recently tested the hypothesis that higher organizational levels and increased formalization are related to elevated levels of distributive, procedural, and interactional justice, and that organizational level moderates the relationship between formalization and organizational justice perceptions. Gender effects were not tested, but gender, which had a small, significant relationship with formalization (men were more likely to see their organizations as formalized), was used as a control variable.

The results supported the hypotheses indicating that higher organizational levels and greater formalization were positively associated with higher levels of all three justice types. Additionally, the moderator analysis revealed that the relationship between formalization and procedural and interactional justice was stronger for employees who were lower in the organizational hierarchy. Note that the actual level of justice reported was much higher for high level employees regardless of degree of formalization. Lower level employees had lower justice scores overall, but the difference between their scores in the high and low formalization conditions was much more pronounced. This study supports the previous work by Schminke et al. (2000) and expands the findings to include an explanation of why formalization was not a significant predictor of justice in the first study. This study also shared many of the limitations of the previous Schminke et al. (2000) study including not controlling for employees' perceived trustworthiness of the formalized systems. Also, because women and members of minority groups are more

likely to be at lower organizational levels, the findings suggest that women and minorities may weight formalization more heavily when deriving their justice perceptions.

Although the research on formalization is limited, on the whole, the results so far suggest that organizations that implement and communicate standardized, consistent policies regarding their rules and procedures may positively impact the fairness perceptions of their employees. This finding is particularly relevant to organizations purporting to utilize merit-based decision making policies because formal rules and procedures are the primary channels through which assessments of merit are translated into rewards, but more research is needed. Therefore, in the current study, I examine organizational formalization as an antecedent to employee perceptions of fairness.

My review of the formalization literature also revealed that previous research has not controlled for the possibility that the relationship between formalization and organizational justice variables may vary in strength according to the degree to which employees trust that the policies are applied to all employees equally. Although this moderating relationship has not been examined before, a recent study by Mani (2002) lends some support for the idea. Mani found that subordinates' perceptions of the fairness of a performance appraisal system were not related to compliance with the system's procedures but were related to trust in and satisfaction with their supervisors. Noting that a majority of subordinates also rated the system as unfair, Mani posited that following the standard rules of the policy probably had little impact since the subordinates did not trust the system. To address the absence of this potentially important variable in prior research, in the current study I examine subordinates' trust that the organization's formalized systems are applied to all employees uniformly and

without exception as a moderator of the relationship between formalization and perceptions of fairness.

Perceptions of a Merit-Based Culture

In the previous sections on the managerial and organizational antecedents to perceptions of fairness, I suggested that a manager's use of performance metrics and formalization support the objectives of a merit-based decision making personnel strategy by providing valid performance data and linking the assessed merit to outcomes and rewards. Individually, each of these potential antecedents is likely to indicate to employees that merit-based principles are in use. Collectively, they may contribute to a general feeling on the part of employees that the organization has a merit-based culture.

Most definitions of organizational culture include elements of shared interpretations and understanding of organizational events (Rentsch, 1990). Drawing on this concept from the organizational behavior literature, I propose that a fourth potential antecedent to employee perceptions of fairness is the perception of a merit-based culture. I argue that to the extent that the organization communicates and promotes the use of merit-principles to employees, employees will perceive a merit-based organizational culture is in place and find the organization to be more fair. This would be a useful concept to investigate in the current study because it would capture a more broadly defined aspect of the merit strategy. In other words, while the previously introduced antecedents relate to tangible, discrete outcomes and behaviors, the proposed cultural antecedent would relate to employees' more global perceptions of the accepted way of doing things in the organization. As Schein (1996) argued, one cannot truly understand

specific, observable organizational behaviors without understanding the underlying organizational culture in which they are embedded.

For this reason, I will assess subordinates' individual perceptions that their organization has a merit-based culture. Although I could find no other study that defined this concept, a study by Ramaswami and Singh (2003) investigating merit-pay related antecedents to perceptions of fairness provided a departure point. In their study, the authors examined the concept of measure appropriateness to capture an organization's overall attention to valid performance measures. Essentially, measure appropriateness represents employees' general perceptions that their organization is using accurate and standardized measures in assessing their merit. Contrary to Ramaswami and Singh's hypotheses, measure appropriateness was not a significant antecedent of procedural justice nor distributive justice, but higher levels of measure appropriateness were associated with higher levels of interactional justice. In the present study, I expand the idea of asking employees to assess the appropriateness of the measures used in their own performance evaluations to asking employees if the organization supports the use of merit principles in general. The instrument is described in the measures section and the full list of items is presented in appendix C.

In concluding the antecedents section, I note that all four of the proposed potential antecedents to perceptions of fairness in the current study address the construct validity limitations of the reviewed affirmative action research by incorporating broader, more robust concepts of merit that are observed by employees over a much longer timeframe. In the following sections, I discuss some conditions under which the above antecedents of fairness perceptions may be particularly relevant. In particular, I develop the argument

that because women have traditionally had difficulty in accessing the informal, social channels that help men to advance and have been more dependent on formal organizational policies for career development and progression, they will be especially sensitive to issues of merit. Specifically, I make the case that the relationships between the merit-based antecedents and perceptions of fairness will be moderated by subordinate gender and the relationships will be stronger for women.

Gender As Moderator of Fairness Perceptions

In the preceding sections, I introduced the concepts of organizational justice and merit-based decision making personnel strategies and reviewed research that supports my argument that merit-based managerial and organizational practices, procedures, and policies are likely antecedents of employee perceptions of fairness. Throughout the review, I have highlighted findings that suggested that men and women may differ in their reactions to merit-based strategies and may possibly differ in their reactions to their fairness perceptions. For example, I noted a study by Parker et al. (1997) that showed that women perceived less support for affirmative action than men did, and that the relationship between perceived support for affirmative action and fairness was stronger for women than for men. However, meta-analytic research has suggested that gender's relationship to organizational justice may be subtle. A meta-analysis of the organizational justice literature found a small mean correlation between gender and procedural justice ($r = -.09$; Cohen-Charash & Spector, 2001); in general, women had a slight tendency report more positive procedural justice perceptions than men. It is not clear from the reported results whether the gender comparisons were of men and women in the same studies or of men and women across different studies. Cohen-Charash and

Spector qualified their conclusion by limiting it to main effects only. Noting that a few studies had reported gender-justice interactions, the authors suggested that “rather than looking for main effects, future analyses should consider the contingencies under which gender influences justice perceptions” (p. 302). The current study incorporates Cohen-Charash and Spector’s suggestion by examining gender’s potential to moderate the relationship between merit-based decision making personnel strategies and employee perceptions of fairness.

In the section below, I provide a more in depth review of the evidence that suggests that gender may moderate perceptions of fairness. I begin with a review of some of the barriers to employment and advancement that women have traditionally faced to provide a context for why women employees may have a different frame of reference when evaluating issues related to merit and fairness. Then I briefly consider merit-based decision making strategies as a possible remedy for some of the career advancement obstacles that women have encountered. Finally, I review the literature on gender and fairness to provide further support for my assertion that gender may be a potentially important moderator of merit’s effects on perceptions of fairness.

Discrimination in the Workplace: Why Perceptions May Vary by Gender

Historically, women in the workplace have encountered many barriers to employment and advancement. One such barrier has been the legal system. Throughout the early history of the United States, laws (and lack of protective laws) have functioned to restrict the rights and opportunities of women. Whether it was restricting their rights to own property, to vote, or failing to adequately punish those who would harm women (e.g., the historical leniency given to wife-beaters in the courts), laws and formal policy

have long been a mechanism of keeping women "in their place." Although executive orders and legislation such as the Civil Rights Act of 1964³ and the Pregnancy Discrimination Act of 1978 have provided women with increasing access to previously restricted domains during the past 40 years, several barriers remain, particularly in the area of advancement into managerial roles.

The term "Glass Ceiling," a metaphor for the invisible and relatively impenetrable barrier that prevents non-traditional employees (i.e., white women and female and male minorities) from attaining management positions in corporate upper echelons, entered the public vernacular in the mid-1980's (Glass Ceiling Commission, 1995). At that time, over 95% of senior managers (vice presidents and above) were men (Glass Ceiling Commission, 1995). Today, although women have made some progress, the statistics still indicate that their representation in upper-level management falls far short of their proportions in the U.S. workforce. A recent census of Fortune 500 companies found that women as a group hold 15.7% of corporate officer positions (Catalyst, 2002). Furthermore, women hold less than eight percent of the highest corporate officer titles and less than two percent of chief executive officers are women. In the private sector, women comprise 35% of the officials and managers category (U.S. Equal Employment Opportunity Commission, 2004), and in federal employment, women represent slightly more than 24% of employees at the senior pay level (U.S. Equal Employment Opportunity Commission, 2003). The persistence of the Glass Ceiling phenomenon

³ Title VII of the Civil Rights Act of 1964 proscribes disparate treatment (i.e., discriminatory testing practices) and disparate impact (i.e., fair practices that result in adverse impact without just cause; Barlett, 1993) on the basis of race, gender, national origin, and religion. The Act was mostly intended to reduce racial discrimination and the inclusion of gender as a protected category was sort of an afterthought. Ironically, some of the Act's strongest supporters were those against racial fairness who believed that the inclusion of the gender clause would help to defeat the passage of the Act! (Barlett, 1993)

despite legal and social advances for women has stimulated much scholarly debate over the causes and solutions to this problem. Many organizations have also begun to implement programs aimed at increasing the gender and racial diversity of their personnel (Mollica, 2003; Taylor-Carter, Doverspike, & Alexander, 1995).

In addition to the legacy of legal obstacles, women also face social barriers to advancement. Whether in the form of gender role stereotyping, lack of access to career development opportunities, being held to a higher performance standard, or overt sexism, women have not had the same opportunities to enter and flourish in organizations as men (Carli & Eagly, 1999; Glass Ceiling Commission, 1995; Phillips & Imhoff, 1997; Schein, 2001; Stith, 1996; Triandis, Kurowski, & Gelfand, 1994). Some scholars have even argued that traditional corporations themselves are actually based on an inherently masculine model of work that puts women at a disadvantage by default (Acker, 1990).

One explanation of women's slower career progression holds that a major barrier to women's advancement may be their limited access to informal information channels such as networking and mentoring (Cannings & Montmarquette, 1991; Ibarra, 1992; Ibarra, 1993; Kanter, 1977a; Lemons, 2003; Liff & Ward, 2001; Lyness & Thompson, 2000; Phillips & Imhoff, 1997). Ibarra (1992) found a tendency for men and women to form separate, same-gender networks and for men to receive greater career-related benefits from their networks than did the women. Cannings and Montmarquette similarly reported that men in their study used informal networking to a much greater advantage than did women. The female middle managers in their study relied much more heavily on formal job-bidding as a means of obtaining promotions and experienced less and slower career mobility. The authors argued that women's greater dependence on the

organization's formal systems and lack of access to important informal networks were not just associated with fewer promotions, but were the likely cause of it. Further, in a review of women and career development, Phillips and Imhoff reported that gender does not moderate the positive effects of mentoring on career advancement, but that women experience more difficulty in obtaining mentors. Since that review was published, one study reported that women and men were about as likely to have informal mentors, but that women were significantly less likely to have an influential mentor (i.e., a white male mentor; Dreher & Cox, 1996).

Recognizing this problem, Brass (1985) suggested that organizations create formal mixed-gender networks to promote social interactions between male and female employees. However, in practice, such *forced* networks may not provide women with the traditional advantages afforded to men who participate in the more naturally occurring informal networks, although the perception of networking opportunities, whether formal or informal, may lead employees to believe that women are being treated more fairly (Lemons, 2003). This point was corroborated by a study of graduated MBA students that reported that mentoring and networking had a stronger effect on male protégés' managerial career success but had an equal effect on both genders' perceived career success (Kirchmeyer, 1998).

The research on mentoring also illustrates the greater influence of informal relationships than formal relationships on opportunities for career progress. Ragins and Cotton (1999) found that informal mentoring was associated with many career advantages, but that in most cases, the effects of formal mentoring was no different than having no mentor at all. Thus the evidence shows that access to the unofficial, informal

social channels in the workplace is an important predictor of career success, and that women's difficulty in fully participating in the informal channels represents a barrier to career progress. The effects of networking and having an influential mentor may be even more pronounced in management positions where more than half of the positions may be obtained through personal contacts (Davidson & Cooper, 1992).

Research shows that men's and women's careers differ in other important ways. Lemons (2003) reported that women's career paths appear to be shorter than men's; women may have more steps overall, but men tend to have more steps that lead to management positions. Stroh, Brett, and Reilly (1992) and found that female managers lagged male managers in salary progression and geographic mobility. Lyness and Thompson (2000) reported that, relative to men with similar human capital profiles, women placed greater importance on having a proven track record (i.e., women rely on merit more than men), and that more of women's developmental assignments involved non-authority relationships. This is consistent with the finding that women rely more on formal career advancement opportunities such as job-bidding (Cannings & Montmarquette, 1991). In sum, researchers have provided ample evidence that men's and women's career development and progression experiences differ in important ways (Blum, Fields, & Goodman, 1994); men benefit more from the social exchanges and inside information available via informal channels while women are relegated to utilizing formal career advancement and development programs.

The above list of the ways that men's and women's career experiences differ is far from comprehensive, but from the research that has been reviewed above, it is evident that employees' opportunities for career success vary, in part, as a function of gender to

the benefit of men. From the research on formal networking and mentoring, it is also apparent that forcing women into these channels through contrived arrangements will not achieve the goal of equalizing women's access to advancement opportunities. Informal relationships appear to help employees prosper through the nurturing and genuine respect, perceptions of competence, feelings of interpersonal comfort, and mutual identification that naturally develop (Ragins & Cotton, 1999). Clearly, until societal and organizational norms allow women to naturally form the types of informal relationships that help men to succeed, other solutions are required to equalize women's chances for advancement.

One potential alternative to creating artificial social channels for women is for organizations to adopt some form of affirmative action or diversity management program or the types of merit-based strategies discussed previously in this paper. Because explicitly favoring certain employee groups on the basis of their gender or race can lead to resentment on the part of the non-beneficiaries as well as the beneficiaries (Heilman et al., 1998; Heilman et al., 1996; Mollica, 2003), some have favored the use of merit-based systems over preferential treatment strategies (Crosby et al., 2003; Jones, 2003). It is also clear from above review that women are likely to be more sensitive to issues of merit since the more subjective, social avenues of career advancement have traditionally excluded them (Sweeney & McFarlin, 1997).

Scholars have suggested that basing selection, promotional, and career development decisions on performance/merit and formalizing promotional and developmental opportunities for all employees may mitigate the advantages available to the majority group such as informal networks by effectively putting men and women on a

level playing field (Blum et al., 1994; Bobocel et al., 2001; Jones, 2003). Following this logic, some organizations have chosen to implement formal, merit-based systems as the basis for important career decisions (Konrad & Linnehan, 1995). The idea is to judge all individuals based on their performance only. Although on the surface this approach may seem unbiased and equitable, its implementation would serve to eliminate the traditional advantages afforded to an organization's dominant group (i.e., white males) which suggests that this *fair* approach may not be considered fair by all organizational members, especially men. In the following section, I review the research on gender and fairness and support the notion of gender as a moderator of fairness perceptions.

Gender and Fairness

While the issue of gender differences has been addressed widely in many areas of organizational research including performance evaluation (Bartol, 1999; Pazy & Oron, 2001; Pulakos, Schmitt, & Chan, 1996), leadership issues (Eagly & Johnson, 1990; Eagly & Karau, 2002; Eagly, Karau, & Makhijani, 1995; Eagly, Makhijani, & Klonsky, 1992), job performance (Bowen, Swim, & Jacobs, 2000), and turnover (Lyness & Judiesch, 2001) to name a few, the literature with respect to gender-based differences in organizational justice is relatively sparse. Most of the gender studies that have been conducted about organizational justice were basic research in laboratory and/or university settings. The earlier studies of the 1980's focused primarily on gender differences in distributive justice perceptions, and the later work has begun to consider whether men and women attend to different types of justice (e.g., is distributive justice a better predictor of organizational outcomes for men than for women). Most recently, a few

studies have expanded gender research in organizational justice to topics such as the glass ceiling phenomenon. A review of this literature follows.

Perhaps one reason for the relative absence of gender research in the fairness literature is that some authors assume that no differences would be found. In one study of voice in procedural justice (Lind et al., 1990), the authors defend their use of an all male undergraduate university student sample by citing a previous study by the principal author that found no gender differences in tort litigants' perceptions of justice in a legal field setting (Lind et al., 1989). Furthermore, Lind et al. (1990) state that they could find no studies that had shown male-female differences in procedural justice judgements. I suggest that it is premature to forego the investigation of gender differences on the basis of a single study of participants who were not even examined in a work context, the setting for most current organizational justice research, and because recent findings show that the role of gender in organizational justice may be as a moderator variable rather than a main effect (Ambrose & Schminke, 2003).

The first studies to report gender differences in fairness examined the fairness of outcomes, i.e., distributive justice. One study found that the relationship between distributive justice and job satisfaction is stronger for men than for women, and that women are less dissatisfied with unjust outcomes (Brockner & Adsit, 1986). Other research has focused on gender differences in the use of distributive justice principles. Women have been found to be more equitable in allocating rewards when the role of the recipient is congruent with his/her gender (Jackson, 1987), and it has also been reported that women give themselves smaller rewards than men give themselves (Major, 1987).

One study of male and female undergraduate students investigated whether an individual's gender would be related to his/her perception of the fairness of several organizational promotion decisions (Saal & Moore, 1993). All participants were asked to review a lawsuit in which one employee had been promoted over another, and the denied candidate was suing the organization. The genders of the promoted and denied employees were varied to form four treatments: male promoted over another male or a female, and female promoted over another female or a male. The participants were informed of the case and the candidates' qualifications via a written case history. All candidates' qualifications had been found to be equivalent in a prior pilot study to ensure that any outcomes of the study could not be attributed to perceived differences in qualifications. The results show that women rated the promotion of a man over a woman as less fair than the other three promotion scenarios, and that men rated the promotion of a woman over a man as less fair than the other three promotion decisions. As a manipulation check, the authors measured participants' perceptions of the promoted and denied candidates' qualifications and found no differences. Thus, the differences in perceived fairness of the promotions were due to some factor other than the candidates' qualifications.

Anticipating that participants' beliefs about quota-driven hiring systems and affirmative action policies might explain any observed gender differences in promotion fairness, Saal and Moore (1993) also measured participants' reactions to five items tapping those topics (e.g., "Should quotas be used when making hiring decisions?"). The only gender difference occurred in response to the item, "During the last 10 years, how much have women been discriminated against in employment situations?" with women

agreeing significantly more strongly. The authors posit that perhaps women feel the promotion of an equally qualified man over an equally qualified woman is unfair because it violates the spirit of affirmative action, and that men feel the obverse is unfair because it *is* consistent with the principles of affirmative action. They suggest that for men, the parallel with affirmative action may invoke stereotypes of women as less fit for higher status positions and thus less deserving of promotions relative to a male candidate.

These results are interesting for several reasons. First, the results are important because they help demonstrate that gender may indeed impact fairness perceptions. Second, the results suggest gender effects may be complex because they reveal that people do not see qualified, opposite gender promotions as inherently unfair, but rather judge fairness both according to the gender of the promoted employee and the gender of the denied employee. If Saal and Moore had merely conceived of gender's impact on promotion fairness as a main effect, they would have likely obscured and missed the important evaluator-gender by promoted-employee-gender by non-promoted-employee-gender interaction. This second point has additional implications for affirmative action and diversity management programs by indicating that if such programs are touted as fair because they consider only employees' qualifications or merit, they may still be perceived as unfair by some employees. Third, the results of this study illustrate that focusing exclusively on outcome measures such as promotions can make it difficult to develop solutions. From the description of the study's procedures, it appears that participants were not given information about how the promotion decisions were made – just what the outcomes were. Therefore, by employing what is essentially a distributive justice model to examine gender and promotion fairness, it is not possible to understand

the impact of the promotion procedures on participants' evaluations of fairness. More robust conclusions may have been possible if procedural justice measures had been collected. Yet despite its limitations, this study has helped to suggest that gender may impact employees' perceptions of organizational justice and that more gender-focused fairness research is warranted.

More recently, a handful of studies have begun to consider the relationship between gender and procedural justice. In another study investigating gender and fairness in a legal context, researchers examined both distributive justice and procedural justice as well as several antecedents of justice perceptions (Kulik, Lind, Ambrose, & MacCoun, 1996). By administering exit surveys to male and female litigants as they left state-arbitrated auto negligence lawsuits, Kulik et al. measured respondents' reactions to the amount of their awards, justice perceptions, and other elements of the arbitration process likely to affect judgements of fairness such as process control and the neutrality and trustworthiness of the arbitrator and the arbitration process. Noting that "little research has directly addressed gender differences in justice judgements about procedures and outcomes" (p. 352), Kulik et al. designed their study to explore both possible gender-based differences in levels of distributive and procedural justice judgements and whether men and women attend to the same antecedents when deriving their opinions. They argued that it is important to pose both questions because men and women may, at times, arrive at similar conclusions regarding the fairness of a given process by considering very different factors.

In fact, the results of the study showed that litigants' perceptions of distributive justice and procedural justice did not differ significantly by gender, but that women did

give more weight to the favorability of the arbitration outcome than did men when arriving at their distributive justice judgments. Furthermore, women placed greater emphasis on the degree to which they were treated with respect and dignity in the arbitration process while men emphasized the amount of trust in the arbitrator. In other words, although the absolute levels of distributive justice and procedural justice did not vary by gender, the way in which men and women approached their judgments of distributive justice did.

Kulik et al. (1996) concluded that when “neutral procedures, dignified treatments, and trusted administrators” are present in a legal or organizational setting, perceptions of procedural justice will be enhanced for both men and women. This observation begs the question of whether results obtained in a judicial system, a system whose *raison d’être* is to administer impartial justice, sufficiently generalize to the arguably more political and biased world of for-profit corporations. Other limitations of the study may have made it difficult to detect gender and other differences. The unconventional use of four-point Likert-type scales on all rating items may have artificially reduced the variability of the responses. The breadth of the constructs may have been compromised by employing a small number of items per construct; procedural justice was represented by only three items and distributive justice by only a single item. Despite such limitations, this study does suggest that in certain contexts, antecedents to fairness perceptions may depend on the gender of the perceiver.

Other studies have reported that gender may also moderate the outcomes of fairness perceptions. In an archival study of federal employee survey data, Sweeney and McFarlin (1997) tested the hypothesis that procedural justice would have a stronger

association with outcomes such as organizational commitment and job satisfaction for women than for men. The first argument given for this hypothesis was based on a review of the literature that suggested that women are more likely to define success in terms of the achievement process rather than the outcome. The second argument is more apposite to the current study and suggested that because women may lack access to the informal mechanisms such as networks and mentoring that benefit men's career progression and are forced to rely more heavily on formal procedures and systems for advancement, the fairness of those procedures is likely to have more influence on their evaluations of outcomes. Conversely, men's distributive justice perceptions were hypothesized to play a larger role in determining their outcome evaluations. In this case, the greater rewards and opportunities that men receive were expected to shift their focus from the fairness of the allocation procedures to the fairness of the rewards themselves.

Sweeney and McFarlin (1997) tested their hypotheses using three step hierarchical regression analyses where step one included control variables including gender, step two entered distributive and procedural justice, and step three entered the distributive justice by gender and procedural justice by gender interaction terms. The authors found that the distributive and procedural justice interactions were significant in the predicted direction for intent to stay, job satisfaction, and organizational commitment. That is, for the three significant outcomes, procedural justice perception was a better predictor of the outcomes for women, but distributive justice perception was a better predictor for men. These findings should not be interpreted to mean that women do not value organizational outcomes such as pay and promotions and that men have no

concerns for fair procedures, only that the genders differ in the relative emphasis that each places on distributive and procedural justice principles when evaluating outcomes.

Such results are important because they illustrate how previous studies of organizational justice that treated gender as a main effect may have failed to detect gender's true impact. This study has limitations that suggest these results should be replicated and expanded in future research. The sample, while quite large, consisted only of government employees surveyed in 1980. The world of work is arguably quite different that it was two decades ago, and even then substantial differences existed between government and for-profit organizations. In addition, the federal employees in the survey worked in several different organizations that may have had very different cultures and treatments of men and women. Lyness and Thompson (2000) suggested that examining gender differences in a single organization may be useful in controlling inter-organizational differences such as opportunities for advancement that may result in spurious findings. Therefore, it would be useful to replicate this study with a more current sample in a single, public company. Sweeney and McFarlin (1997) also suggest that future tests of the organizational justice by gender interaction hypothesis consider the gender similarity of the rater-ratee dyad and the gender composition of the workgroup. The current study avoids the above limitations by examining a single organization and controlling for important covariates of gender.

Other studies have reported organizational justice by gender interactions. Tata (2000) found partial support for Sweeney and McFarlin's (1997) results. She found that men focused more intently on distributive justice issues than procedural justice issues in allocating and evaluating the fairness of a pay raise (this study required an graduate

student sample to play the role of a supervisor in allocating pay raises and the role of a subordinate in receiving pay raises). However, Tata did not find a significant difference in women's use of distributive and procedural justice principles. That is, the women in her study consider both types of justice principles equally. Although the results did not reveal significant organizational justice differences for women, they still corroborate the idea that gender plays a role in predicting some justice outcomes.

In an attempt to replicate Sweeney and McFarlin's (1997) findings, another study examined gender as a moderator of the relationships among distributive and procedural justice and pay satisfaction, trust in supervisor, and organizational commitment (Lee & Farh, 1999). Lee and Farh discovered only one significant gender interaction, and it was in the opposite direction from Sweeney and McFarlin's. Lee and Farh found that the relationship between distributive justice and trust in supervisor was stronger for women, not men. Unfortunately, a direct comparison with Sweeney and McFarlin's results is difficult between the two studies because each used different outcome variables with the exception of organizational commitment, and all measures, including organizational commitment used different scales. Therefore, Lee and Farh's results don't necessarily contradict Sweeney and McFarlin's findings, but they do suggest that the relationships among gender, organizational justice, and different outcome variables (or different operationalizations of the same outcome variables) may vary.

Another study by Lee, Pillutla, and Law (2000) also found gender to moderate organizational justice relationships. In their investigation of organizational justice relationships in a sample of Chinese-speaking employees of a Hong Kong university, Lee et al. found that gender did not moderate the relationships between distributive,

procedural, and interactional justice and trust in supervisor, but that procedural and interactional justice were significantly better predictors of perceptions that the organization had fulfilled its psychological contracts to its employees for men than for women. Although this study used the same measure of trust in supervisor as Lee and Farh's, the different results may be due to the very different cultures of the two samples. Again the general conclusion is that gender does appear to function as a moderator of organizational justice effects in some contexts, and that more research using standard measures and a broad range of outcomes is needed.

Overall, there does appear to be a connection between an employee's gender and his/her perceptions of fairness, but the relationships also appear to be complex and highly contextual. Because the organizational justice studies that explicitly considered gender are few and have utilized disparate concepts, measures, and samples, generalizing the findings at this point would be premature. Furthermore, the research on gender's impact on the relationship between merit-based decision making personnel policies and employee perceptions of fairness is minimal. Fortunately, a few recent studies have examined the relationship of gender and fairness in the related context of the glass ceiling. I review these studies in the following section.

The Glass Ceiling and Fairness

Despite growing evidence that gender appears to play a role in fairness perceptions and that diversity management involves gender and fairness, only two studies have explicitly investigated glass ceiling issues in an organizational justice framework. Foley, Kidder, and Powell (2002) investigated the effect of perceptions of a glass ceiling on the distributive justice of promotions among Hispanic law associates. Foley et al.

found that perceptions of a glass ceiling were negatively related to perceptions of distributive justice which were, in turn, negatively associated with intentions to leave and positively associated with perceived career prospects. Foley et al. also reported that female associates were significantly more likely than males to perceive a glass ceiling, and that the proportion of Hispanic associates employed in the firm was negatively related to glass ceiling perceptions for women only. These results suggest that men and women may be differentially sensitive to diversity issues, and that perceptions of barriers to advancement may affect both men's and women's perceptions of distributive justice.

Lamentably, other important types of justice such as procedural and interactional justice were not examined and distributive justice was unconventionally operationalized in terms of the survey respondents' perceptions of the fairness of other employees' promotions, not their own. It is also unfortunate that Foley et al. (2002) did not examine the impact of the proportion of female associates employed in the firm. More research on this topic is required before any firm conclusions can be drawn. The current study accounts for these limitations by incorporating more types of justice and controlling for the effects of gender proportions of the workgroup on perceptions of fairness.

The second glass ceiling study explored the role of gender schema in moderating the relationships between the number of female role models, networking opportunities for women, group gender composition, and the perception of formal career ladders and procedural justice (Lemons, 2003). Gender schema was defined as role expectations for women. A "traditional" gender schema indicated a stereotypical view of women as succeeding on the basis of luck and not their qualifications, and a "non-traditional" gender schema reflected a view of women as qualified, capable managers. Questionnaire

data were obtained from an undergraduate sample that was 57% female and 75% White. Respondents were either labeled as traditional or non-traditional on the basis of their responses to items regarding the rights, roles, and privileges that women should have.

The results revealed that for respondents with non-traditional gender schemas, greater numbers of female role models and formal career ladders were related to higher levels of procedural justice. Gender schema did not moderate the relationship between perceived networking opportunities for women and procedural justice nor between the perceived proportion of women in a workgroup and procedural justice, but the direct effects were both significant. In other words, greater networking opportunities and greater numbers of women in one's department were associated with higher levels of perceived procedural justice regardless of gender schema. These findings further support the apparent link between the issues related to the glass ceiling and organizational justice principles. Regretfully, Lemons (2003) did not address gender-specific reactions to networking opportunities, etc., used non-standard self-report-only measures including the measure of gender proportions, and only included procedural justice notions of fairness. Despite their limitations, Lemons's and Foley, Kidder, and Powell's (2002) research make a contribution to the literature by illustrating the utility of considering gender as a predictor of differences in the fairness perceptions associated with various organizational antecedents. These researchers have also suggested that it is important to control for the influence of potential confounding variables. Research has supported the need to control for variables that are likely confounds of gender such as tenure (e.g., Lefkowitz, 1994). The current study incorporates theoretically important covariates of gender in the

analyses as control variables. The specific variables and the rationales for their inclusion in the analyses are presented in the measures section.

Throughout the preceding reviews, findings that suggested that men and women may react differently to merit-based strategies and may have different perceptions of fairness were emphasized. It was suggested that men's and women's different career development and advancement experiences may give each gender a unique perspective on what constitutes fairness. I described how some organizations choose to implement the merit-based decision making strategy to address past inequities and suggested that because of their different views of fairness in general, men and women are likely to have differences in their perceptions of the fairness of the various managerial and organizational merit-related antecedents under investigation in the current study. In concluding the review of the relevant gender research, evidence of gender's potential to moderate fairness perceptions was provided as was literature that showed that women's perceptions of fairness are more likely to vary with perceptions of merit-related issues such as the glass ceiling.

THE PRESENT STUDY: PROBLEM AND HYPOTHESES

The Problem

The research pertaining to organizational justice literature is vast, but as the previous review shows, the literature has been more descriptive than prescriptive. Much research has been conducted to understand fairness perceptions and their outcomes. Organizational justice scholars have identified perceptions of fairness relating to the allocation of rewards, the procedures by which rewards are allocated, and the role of the manager in enacting and communicating the allocation procedures. Respectively, these are distributive justice, procedural justice, and the two forms of interactional justice, interpersonal and informational justice. Various theories and empirical studies that described and tested the justice constructs were presented. Prior research has shown that elements of organizational justice predicted turnover cognitions, job performance, OCBs, organizational commitment, perceptions of career development opportunities, and other important outcomes.

However, the review revealed a paucity of research on managerial and organizational practices, procedures, and policies that precede the formation of employees' perceptions of fairness. The psychological literature on employee reactions to affirmative action and diversity programs suggested that the use of a merit criterion in making personnel decisions may be an important and practical antecedent of fairness perceptions. I argued that the implementation of a merit-based decision making personnel strategy requires, at a minimum, the measurement of valid performance criteria or metrics, and formalized, standardized, and trustworthy policies to link the assessed performance to organizational outcomes and rewards.

In examining the limitations of the extant fairness literature, several themes apart from the inattention to antecedents were apparent. These included a tendency toward poor construct validation of justice variables and an over-reliance on mono-method, all-self-report research designs. By design, most fairness studies were only able to examine all variables of interest as the subjective perceptions of the participants. I explained how this drawback limited the interpretations of the findings and suggested that it would be useful to examine actual measures of managers' behaviors as antecedents to fairness. I posited that from a merit-based diversity program perspective, it seems reasonable to operationalize actual manager antecedent-to-fairness behaviors in terms of diversity representation statistics (e.g., the proportion of women hired in a department during a manager's tenure).

I then concluded the literature review by building the case for gender as a potential moderator of the relationships between merit-based managerial and organizational fairness antecedents and perceptions of fairness and between fairness perceptions and employee outcomes. I argued that women's historical denial of access to the informal mechanisms of career progression that have benefited men suggests that employees' reactions to the implementation and enforcement of a merit-based decision making personnel policy are likely to vary by gender. In my review of gender and fairness, I identified additional limitations of the previous literature that pertained to the lack of sufficient controls of important potential covariates of gender.

In summary, in my review, I have identified three overall gaps in the prior literature that deserve scholarly attention. First, there is a general lack of research on the antecedents to perceptions of fairness and a lack of attention to merit-based antecedents

in particular. Second, there have been no studies relating managers' actual behaviors to subordinates' perceptions of fairness. Third, the complexities of gender as a moderator in fairness research have not been adequately addressed.

The Present Study: Hypotheses

Based on my review of the organizational justice, affirmative action, women's advancement, and other relevant literature, I have developed the path diagram of the relationships among managerial and organizational fairness, employee perceptions of fairness, and fairness outcomes (see Figure 1, p. 7). The diagram specifies that subordinate justice perceptions are influenced by an organization's merit-based culture in two general ways. First, manager behaviors can signal that a merit rule is in effect by hiring, developing, training, and promoting women and minorities. If a manager's personnel decisions during his/her tenure result in a department that has a significant representation of demographically diverse employees, that may lead subordinates to believe that the manager does not make personnel decisions in such a way that barriers are created on the basis of non-merit-related criteria. Alternately, the same diversity representation statistics may signal to other subordinates that a manager is somehow biased and does not consider merit exclusively or at all when making hiring decisions. In either case, the diversity representation of a manager's department is likely to influence subordinates' perceptions of the role of merit in the manager's decision making. Furthermore, if the manager uses quantitative, objective measures of subordinate performance, that should signal to his/her subordinates that a genuine effort to assess merit is being made.

Second, the diagram also specifies that greater formalization of decision making rules along with the promotion of a merit-based culture (i.e., the organization's policies strongly encourage objective performance appraisal and unbiased use of performance information in making personnel decisions) will result in more favorable subordinate perceptions of justice. The diagram also specifies that justice perceptions are antecedents to important outcomes: turnover cognitions, organizational commitment, organizational citizenship behavior, career development perceptions, and performance.

The diagram also indicates that gender is predicted to moderate the relationships among the merit-related managerial and organizational antecedents to fairness and subordinates' fairness perceptions (i.e., knowing a subordinate's gender will provide predictive information about the expected relationship between the managerial and organizational merit-related antecedents and the subordinate's perceptions of fairness). Specifically, the perceived use of merit as a criterion in personnel decisions is proposed to have a greater and more positive effect on women's perceptions of fairness than on men's. This is because the implementation of a merit-based decision making personnel policy implies that all hiring, promoting, etc. will be accomplished via the established, formalized systems on the basis of individuals' merit only. Since research shows that women are more reliant on formal personnel systems due to limited access to the informal channels through which men tend to advance, women's perceptions that merit principles are in place should indicate to them that they will have an equal chance for success. However, male subordinates may pay little attention to the use of merit principles since they have enjoyed relatively better career prospects or, alternatively, men may perceive the implementation of merit-based personnel strategies as unfair because

such strategies aim to reduce or eliminate the traditional advantages that informal, social channels have afforded to men.

Because of limited and mixed results in the gender and fairness literature, the potential for gender to moderate the relationships among organizational justice and the organizational outcomes is posed as a research question. Finally, the diagram indicates that formalization will have a more positive influence on fairness perceptions to the extent that it is perceived to be applied consistently to all employees (i.e., subordinates' trust in the organization's adherence to the formalized policies will moderate formalization's impact on subordinates' perceptions of fairness). The specific hypotheses for this model are articulated below.

Antecedents of Organizational Justice

Manager Behaviors

In the affirmative action studies reviewed in the current study, evidence was presented that merit-based personnel decisions were associated with higher perceived fairness. In these laboratory experiments, the participants in the merit conditions were explicitly informed of the qualifications of the candidates involved. In actual work environments, evidence that a merit-based decision making system is in place must be inferred. Of course, the organization is inclined to communicate to employees that such a system exists, but to assess the validity of those claims, employees are likely to look to their surroundings. If a subordinate perceives his/her department has remained or become demographically diverse during the manager's tenure, that may provide a cue that the manager has been fair in selection decisions. Similarly, if others in an

employee's workgroup appear to have access to career development opportunities such as training, that too should positively relate to fairness perceptions.

H1: The diversity representation in a manager's department (i.e., the gender composition and development training for women) will be positively related to subordinate justice perceptions.

In order for merit to be used as a criterion in decision making, it must first be measured. If subordinates perceive that their managers use performance metrics and other objective criteria to judge the work performance of their subordinates, it is likely that the managers' decisions will be less biased by non-performance-related criteria, or at least be perceived as such, and thus positively impact subordinates' senses of justice.

H2: Subordinates' perceptions of their manager's use of performance metrics will be positively related to subordinate fairness perceptions.

Organization Fairness

In addition to considering their managers' behaviors in formulating their opinions of fairness, subordinates are also likely to consider the processes and policies by which important decisions are made. In a merit-based decision making personnel system, formalization provides the link between performance measures based on merit and organizational outcomes. There is preliminary evidence that the degree to which the rules and procedures are formalized or written down and communicated affects employees' fairness perceptions.

H3a: Subordinates' perceptions of formalization will be positively related to subordinates' fairness perceptions.

Formalization is intended to standardize the procedures by which assessed merit is translated into organizational outcomes and rewards. By focusing exclusively on merit, an organization attempts to provide equal career development and advancement opportunities to all qualified employees and to reduce or eliminate alternate routes to success such as informal networking and mentoring. But modern corporations generally have an abundance of rules and policies related to career issues (e.g., job posting, interviewing all applicants, etc.) and an even greater abundance of ways to get around the rules. Therefore, it is likely that formalization will only impact employee perceptions of fairness to the extent that the employees trust that the formal systems represent a true merit-based decision making personnel strategy and that the system is adhered to by managers and the organization.

H3b: Subordinates' trust that the formalized rules and procedures are consistently applied to all members of the organization will moderate the relationship between subordinate perceived formalization and fairness perceptions. When subordinates believe that formalization is consistently applied, their perceptions of formalization will be more positively related to perceived fairness.

Research in the area of affirmative action has shown that an organization's adherence to the merit criterion has been positively associated with increased levels of perceived fairness. The preponderance of this affirmative action research has examined merit as a dichotomous all-or-none variable in laboratory studies. Thus the one-time event of selecting candidates for a position is not likely to capture the realism or longer time horizon of employees' actual perceptions of merit in real organizations. Although it

has not been examined heretofore, drawing on the concepts of organizational climate and culture, I argue that to the extent that the organization communicates and promotes the use of merit-principles to employees, employees will perceive a merit-based organizational culture and find the organization to be more fair.

H4: Subordinates' perceptions that the organization promotes a culture of merit-based decision making will be positively related to subordinate justice perceptions.

Outcomes of Subordinate Justice Perceptions

A primary objective of the current research is to investigate the merit-relevant antecedents to fairness perceptions. Although the focus is on the antecedents to perceptions of fairness, the ultimate goal is to understand the complete set of relationships from antecedents to fairness perceptions to outcomes. Therefore, hypotheses regarding the relationships between fairness perceptions and outcomes are presented. Also, consideration of commonly studied outcomes will facilitate the interpretation of the current study's results vis à vis the extant organizational justice literature. This is especially useful since the examination of merit as an antecedent to perceptions of fairness is a new research topic.

H5a: Subordinate fairness perceptions will be negatively related to subordinate turnover cognitions.

H5b: Subordinate fairness perceptions will be positively related to subordinate organizational commitment.

H5c: Subordinate fairness perceptions will be positively related to subordinate organizational citizenship behaviors.

H5d: Subordinate fairness perceptions will be positively related to subordinate perceptions of career development opportunities.

H5e: Subordinate fairness perceptions will be positively related to subordinate performance.

Moderator Effects of Subordinate Gender

Another major objective of the current study is to determine if merit-based decision making personnel systems relate to women's and men's perceptions of fairness differently. Based on the research about gender and organizational justice, I predict that gender will moderate the relationship between merit as an antecedent to fairness perceptions and justice variables. Furthermore, because the literature regarding gender differences in career advancement has suggested that men rely less on merit and formal systems to get ahead, I predict that the gender interactions will show that merit-based behaviors and systems as measured by diversity representation statistics, manager's use of metrics, degree formalization, and existence of a merit-based culture relate more positively to women's perceptions of fairness than to men's fairness perceptions. Because of mixed findings in the literature, it is not clear whether men's merit assessments will be associated with negative perceptions of fairness or entirely unrelated to justice perceptions. These different possibilities will be addressed as research questions.

H6: The relationship between the diversity representation in a manager's department (i.e., the gender composition and development training for women; H1) and subordinates' fairness perceptions will be moderated by subordinate gender, and the association will be stronger for women.

- RQ1: Will there be a relationship between the diversity representation in a manager's department (H1) and men's fairness perceptions?
- H7: The relationship between subordinates' perceptions of manager use of performance metrics (H2) and subordinates' fairness perceptions will be moderated by subordinate gender, and the association will be stronger for women.
- RQ2: Will there be a relationship between men's perceptions of manager use of performance metrics (H2) and fairness perceptions?
- H8: The relationship between subordinates' perceptions of formalization (H3a) and subordinate fairness perceptions will be moderated by subordinate gender, and the association will be stronger for women.
- RQ3: Will there be a relationship between men's perceptions of formalization (H3a) and fairness perceptions?
- H9: The relationship between subordinates' perceptions that the organization promotes a culture of merit-based decision making (H4) and subordinates' fairness perceptions will be moderated by subordinate gender, and the association will be stronger for women.
- RQ4: Will there be a relationship between men's perceptions that the organization promotes a culture of merit-based decision making (H4) and fairness perceptions?

The review of the gender and fairness literature suggested that gender may moderate the relationships between various types of justice and outcomes. The review also showed that the findings were mixed. Although the evidence generally suggests

potential gender moderator effects, the directions of the effects are not consistent in the literature. Therefore, the following relationships will be examined as research questions.

- RQ5a: Will the relationship between subordinate fairness perceptions and turnover cognitions be moderated by subordinate gender? And will the association be stronger for women or men?
- RQ5b: Will the relationship between subordinate fairness perceptions and organizational commitment be moderated by subordinate gender? And will the association be stronger for women or men?
- RQ5c: Will the relationship between subordinate fairness perceptions and organizational citizenship behaviors be moderated by subordinate gender? And will the association be stronger for women or men?
- RQ5d: Will the relationship between subordinate fairness perceptions and subordinate career development perceptions be moderated by subordinate gender? And will the association be stronger for women or men?
- RQ5e: Will the relationship between subordinate fairness perceptions and performance be moderated by subordinate gender? And will the association be stronger for women or men?

METHOD

Participants/Sample

The research was conducted in a division of a major financial services corporation. I obtained prior approval to conduct the research using company resources such as a web-based survey application, computers, servers, and human resources databases from which the archival personnel records were retrieved. The selection and confidential treatment of the participants and their personnel records and survey response data were performed in conformance to the ethical standards specified by the United States Department of Health and Human Services and are reported in the procedures section below.

The determination of the necessary minimum sample size was based upon Cohen's power analysis table (1992). The table shows that as the number of independent variables entered into a regression analysis increases, so does the necessary sample size. Also, as the true effect size to be detected decreases, the required sample size increases significantly. Because gender interactions tend to be smaller than main effects, I chose to base my power requirements on the assumption that I needed to detect a medium true effect size ($R=.36$ or greater). A regression analysis with eight independent variables (the maximum listed on Cohen's table and a sufficient number to account for the independent variables and covariates to be analyzed) requires a sample size of 107 to achieve a power level of .80 at a 95% confidence level. Anticipating that post hoc analyses would be conducted on specific gender groups, I specified that a minimum of 107 female participants and 107 male participants should be studied. Assuming a 25% response rate, a total of 3000 invitations were sent to subordinates to produce an approximate expected

yield of 375 female and 375 male responses, well above the suggested minimum for sufficient power (the assumption of the 25% response rate was based on previous surveys conducted in the host organization).

Because the current study was conducted within a single organization and some of the hypotheses focus on subordinates' perceptions of their managers, it was desirable to have multiple subordinates reporting to the same managers in the respondent pool. Because the number of subordinates that directly report to the same manager is greater lower in the organizational hierarchy, subordinate sampling targeted lower-level employees. Accordingly, all senior executives and their direct subordinates, as well as, subordinates in workgroups of fewer than five employees were excluded from sampling eligibility. Also, because the gender distribution of subordinates at lower levels in the organization was fairly equal, focusing on lower-level employees allowed me to use a random selection strategy without great concern that either men or women would comprise an insufficient proportion of the total sample (see the procedures section for details). Finally, to ensure that the subordinates had sufficient time to observe their organization, only subordinates and managers with at least one year of organizational tenure were eligible to be sampled.

After obtaining approval for the research from the Institutional Review Board (see appendix A), 3000 invitations sent via email. Three invitations were returned undelivered due to invalid email addresses and 199 elicited "Out of Office" replies indicating that the invitees were not available to take the survey during the time period in which it was offered. I received 771 responses yielding a response rate of 28%. Ten respondents were excluded from analysis because they responded to fewer than 50% of

Table 1

Respondents' Demographic Characteristics.

<u>Categorical Demographics</u>	<u>N</u>	<u>Percent</u>	
Gender			
Female	384	50.54	
Male	377	49.56	
Racial Status			
Non-Caucasian	194	25.49	
Caucasian	545	71.62	
Missing	22	2.89	
Job Level/Band			
Vice President	25	3.29	
Assistant Vice President	93	12.22	
Sr. Specialist	173	22.73	
Specialist	120	15.77	
Non-Exempt	350	45.99	
<u>Continuous Demographics</u>	<u>N</u>	<u>\bar{X}</u>	<u>S.D.</u>
Organizational Tenure (Yrs)	761	7.71	6.84
Job Tenure (Yrs)	753	5.05	5.47
Time Since Last Promotion (Yrs)	754	4.12	5.12

Notes. Total $N=761$. Job levels/bands are listed in descending order of authority. Job tenure and time since last promotion were self-reported; all other variables were retrieved from organizational, archival databases.

the survey items; this reduced the effective response rate to 27%. The demographic characteristics of the respondents are displayed in Table 1. The 771 subordinate respondents reported to 114 unique managers. The demographic characteristics of the respondents' managers are displayed in Table 2.

Table 2

Demographic Characteristics of Respondents' Managers.

<u>Categorical Demographics</u>	<u>N</u>	<u>Percent</u>	
Gender			
Female	44	38.60	
Male	70	61.40	
Racial Status			
Non-Caucasian	13	11.40	
Caucasian	92	80.70	
Missing	9	7.89	
Job Level/Band			
Director	26	22.81	
Vice President	48	42.11	
Assistant Vice President	35	30.70	
Sr. Specialist	5	4.39	
<u>Continuous Demographics</u>	<u>N</u>	<u>\bar{X}</u>	<u>S.D.</u>
Organizational Tenure (Yrs)	114	17.92	8.96
# of Subordinates	114	26.30	33.45
% Female Subordinates	114	59.47	21.84
% Female Subordinates w/ Training	114	63.75	31.99

Notes. Total $N=114$. Job levels/bands are listed in descending order of authority. % Female Subordinates w/Training = percentage of female subordinates who work for each manager that completed at least one non-mandatory career development course. All manager data were retrieved from organizational, archival databases.

To assess the representativeness of survey respondents, I compared them with the total sample of 3000 subordinates on gender, racial status, band (i.e., organizational rank), organizational tenure, and performance ratings. I also compared the managers of the employees in the sample to the managers of the respondents on the following

variables: gender, racial status, band/level, organizational tenure, the total number of female subordinates managed, the total number of all subordinates managed, and the number of women under management that complete at least one non-mandatory career development course. No significant differences were found for the expected versus observed distributions of gender, $\chi^2(1, N = 771) = .24, p = .62$, for subordinates, and $\chi^2(1, N = 114) = .19, p = .66$, for managers; subordinate performance rating, $\chi^2(1, N = 756) = 1.66, p = .20$; manager racial status, $\chi^2(1, N = 105) = .36, p = .55$; manager band, $\chi^2(3, N = 114) = 2.36, p = .50$; organizational tenure, $t(770) = -1.63, p = .10$, for subordinates, and $t(113) = -.75, p = .46$, for managers; total number of female subordinates managed, $t(113) = .87, p = .39$; total number of all subordinates managed, $t(113) = .94, p = .35$; and number of women under management that complete at least one non-mandatory career development course, $t(113) = -.75, p = .46$.

Two significant differences were found for the expected versus observed distributions of subordinate characteristics. A significant difference in subordinate racial status, $\chi^2(1, N = 749) = 16.28, p = .00$, resulted from a greater proportion of Caucasians among the respondents than in the sample, and a significant difference in subordinate band, $\chi^2(4, N = 771) = 24.28, p = .00$, resulted from a greater proportion of exempt employees and a smaller proportion of non-exempt employees among the respondents than in the sample. Although the two significant differences need to be considered when generalizing the results of the study, it is important to note that the two subordinate characteristics that differ were entered as control variables in each analysis and are not part of the research hypotheses, and that all of the other subordinate and manager

characteristics examined suggest that the respondents are generally representative of the sample, particularly in terms of the hypothesis-relevant variable of gender.

Procedures

The data for the current study were obtained from employee surveys and organizational human resources databases. The study design required that personnel data such as gender and performance ratings be matched to the survey data so special steps were taken to protect the identities of the participants. The use of archival personnel data helped to minimize communicating experimenter demands to the respondents and provided the necessary diversity representation statistics. I relied on two assistants to obtain and process the personnel data so that any information that could reveal the employees' identities was separated from the data file that I analyzed. This process is explained below. I have used the labels "assistant A" and "assistant B" to identify the specific assistants.

First, assistant A, who was a member of the human resources department, generated a list of the target employee population. Assistant A routinely accessed and distributed personnel data as a part of his existing job function and was authorized by the organization to view the personnel data. The target employee population list contained employee names, email addresses, and departments as well as the personnel data pertaining to several of the study variables such as employee gender and performance ratings. The full roster of variables is presented in the measures section below. Next, assistant A forwarded the employee target population list to assistant B who also viewed personnel data as a part of her job function. Because assistant B performed the sampling

procedures for the current study, she had been certified via a computer-based training program on responsible and ethical research with experimental subjects.

Using a database application that I developed for the current research, assistant B ran a macro (i.e., stored, automatic computer routines) that produced the files required for the sampling procedure. The macro generated a random research identification number (research ID) for each employee in the population list, and then created a new file that contained only the employees' research IDs and their email addresses. I will call this the matching file. Next, the names and email addresses were deleted from the employee target population list. As an added measure of precaution, department names in the employee target population list were replaced with randomly generated department research IDs. At this point, the matching file became the only link between the employee research IDs in the target population list and the employees' identities (i.e., email addresses). The matching file was then removed from the organization's computer system and transferred to a CD-ROM disk that was stored in a locked filing cabinet. The net result of these procedures was to produce an employee target population list that contains no references to any specific individuals. Assistant B then forwarded the employee target population list to me.

As explained above, I randomly selected 3000 subordinates from the employee target population list. Then, I forwarded the list of the corresponding research IDs back to assistant B. She matched the research IDs in my sample to the email addresses contained in the matching file to generate the subordinate email list. Assistant B used the subordinate email list and the survey software to generate email invitations to the surveys. The surveys consisted of secure web pages that were accessed through a link

that was sent to each participant via email. Each participant received a unique link that contained his/her unique research identification number. The email text explained the purpose of the study and invited the participants to take the survey. The email invitation message stated that participation was entirely voluntary, that no one would know if one did or did not participate, that only high level, aggregated results would be generated, and that no one, including me will ever know the respondents' identities. The message text stated that by clicking the link to begin the survey, the participant understands and agrees with the terms of the study. This action served as a proxy for signing the informed consent form. See Appendix D for the complete invitation text.

When a participant clicked the link, he/she was directed to a series of web pages located on a web server that is maintained by a third-party vendor outside of the organization in the study. The server was highly secure and no one at the vendor organization could view the survey responses (see Appendix E for the section of the vendor's service contract that explicitly states this policy). The survey program recorded only each participant's responses and his/her unique research identification number – not the email address.

After the responses were submitted, I downloaded the response data from the vendor's server, and merged them with the employee target population list using the research IDs. Upon successfully merging the responses and archival data, I deleted the surveys and survey databases from the vendor's server and destroyed the disk containing the matching file. This action prevents anyone, including myself, from ever reuniting the responses and archival data with the respective individual participants to which they correspond. At this point, the data transitioned from confidential to anonymous status.

Measures

Some data for the subordinates were obtained via the survey instrument and additional data for the subordinates and their managers were obtained from the participating organization's archival data sources. The source for each measure is noted in its description below, and examples are provided. Internal consistency Alpha statistics based on current study data are provided for each survey measure. The complete measures are presented in Appendix C except where otherwise noted.

Antecedent Variables

Gender. Following Frazier, Tix, and Barron's (2004) recommendations for coding dichotomous moderator variables, women were coded as "1" and men as "-1." This effects coding scheme serves to facilitate the interpretation of the interaction term. The genders of all subordinates and their managers were retrieved from archival data.

Workgroup diversity representation. There is no precedent for using a measure like this as an antecedent to fairness perceptions. My aim was to select actual outcomes of managers' actions that subordinates might consider when evaluating whether or not their managers consider employees' and candidates' merit when making important employment-related decisions such as hiring, promoting, and providing career development. Because gender's role in fairness perceptions is a major focus of the current study, I selected two gender-related workgroup diversity representation variables over which managers in the sample organization had a high degree of influence: 1) the percentage of women compared to men of women in manager's current department (i.e., workgroup gender composition), and 2) the percentage of women compared to men who had received at least one career development training course. I selected one career

development training course as the cut-off point after examining other numbers of career development courses such as at least five or at least ten career development training courses and finding no practical differences in the outcomes of the statistical analyses. I also attempted to measure the percentage of women promoted by each manager, but the sample organization's archival records did not contain sufficient data to obtain this variable.

The goal was to examine whether subordinates related various levels of workgroup gender composition and training opportunities to fairness. Of course, this goal assumes that a diverse applicant pool is available for selection because a manager cannot hire or train diverse candidates if none exists. The sampling strategy of the current study accounted for this issue by targeting lower-level subordinates and managers (a population that is more likely to have a diverse applicant/candidate pool). As Table 1 shows, the majority of the respondents were at the lowest ranks/bands of the organization (i.e., 46% non-exempt), and the entire respondent pool was very nearly half men and half women.

Also, because it takes time for a manager to impact these measures like gender composition of the workgroup and because it takes time for subordinates to observe their managers and formulate opinions about their managers' hiring and training behaviors, I attempted to sample only managers and subordinates with at least one year of service in their current departments for the current research. However, it was not possible to obtain job tenure from the sample organization's archival records. As mentioned heretofore, I did restrict the sample frame to employees with at least one year of organizational tenure and target lower-level employees. This combination yielded a sample with a large

majority of respondents (86.7%) with one or more years in their current jobs. The average organizational and job tenure for the subordinate respondents and the organizational tenure for their managers are presented in Tables 1 and 2, respectively. Finally, it should be noted that because the current study focuses on gender moderation and because I believed that workgroup gender composition would produce a main effect as a predictor of organizational justice, I also included it as a covariate/control variable in the other antecedent regression analyses. This allowed me to hold the effects of workgroup gender composition on organizational justice constant (i.e., partial the effects out), and thus eliminating it as a potential confounding variable.

Perception of manager's use of performance metrics. This instrument was developed for this study and was designed to measure an individual's belief that the organization and the employee's manager foster an environment where decisions are based on performance and merit. A 7-point Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree was used. A sample item is "My manager monitors my performance through the use of metrics". Of the six items in the original scale, two were removed to increase alpha. Alpha for the final scale was .76.

Perception of formalization. Perception of formalization was measured using Schminke, Ambrose, and Cropanzo's (2000) scale based upon work by Pugh, Hickson, Hinings, and Turner (Pugh, Hickson, Hinings, & Turner, 1968). Schminke et al. conceived this instrument as an individual employee measure that was to be aggregated at the organizational level. In the present study, I kept this measure at the individual level to serve as each subordinate's perception of formalization. Note the original items used a 5-point scale with anchors of 1 = very inaccurate and 5 = very accurate, but a 7-point

Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree was used to be consistent with the sample organization's standards. A sample item is "(Organization) has a large number of written rules and policies." Of the five items in the original scale, one was removed to increase alpha. Alpha for the final scale was .78.

Trust in formalization. This instrument was developed for this study and was designed to tap a subordinate's belief that the systems in place are adhered to by management. A 7-point Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree was used. A sample item is "The rules, procedures, and policies at (organization) are applied consistently in my workgroup." Of the three items in the original scale, one was removed to increase alpha. Alpha for the final scale was .80.

Perception of merit-based culture. This instrument was developed for this study and was designed to tap a subordinate's belief that the organization has a merit-based culture. Item five (see appendix C) was adapted from an existing scale of measure appropriateness (Ramaswami & Singh, 2003). A 7-point Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree was used. A sample item is "(Organization) fosters a merit-based culture that focuses on performance when making important decisions that affect employees." Of the five items in the original scale, two were removed to increase alpha. Alpha for the final scale was .75.

Organizational Justice Variables

The four justice scales below are taken from Colquitt's (2001) recent article which assembled justice items of four types based upon the original seminal works (e.g., Bies & Moag, 1986; Leventhal, 1980; Thibaut & Walker, 1975). Although many justice scales have been published, Colquitt's are preferable because they are grounded in theory

and have been validated empirically. It is important to note that these scales are indirect measures of fairness in that they assess fairness criteria such as bias suppression rather than directly and explicitly asking respondents to assess the fairness of procedures and outcomes. Indirect fairness measures are preferable because research has shown that they are better predictors of outcomes (Colquitt et al., 2001), and they more clearly reveal what specific fairness criteria are driving respondents' perceptions. Further note the original items used a 5-point scale with anchors of 1 = To A Small Extent and 5 = To A Large Extent, but the scale was widened to seven points and keeping the original anchors (i.e., 1 = To A Small Extent and 7 = To A Large Extent) to be consistent with the sample organization's standards. The instructions for each justice measure were modified for current study to capture a broader spectrum of outcomes. For example, the original procedural justice instruction, "The following items refer to the procedures used to arrive at your (outcome). To what extent ...," which was designed to accommodate outcomes like "salary raise" or "performance appraisal score," was modified to, "The following items refer to the procedures used to arrive at outcomes that affect your career (e.g., promotions, salary increases, bonuses, performance appraisals). To what extent ..." The internal consistency reliabilities and a sample item from each measure are presented below.

Procedural justice. This is a measure of how fair the procedures used to determine organizational outcomes are perceived to be by the subordinate. "To what extent have you been able to express your views and feelings during the procedures used to arrive at outcomes that affect your career (e.g., promotions, salary increases, bonuses, performance appraisals)? Alpha for the scale was .78.

Distributive justice. This is a measure of how fair the organizational outcomes are perceived to be by the subordinate. “To what extent do your promotions, salary increases, bonuses, performance appraisals, etc. reflect the effort you have put into your work?” Alpha for the scale was .92.

Interpersonal justice. This is a sub-measure of interactional justice that measures how fairly a subordinate perceives he/she was treated by his/her manager during the procedures that are used to allocate outcomes. “To what extent has your manager treated you in a polite manner?” Alpha for the scale was .79.

Informational justice. This is a sub-measure of interactional justice that measures the subordinate’s perceived fairness of the communications from the manager to the subordinate during the procedures that are used to allocate outcomes. “To what extent has your manager been candid in his/her communications with you?” Alpha for the scale was .79.

Outcome Variables

Organizational citizenship behavior. Employee “work-related behaviors that are discretionary, not related to the formal organizational reward system, and, in the aggregate, promote the effective functioning of the organization” are known as organizational citizenship behaviors (Moorman, 1991, p. 845). The scale developed by Podsakoff, MacKenzie, Moorman, and Fetter (1990) is one of the most frequently used measures of OCB. Most research on OCB has required supervisors to rate the citizenship behaviors of each of their subordinates (e.g., Moorman, 1991; Niehoff & Moorman, 1993; Tepper & Taylor, 2003), but OCB has also been measured by subordinates as a self-report measure of OCB (Rioux & Penner, 2001). The Podsakoff, MacKenzie,

Moorman, and Fetter (1990) scale includes five sub-scales, but Rioux and Penner found that only two sub-scales had reliabilities of .71 or higher when self-reported. These sub-scales and their reliabilities in the current study are Altruism ($\alpha=.89$), an example is “I help others who have heavy work loads,” and Civic Virtue ($\alpha=.75$), an example of which is “I keep abreast of changes in the organization.” As in the original instrument, a 7-point Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree were used.

Organizational commitment. Meyer, Allen, and Smith’s (1993) Affective Organizational Commitment instrument was used to measure organizational commitment. Affective commitment reflects an employees’ reported emotional attachment to, identification with, and involvement in the organization (Meyer et al., 1993). As in the original instrument, a 7-point Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree was used. A sample item is “I really feel as if (organization’s) problems are my own.” Alpha for the original six-item scale was .87; however, as a result of the confirmatory factor analysis described below, two items were removed to improve the scale’s construct validity. Alpha for the final four-item scale was .83.

Turnover cognitions. Several models of turnover developed over the past two decades have proposed that three different turnover cognitions are involved in employees’ decisions to actually leave an organization (Sager, Griffeth, & Hom, 1998). In thinking of quitting, leaving the organization is considered. Intention to search concerns employees’ decisions to look for a new job outside of the current organization. Finally, intent to quit is characterized by an employee’s desire to leave to organization at

some point in the future. Research has supported two of the three types of cognitions as reliable predictors of actual turnover, but the role of intention to search remains ambiguous because under certain conditions, some employees may not search for a new position until after quitting or may choose not to seek re-employment at all (Sager et al., 1998). For this reason, a scale comprised of two thinking of quitting and two intending to quit items was used. The subordinates' turnover cognitions were measured using a 4-item instrument constructed by Lyness and Thompson (1997). The original scale used a frequency scale, but to maintain consistency throughout the survey, a 7-point Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree was used. The items were restated to be consistent with the agreement scale. An example of thinking of quitting is "I often think of quitting my job," and an example of intention to quit is "I intend to leave (organization) sometime in the next year." Alpha for the scale was .90.

Perceptions of career development opportunities. Because the literature review reveals that men and women appear to differ in their access to developmental opportunities, it is useful to explore whether their perceptions of fairness will predict their perceptions of career development opportunities. One study found evidence that career development perceptions and justice perceptions were indeed highly correlated (Parker et al., 1997). Parker et al. also demonstrated metric invariance for their career development perceptions scale across gender. Their career development perceptions instrument was used in the current study. A 7-point Likert-type scale with anchors of 1 = Strongly Disagree and 7 = Strongly Agree was used. A sample item is "(Organization) provides opportunities for individual development other than formal training (e.g., work assignments, job rotation, etc.)." Alpha for the scale was .81.

Performance rating. Subordinates' performance ratings from the most recent performance appraisal were retrieved from archival data. The organization utilized a three-point scale comprised of an outstanding performance category, "AD" for "achieves with distinction", a satisfactory performance category, "AR" for "achieves results," and an unsatisfactory category, "IA," for "inconsistently achieves results." However, because only two of the respondents received an unsatisfactory rating, job performance was recoded as a binary variable by combining the "AR" and "AI" ratings into a single "less-than-excellent" category. Excellent performance was coded as "1" and less-than-excellent performance was coded as "0".

Control Variables

Lefkowitz (1994) argued that many of the gender-related differences reported in psychological research are spurious and are actually driven by other variables such as tenure and job type that covary with gender. In his study of employees in several organizations, Lefkowitz found that several gender differences in outcomes such as job satisfaction disappeared after controlling for participants' education, age, tenure, income, occupational level, ethnicity and job characteristics (e.g., autonomy and task significance). Heeding Lefkowitz's exhortation, I have included several potential covariates of gender as control variables in the current study.

Workgroup gender composition. Although few studies or theoretical articles address the impact that a workgroup's gender composition has on organizational justice, the work that has been done since the introduction of the idea of tokenism by Kanter (1977a; 1977b) suggests that the ratios of men to women in organizational groups may indeed impact employees' perceptions of fairness. Tolbert, Graham, and Andrews (1999)

found that empirical research has shown that an increased proportion of women in a workgroup has been accompanied by positive changes in the women's self-reported self efficacy, job satisfaction, and intentions to stay with the organization. Interestingly, Tolbert et al. reported that men may perceive greater opportunities for promotion in female-dominated organizations but that men's job satisfaction does not necessarily decline as workgroups become more male.

Sackett, DuBois, and Noe (1991) showed that when the proportion of women in a given job in a given firm was lower than 50%, women were given lower performance ratings than men. The researchers also found the converse to be true – when the proportion of women in a given job in a given firm was higher than 50%, women were rated significantly higher than men. In a replication of Sackett et al.'s study, Pazy and Oron (2001) suggested that the differences in ratings were due to higher and lower scores for women at different proportions. The male officers' ratings were essentially the same at all gender proportions suggesting gender proportion of the group appears to affect the evaluations of women, not men. Thus, despite the lack of research on the relationship between group gender composition and organizational justice, it appears plausible from the available literature that gender proportion may influence men's and women's fairness perceptions; therefore, I included workgroup gender composition as a control variable in the current study.

The absolute frequencies of men and women in each subordinate's department were determined from the organization's human resources databases. The frequencies were used to calculate the proportion of women in each workgroup. This measure is the same as one of the independent variables described in the workgroup diversity

representation section, however, it was used as a control variable in the other tests of the hypotheses that did not involve the workgroup diversity representation antecedent.

Time since last promotion. A few studies conducted in actual organizations have suggested that the time since an employee's last promotion may impact men's and women's outcomes differently. Cannings and Montmarquette (1991) found that recent promotions reduced women's ambition to seek subsequent promotions, however, men's ambitions for future promotions were unaffected by recent promotions. Lyness and Judiesch (2001) found that a managers promoted in the past 11 months were less likely to voluntarily leave their organization than those who had not been promoted during that period, and that women managers who had been promoted during the 3.5 year timeframe of the study were less likely to resign than men promoted during the same period.

Thus, the length of time since an employee's last promotion may impact important outcomes such as turnover cognitions and the effect may vary by gender. To account for this potential covariate, the time since the respondents' last promotion was incorporated as a control variable. Because this information was not available in organizational records, the variable was measured via self-report on the subordinate questionnaire. Time was recorded in years.

Job tenure/organizational tenure. The hypotheses that were tested required employees to make judgments about their managers' behaviors and aspects of the organization's policies and culture. These opinions are likely to vary according to the length of time the employee has had for observation. To account for this possibility, the respondents' job tenure and organizational tenure in their current positions were controlled. The units were recorded in years. Organizational tenure was retrieved from

the organization's human resources databases, and job tenure, which was not available in the archival data, was obtained via a self-report questionnaire item.

Job level/band. Because there is evidence that the impact of formalized rules and procedures on employee justice perceptions may vary according to an employee's organizational level (Schminke et al., 2002), the respondents' levels in the organizational hierarchy were controlled. The sponsor organization had six banded levels of exempt employees and one band of non-exempt employees. The variable was coded as integers ranging from 2 (the highest band in the study, a director) through 7 (non-exempt employees). This variable was retrieved from the organization's human resources databases.

Employee racial status. Employee race was obtained and coded as non-Caucasian = 1 and Caucasian = 0 to control for possible race interactions with gender. This variable was retrieved from the organization's human resources databases.

The means, standard deviations, and inter-item correlations for all variables are presented in Table 3.

Table 3

Means, Standard Deviations, and Intercorrelations of the Variables.

Variable	\bar{X}	S.D.	1	2	3	4	5	6	7	8	9	10
1. % female subordinates	0.59	0.22	-									
2. % female subordinates w/training	0.64	0.32	-.05	-								
3. Manager's use of metrics	5.02	1.29	-.13	.16	.76							
4. Formalization	4.62	1.41	-.06	-.01	.38	.78						
5. Trust in formalization	5.48	1.43	-.07*	.04	.44	.55	.80					
6. Merit-based culture	4.87	1.28	-.07	.07	.58	.60	.64	.75				
7. Procedural justice	4.16	1.51	.00	-.02	.41	.50	.53	.63	.90			
8. Distributive justice	3.59	2.02	.07*	-.02	.28	.37	.35	.52	.68	.96		
9. Interpersonal justice	6.00	1.39	-.06	.04	.46	.37	.55	.50	.51	.34	.95	
10. Informational justice	5.30	1.59	-.05	.01	.51	.49	.54	.63	.65	.50	.76	.93
11. OCB - altruism	6.39	0.63	.01	.07	.07*	.15	.14	.15	.13	.03	.16	.16
12. OCB - civic virtue	5.46	1.03	.02	.08*	.18	.24	.24	.29	.23	.16	.16	.19
13. Organizational commitment	4.67	1.47	.05	-.06	.22	.34	.36	.45	.47	.38	.33	.38
14. Turnover cognitions	3.21	1.74	-.06	.06	-.25	-.28	-.33	-.44	-.47	-.47	-.32	-.36
15. Career development	4.80	1.29	-.02	.05	.40	.50	.51	.64	.63	.58	.46	.59
16. Performance rating	0.31	0.46	-.02	.08*	.09*	.10	.10	.07	.12	.16	.10	.11
17. Gender (women = 1, men = -1)	0.01	1.00	.32	.00	-.11	-.06	-.12	-.04	-.02	.07	-.09*	-.05
18. Racial status	0.26	0.44	.02	-.07*	-.11	.05	.01	.03	-.01	.03	.01	.03
19. Job level/band	3.11	1.21	-.07*	-.10	.06	.03	.11	.05	.10	.00	.07*	.06
20. Job tenure	5.05	5.47	.16	-.29	-.14	-.07	-.08*	-.11	-.02	.02	-.10	-.10
21. Organizational tenure	7.71	6.84	.13	-.30	-.11	.01	-.02	-.02	.04	.07	-.06	-.06
22. Time since last promotion	4.12	5.12	.14	-.30	-.16	-.01	-.04	-.07	.02	.05	-.08*	-.08*

Table 3 (continued).

Means, Standard Deviations, and Intercorrelations of the Variables.

Variable	11	12	13	14	15	16	17	18	19	20	21
11. OCB - altruism	.89										
12. OCB - civic virtue	.30	.75									
13. Organizational commitment	.15	.39	.83								
14. Turnover cognitions	-.08*	-.27	-.70	.90							
15. Career development	.16	.39	.63	-.60	.81						
16. Performance rating	.08*	.10	.10	-.06	.14	-					
17. Gender (women = 1, men = -1)	.06	-.01	.08*	-.09*	.05	-.03	-				
18. Racial status	-.02	-.02	.02	-.03	.02	-.11	.06	-			
19. Job level/band	.03	.15	.10	-.01	.06	.12	-.09*	-.14	-		
20. Job tenure	-.06	-.04	.12	-.07*	-.05	.04	.11	.03	.13	-	
21. Organizational tenure	-.07	.04	.20	-.13	.05	.03	.07*	.03	.30	.69	-
22. Time since last promotion	-.08*	-.02	.12	-.09*	-.03	-.05	.12	.05	.06	.60	.71

Notes. *ns.* ranged from 725 to 761 (\bar{X} & S.D. for variables 1 & 2 based on manager sample: $n = 114$).

Performance Rating: Excellent performance = 1, Less-than-excellent = 0; Gender: women = 1, men = -1; Racial Status: non-Caucasian = 1, Caucasian = 0. Internal consistency reliabilities are presented on the diagonal where relevant.

For $r_s = |.10|$, $p < .01$; for r_s marked *, $p < .05$.

Construct Validity via Confirmatory Factor Analysis

Because the current study involves several new measures and because I expanded all of the scales to seven points, I conducted confirmatory factor analyses (CFAs) on all of the scales to ensure that they had adequate construct validity. All of the CFAs analyzed asymptotic covariance matrices using the Robust Maximum Likelihood estimation method in LISREL 8.54 (Jöreskog & Sörbom, 2002). This estimation procedure is recommended when sample sizes are small and the measured items are not bivariate-normally distributed, as was the case in the current study (Jöreskog & Sörbom, 2002). Because CFA requires list-wise complete data, replacement values for empty cells were obtained by multiple imputation using LISREL's Expectation-Maximization (EM) algorithm. The imputed data for the 761 (771 respondents minus 10 who completed fewer than 50% of the items) were used to generate the covariance matrices.

CFA is a statistical tool that allows one to examine the relationships among theoretical, unobserved variables (i.e., latent factors or constructs). This is accomplished by analyzing observed variables that are thought to be likely indicators of the latent factors. The relationships among the latent factors and their observed indicators are specified in a structural equation model, and the adequacy or fit of the model can be evaluated by comparing the model's implied covariance matrix with the covariances of the observed variables. An important characteristic of CFA is that the models are specified a priori; that is, they are driven by theory, not the observed data. CFA is useful in construct validation because it can help to confirm or refute that each group of items in a scale load (i.e., cluster together) on the same latent factor (MacCallum & Austin, 2000). To take an example from the current study, CFA allowed me to test whether the

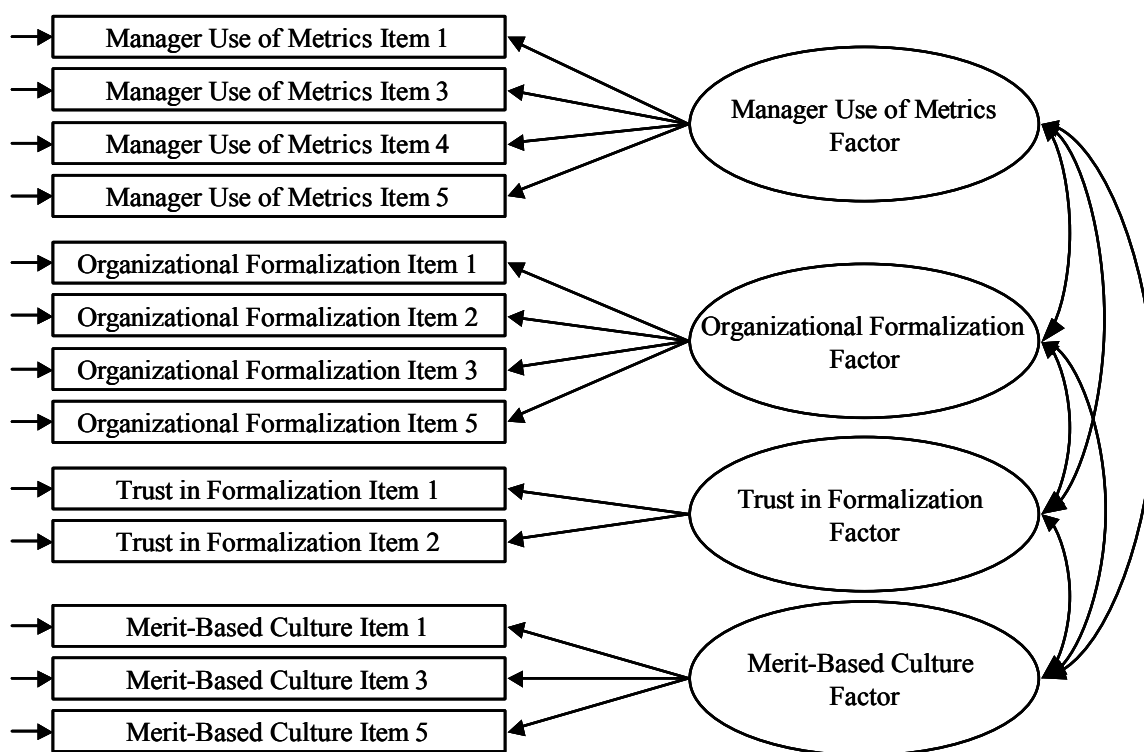


Figure 2. Conceptual structure of the hypothesized congeneric four-factor antecedents of organizational justice model.

perception of manager's use of metrics survey items loaded on a common latent factor and whether that latent factor was a different one than the one on which the organizational formalization items loaded.

I conducted three separate CFAs: one for the four antecedents of organizational justice scales, one for the four organizational justice scales, and one for the five outcomes of organizational justice scales. In each case, I compared the fit of my hypothesized model to that of other possible models. The goal was to show that the model specifying the hypothesized number of latent factors had the best fit. More precisely, the hypothesized model was defined as one where each scale item loaded on the intended latent factor and no others (known as the congeneric model; see Figure 2). I compared the fit of the congeneric model with the hypothesized number of latent factors to a one-

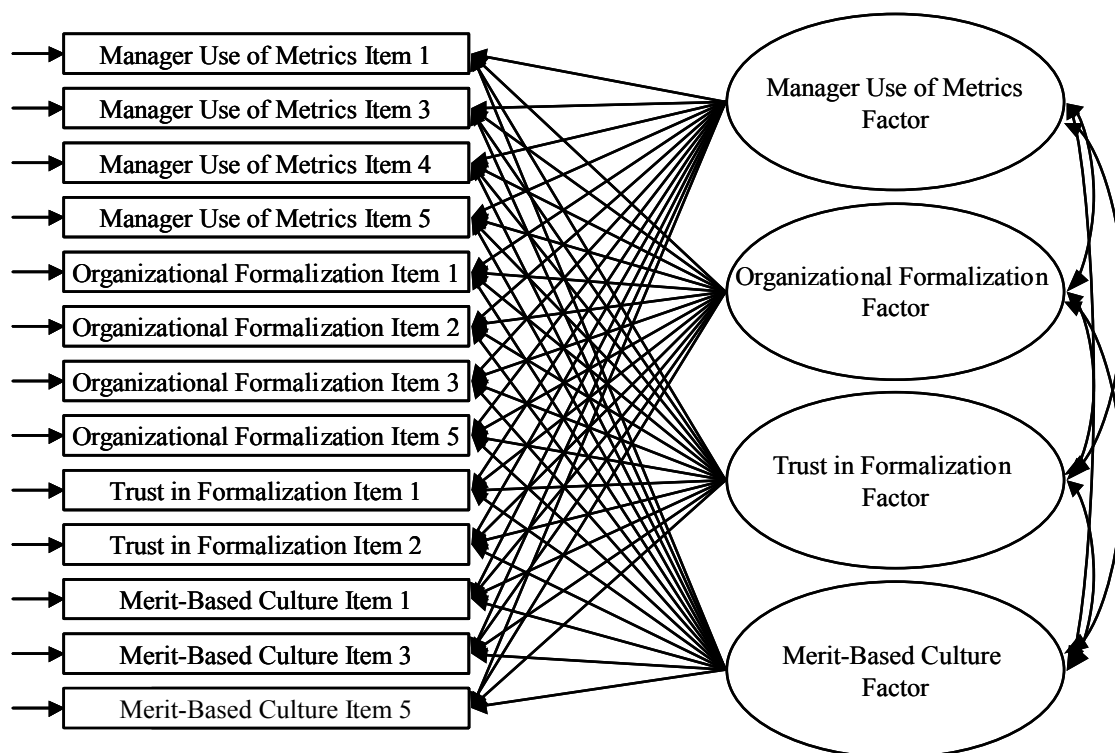


Figure 3. Conceptual structure of the saturated four-factor antecedents of organizational justice model.

factor model where all of the items were loaded on a single latent factor and to saturated models with two through the hypothesized number of factors (a saturated model is one where each measured item loads on every latent factor; see Figure 3). I also included a null model that constrained all indicators to be orthogonal (i.e., no latent factors) as a baseline.

There are a number of indices that can be used to assess a model's fit, so I chose to follow the guidelines for reporting fit indices that were recently published in the journal, *Structural Equation Modeling* (Boomsa, 2000). The guidelines state that the following indices should always be considered: the chi-square (χ^2) goodness-of-fit test statistic, the estimated value of the root mean square error of approximation (RMSEA) and its 90% confidence interval, and the standardized root mean squared residuals

(standardized RMR) as an index of the residuals. I also included the comparative fit index (CFI) as suggested to me by a scholar in the field of structural equation modeling (R. E. Millsap, personal communication, October 3, 2004).

Chi-square represents a test that “the unrestricted population variance/covariance matrix of the observed variables is equal to the model-implied variance/covariance matrix” (Mueller, 1996, p. 82). Because the χ^2 is very sensitive to sample size and because complex models will necessarily have a better fit than more parsimonious models, in practice, one does not evaluate the significance level of the χ^2 , but rather its change in magnitude. Comparing nested models within the same data set, a reduction in the χ^2 can be considered an increase in fit. Given the χ^2 -statistic’s sensitivity to sample size, some researchers have advocated evaluating the ratio of the χ^2 to its degrees of freedom with values of 3.0 or lower generally representing good fit (Mueller, 1996). In the current study, I chose to evaluate Satorra and Bentler’s (1990) scaled χ^2 -statistic, as well as the others described below, because of their robustness to violations of normality.

The RMSEA tests the null hypothesis of close fit. The RMSEA is regarded as one of the best fit indices, and it provides a confidence interval that provides information about the precision of its estimate of fit (MacCallum & Austin, 2000). The standardized RMR measures the average of the fitted residuals of the standardized variables (Jöreskog & Sörbom, 2002). RMSEA and standardized RMR values that are less than or equal to 0.05 are considered to indicate excellent fit. Finally, the CFI is an incremental index that measures the proportionate improvement in fit by comparing the hypothesized model to the null model. CFI values of 0.9 or above are considered to indicate acceptable fit.

Table 4

Overall Fit Indices for the Four Antecedents of Justice Scales.

Model	χ^2	<i>df</i>	χ^2 / df	RMSEA	90% C.I.	RMR	CFI
Null	6394.53	78	81.98	.33	.32 - .33	.36	.53
1-factor	817.96	65	12.58	.12	.12 - .13	.09	.88
2-factor saturated	938.84	57	16.47	.14	.13 - .15	.22	.85
3-factor saturated	390.66	45	8.68	.10	.09 - .11	.15	.93
4-factor saturated	61.08	32	1.91	.04	.02 - .05	.02	.99
4-factor congeneric (hypothesized)	437.77	59	7.42	.09	.08 - .10	.07	.93
4-factor congeneric (modified ^a)	151.50	58	2.61	.05	.04 - .06	.04	.98

Notes. $N=761$. Estimated with Robust Maximum Likelihood method using an asymptotic covariance matrix. χ^2 = Satorra-Bentler Scaled Chi-Square; RMSEA = root mean square error of approximation; 90% C.I. = confidence interval for RMSEA (lower – upper); RMR = standardized root mean square residual; CFI = comparative fit index. ^aModification = allowed Metric3 and Metric5 errors to covary (i.e., freed theta-delta).

CFA of the Antecedents of Organizational Justice Measures

To assess the construct validity of the antecedents of organizational justice scales, I fitted seven models using the 20 items that remained after removing six items to increase alpha as described in the measures section. The fit indices of all the antecedents models are presented in Table 4. The fit of the hypothesized congeneric four-factor model was poor: $\chi(59, N = 761) = 437.77$; $\chi^2/df=7.42$; RMSEA = 0.09; RMSEA_{90% C.I.} = (0.08, 0.10); standardized RMR = 0.07; and, CFI = 0.93.

After examining the parameter estimates and the modification and expected change indices, I decided to modify the model by letting the measurement error terms of two items of manager's use metrics covary. The fit of the modified congeneric four-factor model was good with all of the indices meeting or exceeding their fit criteria: $\chi^2(58, N = 761) = 151.50$; $\chi^2/df=2.61$; RMSEA = 0.05; RMSEA_{90% C.I.} = (0.04, 0.06);

standardized RMR = 0.04; and, CFI = 0.98. Modifications such as this can improve fit by capitalizing on chance, so the researcher must have a strong theoretical reason to justify the change in the model (Mueller, 1996). Upon examining the text of items 3 and 5 in the Perceptions of Manager's Use of Performance Metrics scale (see Appendix C), they appeared to be very similar, so I explored their relationship further. The correlation between the two items and a paired t-test provided additional evidence that respondents treated the items very similarly ($r = .74$; $t(664) = -.79$, $p = .43$), so it seems justifiable to expect a non-zero covariance between the two measured items.

I also compared the congeneric four-factor model to the alternative models. In all but the four-factor saturated model, the fit was very poor which provides additional support for the hypothesized number of factors. The saturated model with the correct number of factors is always expected to provide better fit because it requires the fewest constraints of the covariance matrix, but it attains that better fit at the cost of parsimony. Furthermore, because the well-fitting saturated model had four factors, it, too, provides confirmatory evidence that the scales measure distinct (though correlated) constructs.

CFA of the Organizational Justice Measures

To assess the construct validity of the organizational justice scales, I fitted six models using the all of the original 20 items. The fit indices of all the organizational justice models are presented in Table 5. The fit of the hypothesized congeneric four-factor model was moderate: $\chi^2(164, N = 761) = 679.28$; $\chi^2/df = 4.14$; RMSEA = 0.06; RMSEA_{90% C.I.} = (0.06, 0.07); standardized RMR = 0.06; and, CFI = 0.98. Examining the parameter estimates and the modification and expected change indices did not suggest any theoretically justifiable model modifications, so I decided to examine the fit of the

Table 5

Overall Fit Indices for the Four Organization Justice Scales.

Model	χ^2	<i>df</i>	χ^2 / df	RMSEA	90% C.I.	RMR	CFI
Null	30190.96	190	158.90	.47	.45 - .46	.51	.63
1-factor	8198.20	173	47.39	.28	.24 - .25	.30	.81
2-factor saturated	3509.50	155	22.64	.17	.16 - .17	.24	.89
3-factor saturated	1302.91	136	9.58	.11	.10 - .11	.17	.95
4-factor saturated	343.83	116	2.96	.05	.05 - .06	.02	.99
4-factor congeneric (hypothesized)	679.28	164	4.14	.06	.06 - .07	.06	.98

Notes. $N=761$. Estimated with Robust Maximum Likelihood method using an asymptotic covariance matrix. χ^2 = Satorra-Bentler Scaled Chi-Square; RMSEA = root mean square error of approximation; 90% C.I. = confidence interval for RMSEA (lower – upper); RMR = standardized root mean square residual; CFI = comparative fit index.

saturated model with the hypothesized number of factors (i.e., four) to assess its overall fit and patterns of factor loadings.

The fit of the saturated four-factor model was good with all of the indices meeting or exceeding their fit criteria: $\chi^2(116, N = 761) = 343.83$; $\chi^2/df=2.96$; RMSEA = .05; RMSEA_{90% C.I.} = (.05, .06); standardized RMR = .02; and, CFI = .99. An examination of the factor loadings of this model revealed that the factor loadings for each measured item were highest on the hypothesized latent factor. I also compared the saturated four-factor model to the alternative models. In all, the fit was very poor which provides additional support for the hypothesized number of factors. Because the well-fitting saturated model had four factors and the patterns of factor loadings were consistent with the scales, it provides confirmatory evidence that the scales measure distinct (though correlated) constructs. The author of the organizational justice scales also provided such evidence with two CFAs in his validation study (Colquitt, 2001).

Colquitt (2001) compared the fit of a one factor, two factor (distributive justice as one factor and procedural justice, interpersonal and informational justice combined as the second factor), three factor (distributive justice as one factor, procedural justice as a second factor, interpersonal and informational justice combined as the third factor), and four factor (each justice scale representing a separate factor) models using a sample of undergraduate university students (study 1; N = 301) and a sample of employees in two automobile parts manufacturing plants (study 2: N = 337). The multiple factor models appear to have been congeneric. In both studies, the results showed that the four factor models fit the data better than the alternative models. Colquitt argued the results suggest that the organizational justice scales represent four related, yet distinct constructs of justice.

Comparing the CFA of the organizational justice scales in the current study to Colquitt's (2001) work shows that for other than the ratio of the chi-square goodness-of-fit test to the degrees of freedom statistic, my results for the 4-factor saturated and 4-factor congeneric models closely resemble those of Colquitt's 4-factor model (study 1: $\chi^2(406, N = 301) = 769.50$; $\chi^2/df=1.90$; RMSEA = .06; RMSEA_{90% C.I.} = (.05, .06); standardized RMR = not available; and, CFI = .92.; study 2: $\chi^2(406, N = 377) = 845.52$; $\chi^2/df=2.08$; RMSEA = .06; RMSEA_{90% C.I.} = (.05, .06); standardized RMR = not available; and, CFI = .94.). Thus in at least three separate CFAs, the results have provided evidence of the construct validity of the procedural, distributive, interpersonal, and informational justice scales.

Table 6

Overall Fit Indices for the Five Organization Justice Outcomes Scales.

Model	χ^2	df	χ^2 / df	RMSEA	90% C.I.	RMR	CFI
Null	15970.54	190	84.06	.33	.33 - .33	.35	.53
1-factor	4538.18	174	26.08	.18	.18 - .19	.60	.75
2-factor saturated	2414.00	157	15.38	.14	.13 - .14	.39	.85
3-factor saturated	2381.21	139	17.13	.15	.14 - .15	.35	.87
4-factor saturated	1071.63	120	8.93	.10	.10 - .11	.10	.92
5-factor saturated	212.30	100	2.12	.03	.03 - .05	.02	.99
5-factor congeneric (hypothesized)	936.32	160	5.85	.09	.08 - .09	.06	.96

Notes. $N=761$. Estimated with Robust Maximum Likelihood method using an asymptotic covariance matrix. χ^2 = Satorra-Bentler Scaled Chi-Square; RMSEA = root mean square error of approximation; 90% C.I. = confidence interval for RMSEA (lower – upper); RMR = standardized root mean square residual; CFI = comparative fit index.

CFA of the Outcomes of Organizational Justice Measures

To assess the construct validity of the outcomes of organizational justice scales, I first fitted the hypothesized congeneric five-factor model the 22 items that remained after removing one item from the OCB – civic virtue scale to increase the alpha. The fit of this model was poor, and the fit of the five-factor saturated model was good, but two items from the organizational commitment scale (“I do not feel a strong sense of ‘belonging’ to (organization). (R)” and “I do not feel like ‘part of the family’ at (organization). (R)”) loaded higher on the turnover latent factor than on than the hypothesized one (i.e., organizational commitment). For this reason, the two items were removed from the analysis. I then fitted seven models using the remaining 20 items. The fit indices of all the outcome models are presented in Table 6.

The fit of the hypothesized congeneric five-factor model was moderate-to-poor, though better than the other models with fewer latent factors: $\chi^2(160, N = 761) = 936.32$;

$\chi^2/df=5.85$; RMSEA = 0.09; RMSEA_{90% C.I.} = (0.08, 0.09); standardized RMR = 0.06; and, CFI = 0.98. Examining the parameter estimates and the modification and expected change indices did not suggest any theoretically justifiable model modifications, so I decided to examine the fit of the saturated model with the hypothesized number of factors (i.e., five) to assess its overall fit and patterns of factor loadings.

The fit of the saturated five-factor model was good with all of the indices meeting or exceeding their fit criteria: $\chi^2(100, N = 761) = 212.30$; $\chi^2/df=2.12$; RMSEA = .03; RMSEA_{90% C.I.} = (.03, .05); standardized RMR = .02; and, CFI = .99. An examination of the factor loadings of this model revealed that the factor loadings for each measured item were highest on the hypothesized latent factor. I also compared the saturated five-factor model to the alternative models. In all of the alternative models, the fit was very poor which provides additional support for the hypothesized number of factors. Because the well-fitting saturated model had five factors and the patterns of factor loadings were consistent with the scales, the CFA provides evidence that the scales measure distinct (though correlated) constructs.

In sum, the CFAs support both the number of hypothesized factors, and the patterns of loadings, although it for the organizational justice and outcomes models, it was not possible to force all items to load solely on their respective factors. Based on these findings, I computed scale scores for each respondent by taking the mean of the unit-weighted items in each scale.

Statistical Analyses

All tests of the hypotheses were accomplished through hierarchical regression analyses. For each criterion variable, the control measures were entered in the first step.

In the next step, the main effects were tested by entering the predictor variables. Finally, to test the interaction hypotheses, the cross products of the interacting variables were entered in the last step(s). All of the continuous predictor variables were mean centered to zero, and the interaction terms were calculated using the mean-centered predictors to reduce the threat of multicollinearity (Cohen, Cohen, West, & Aiken, 2003). The results of the regression analyses are presented in the results section.

RESULTS

The results of the regression analyses used to test the hypotheses are provided below. I present the results in three sections. I first examine the results related to the antecedents of organizational justice. Next, I review the results concerning the relationships of organizational justice perceptions to organizational outcomes. Finally, I present the findings concerning gender as a moderator of the relationships (i.e., interactions).

In order to succinctly display the results, each table shows the findings from four regression analyses. Note that in Tables 7 through 11, which correspond to the analyses related to antecedents of justice, the four justice types represent dependent variables. In Tables 12 through 17, the measures of justice perceptions represent predictors of justice outcomes. Figure 1 above provides a path diagram illustrating the hypotheses that were tested.

Antecedents of Organizational Justice

Manager Behaviors

Hypothesis 1 predicted that representation of women in a manager's department would be positively related to subordinate justice perceptions. Representation of women was operationalized in two ways: 1) the percentage of female subordinates who work for each manager, and 2) the percentage of female subordinates who work for each manager that completed at least one non-mandatory career development course. The regression analyses did not support Hypothesis 1 for either of the gender representation variables. Step 2 in Table 7 shows that the percentage of female subordinates who work for each manager was not a significant predictor of any of the four organizational justice

dependent variables after accounting for the control variables in step 1. Similarly, step 2 in Table 8 shows that the percentage of female subordinates who work for each manager that completed at least one non-mandatory career development course was not a significant predictor of any of the four organizational justice dependent variables after accounting for the control variables in step 1.

Hypothesis 2 predicted that subordinates' perceptions of their manager's use of performance metrics would be positively related to subordinate fairness perceptions. Support was found for this prediction across all of the organizational justice variables. The regression analyses in Table 9 show that after controlling for several potential covariates, main effects for manager's use of metrics explained 17% of additional variance in procedural justice, $R^2_{change} = .165$, $F_{change}(1,722) = 144.58$, $p < .01$, 9% of additional variance in distributive justice, $R^2_{change} = .088$, $F_{change}(1,722) = 70.17$, $p < .01$, 19% of additional variance in interpersonal justice, $R^2_{change} = .193$, $F_{change}(1,722) = 177.81$, $p < .01$, and 26% of additional variance in informational justice, $R^2_{change} = .255$, $F_{change}(1,722) = 253.12$, $p < .01$. Consistent with the hypothesis, there was a positive relationship between the degree to which subordinates perceived that their managers use metrics to monitor their performance and their perceptions of organizational justice ($\beta = .42, .31, .45, \text{ and } .52$, $p < .01$, for procedural, distributive, interpersonal, and informational justice, respectively) indicating that subordinates felt they were treated more fairly when believed that their managers collected and considered objective measures of their performance.

Table 7

Hierarchical Regression Analyses Predicting Organizational Justice Perceptions With Percent Of Women Reporting To Each Manager And An Interaction Between Gender And Percent Of Women Reporting To Each Manager.

Predictors	Dependent Variables							
	Procedural Justice		Distributive Justice		Interpersonal Justice		Informational Justice	
	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	-.02	-.01	.05	.05	-.08*	-.06	-.04	-.02
Race	.00	.01	.02	.03	.03	.04	.05	.05
Rank	.07†	.08*	-.03	-.01	.07†	.08†	.06	.06
Job Tenure	-.08	-.08	-.05	-.06	-.09†	-.09†	-.09†	-.09†
Org. Tenure	.06	.05	.08	.06	-.02	-.02	.01	.01
Last Promotion	.02	.02	.03	.03	-.02	-.02	-.03	-.03
ΔR^2	.011		.009		.021		.016	
ΔF	1.33		1.14		2.57*		2.02†	
Step 2: Main Effect								
% Women	.01	.00	.05	.04	-.03	-.04	-.04	-.05
R^2	.011		.011		.022		.018	
ΔR^2	.000		.002		.001		.002	
ΔF	.020		1.29		.607		1.22	
Step 3: Interaction								
% Women x G		.06†		.09*		.08*		.06
R^2	.015		.018		.028		.021	
ΔR^2	.004		.007		.006		.003	
ΔF	2.87†		5.11*		4.34*		2.25	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. $\Delta F = F$ ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

Table 8

Hierarchical Regression Analyses Predicting Organizational Justice Perceptions With Percent Of Women Who Received Career Development Training Reporting To Each Manager And An Interaction Between Gender And Percent Of Women Who Received Career Development Training Reporting To Each Manager.

Predictors	Dependent Variables							
	Procedural Justice		Distributive Justice		Interpersonal Justice		Informational Justice	
	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	-.02	-.01	.05	.05	-.08*	-.07†	-.04	-.04
Race	.00	.00	.02	.02	.03	.03	.05	.04
Rank	.07†	.07†	-.03	-.03	.07†	.07†	.06	.06
Job Tenure	-.08	-.08	-.05	-.06	-.09†	-.09†	-.09†	-.11†
Org. Tenure	.06	.06	.02	.07	-.01	-.01	.01	.01
Last Promotion	.02	.01	.03	.02	-.01	-.02	-.03	-.04
ΔR^2	.011		.009		.021		.016	
ΔF	1.33		1.14		2.57*		2.02†	
Step 2: Main Effect								
% Women Trained	.06	-.04	.08	-.03	-.03	-.03	-.06	-.06
R^2	.013		.010		.022		.019	
ΔR^2	.002		.001		.001		.003	
ΔF	1.215		.632		.597		2.055	
Step 3: Interaction								
% Women Trained x G		-.02		-.02		-.03		-.02
R^2	.013		.010		.023		.020	
ΔR^2	.000		.000		.001		.001	
ΔF	.248		.187		.683		.206	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. ΔF = F ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

Table 9

Hierarchical Regression Analyses Predicting Organizational Justice Perceptions With Subordinates' Perceptions Of Their Manager's Use Of Performance Metrics And An Interaction Between Gender And Subordinates' Perceptions Of Their Manager's Use Of Performance Metrics.

Predictors	Dependent Variables							
	Procedural Justice		Distributive Justice		Interpersonal Justice		Informational Justice	
	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	-.02	.01	.04	.06	-.07†	-.04	-.02	.01
Race	.00	.04	.02	.05	.03	.07*	.05	.10**
Rank	.07†	.06	-.02	-.03	.07	.05	.06	.04†
Job Tenure	-.08	-.05	-.06	-.04	-.09	-.06	-.09†	-.06
Org. Tenure	.01	.06	.07	.07	-.01	.04	.01	.01
Last Promotion	.02	.06	.03	.06	-.01	-.02	-.03	.03
% Women	.01	.05	.05	.07	-.03	.01	-.04	.01
ΔR^2	.011		.011		.022		.018	
ΔF	1.14		1.16		2.29*		1.91†	
Step 2: Main Effect								
Use Metrics	.42**	.42**	.30**	.31**	.45**	.45**	.52**	.52**
R^2	.176		.314		.215		.273	
ΔR^2	.165		.088		.193		.255	
ΔF	144.58**		70.17**		177.81**		253.12**	
Step 3: Interaction								
Use Metrics x G		-.02		-.02		.04		.02
R^2	.176		.315		.217		.273	
ΔR^2	.000		.001		.002		.000	
ΔF	.135		.223		1.42		.445	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. $\Delta F = F$ ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

Organization Fairness

Hypothesis 3a predicted that subordinates' perceptions of formalization would be positively related to their perceptions of fairness. I found support for this hypothesis across all of the organizational justice variables. The regression analyses in Table 10 show that after entering the control variables in the first step of each analysis, main effects for perception of organizational formalization explained 6% of additional variance in procedural justice, $R^2_{change} = .062$, $F_{change}(1,722) = 68.61$, $p < .01$, 4% of additional variance in distributive justice, $R^2_{change} = .044$, $F_{change}(1,722) = 38.46$, $p < .01$, 1% of additional variance in interpersonal justice, $R^2_{change} = .007$, $F_{change}(1,722) = 6.78$, $p < .01$, and 5% of additional variance in informational justice, $R^2_{change} = .051$, $F_{change}(1,722) = 55.83$, $p < .01$. In accordance with the hypothesis, there was a positive relationship between the degree to which subordinates perceived their workgroups to be formalized and the extent to which they believed they were treated fairly by their managers and the organization.

Because I had concerns that formalization might not predict justice perceptions if subordinates did not trust that the formal written rules and procedures were applied impartially to all employees, I proposed a moderated form of the formalization hypothesis, Hypothesis 3b, which predicted that subordinates' perceptions of formalization would be more positively related to their fairness perceptions when their trust in formalization was higher. In step 3 of the regression analyses in Table 10, a significant regression weight for the "Formalization x Trust" interaction would indicate that over and above any main effects of formalization and trust in formalization (here, a control variable), the effect of subordinates' perceptions of formalization on fairness

Table 10

Hierarchical Regression Analyses Predicting Organizational Justice Perceptions With Subordinates' Perceptions Of Formalization And Interactions Among Gender, Subordinates' Perceptions Of Formalization, and Subordinates' Trust In Formalization.

Predictors	Dependent Variables							
	Procedural Justice		Distributive Justice		Interpersonal Justice		Informational Justice	
	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	.04	.04	.08*	.08†	-.01	-.01	.03	.04
Race	-.02	-.02	.01	.00	.01	.01	.03	.02
Rank	.02	.03	-.06	-.05	.01	.02	.01	.02
Job Tenure	-.03	-.01	-.03	-.01	-.04	-.03	-.04	-.03
Org. Tenure	.06	.03	.08	.05	-.01	-.01	.02	-.01
Last Promotion	.01	.01	.02	.02	-.03	-.03	-.04	-.04
% Women	.02	.03	.06	.07†	-.02	-.02	-.03	-.02
Trust (T)	.53**	.44**	.37**	.27**	.54**	.46**	.53**	.39**
ΔR^2	.287		.141		.301		.292	
ΔF	36.41**		14.81**		38.81**		37.20**	
Step 2: Main Effect								
Formalization (F)	.30**	.29**	.25**	.25**	.10**	.11**	.27**	.27**
R^2	.349		.184		.307		.343	
ΔR^2	.062		.044		.007		.051	
ΔF	68.61**		38.46**		6.78**		55.83**	
Step 3: 2-Way Interactions								
F x G	-.01	-.01	-.03	-.03	.01	.01	-.01	-.01
F x T	.11**	.11**	.08*	.08*	-.03	-.03	.02	.03
G x T	-.06	-.06	-.01	-.01	.08*	.08†	.06	.04
R^2	.362		.191		.315		.346	
ΔR^2	.013		.007		.008		.003	
ΔF	4.75**		1.93		2.70*		1.03	
Step 4: 3-Way Interaction								
F x G x T		.00		.01		-.01		-.04
R^2	.362		.191		.315		.347	
ΔR^2	.000		.000		.000		.004	
ΔF	.013		.030		.113		1.07	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. $\Delta F = F$ ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

perceptions was more positive when their trust in formalization was higher. Note that a gender interaction with formalization was also predicted in a subsequent hypothesis. Cohen et al. (2003) recommend that when multiple interactions are hypothesized, all of the possible interactions should be entered in the regression to partial out or control for the effects of the others. For this reason, the three possible 2-way interactions were entered in step 3. The gender interactions are described in a later section.

The results of two of the four analyses provided support for Hypothesis 3b. The formalization by trust in formalization interaction had a positive relationship with procedural justice ($\beta = .11, p < .01$) and distributive justice ($\beta = .08, p < .05$). In the case of the equation predicting procedural justice, the other interactions were not significant indicating that the 1% of additional variance explained in step 3, $R^2_{change} = .013, F_{change}(1,718) = 4.75, p < .01$, was primarily attributable to the formalization by trust in formalization interaction. To verify this claim, I re-ran the regression analysis entering only the formalization by trust in formalization interaction in step 3; this analysis yielded essentially the same result, $R^2_{change} = .009, F_{change}(1,720) = 10.21, p < .01$.

In the regression on distributive justice, although the standardized regression weight of the formalization by trust in formalization interaction was significant and the others weren't, the 1% of additional variance explained in step 3 did not achieve significance. Because the variance to be explained in step 3 was very small, it is likely that the other non-significant interaction terms were reducing the power to find this incremental gain significant. To investigate, I conducted the regression analysis entering only the formalization by trust in formalization interaction in step 3; in the follow up analysis, the 1% of additional variance explained in distributive justice in step 3 was

significant, $R^2_{change} = .005$, $F_{change}(1,720) = 4.75$, $p < .05$, suggesting the additional variance explained in step 3 was primarily attributable to the formalization by trust in formalization interaction. Thus, the findings related to procedural and distributive were consistent with Hypothesis 3b, and those for interpersonal and informational justice were not.

To illustrate the moderation effect of subordinate trust in formalization on the relationship between perceptions of formalization and procedural and distributive justice, I constructed graphs of each relationship. Following procedures recommended by Cohen et al. (2003), I produced separate regression equations for high trust in formalization and low trust in formalization. To obtain the values for high and low trust, I used +/- 1 standard deviation in trust in formalization. To plot the lines, I used three values: 1) 1 standard deviation below the mean of the independent variable (i.e., subordinate perceptions of formalization) to represent perceptions of a lower level of formalization, 2) the mean of the independent variable to represent perceptions of a moderate level of formalization, and 3) 1 standard deviation above the mean to represent perceptions of a higher level of formalization. The steeper slopes of the “High Trust” regression lines in Figures 4 and 5 show that holding other variables constant, subordinates’ more positive perceptions of formalization were associated with higher levels of procedural and distributive justice when the subordinates reported a higher degree of trust that the organization’s formal rules and procedures were fairly applied to all employees.

The significant regression coefficients of the interactions and the non-parallel regression lines in the graphs show that the slopes for high trust and low trust subordinates were different from each other when predicting procedural and distributive

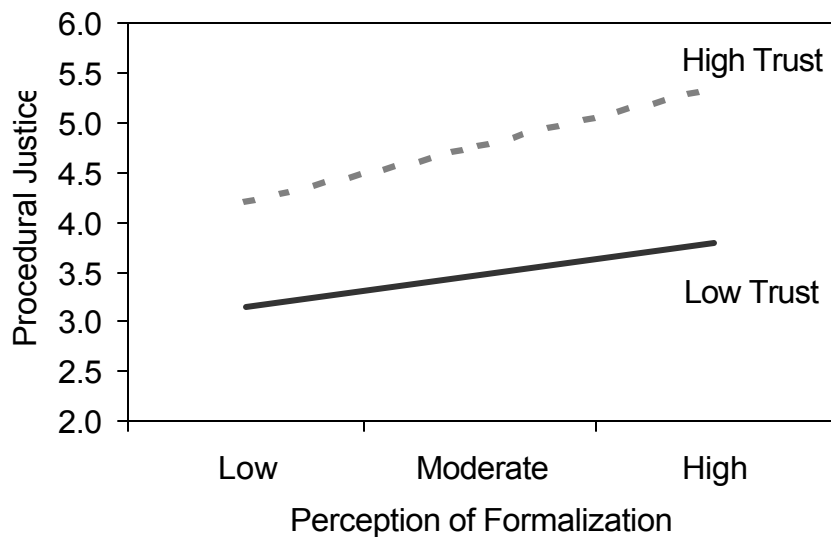


Figure 4. High and low trust subordinates' simple regression lines for procedural justice on perceptions of formalization.

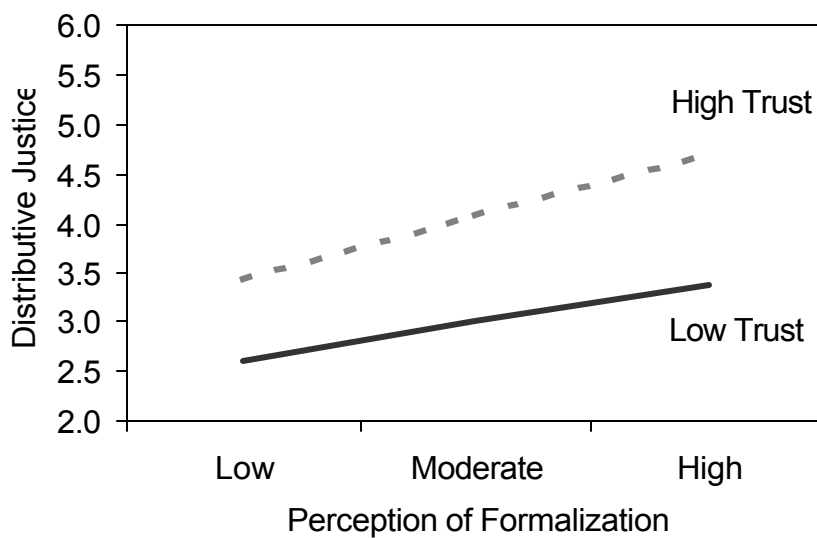


Figure 5. High and low trust subordinates' simple regression lines for distributive justice on perceptions of formalization.

justice from perceptions of formalization, but to statistically test whether the slope of line for high trust subordinates or the slope of the line for low trust subordinates was significantly different from 0, I examined the simple slopes of each regression line. I utilized a formula that uses the covariance matrix of the regression coefficients to perform a t-test of the simple slopes of a 2-way interaction term containing two continuous variables (Cohen et al., 2003, p. 273, Eq. 7.4.4). The results of the t-tests for both of the significant interactions showed that the simple slopes for high trust subordinates were significantly different from 0 ($t(725) = 8.57$ and $t(725) = 5.73, p < .01$, for procedural and distributive justice, respectively) and that the simple slopes for low trust subordinates were not significantly different from 0 at even marginal significance levels.

These results show that higher levels of perceived formalization were only positively associated with higher levels of perceived procedural and distributive justice when subordinates trusted that the formalized rules and procedures were fairly and consistently applied to all employees. In contrast, at low levels of trust in formalization, subordinates' perceptions of greater formalization had no relationship to their perceived levels of organizational justice. Thus, overall, the findings for two of the four types of justice perceptions supported Hypothesis 3b because trust in formalization was found to moderate the relationship between perceived formalization and procedural and distributive justice perceptions and the relationship was most positive when both trust and formalization levels were higher.

Hypothesis 4 predicted that subordinates' perceptions that the organization promoted a culture of merit-based decision making would be positively related to their

justice perceptions. The results for all four of the justice measures supported the culture hypothesis. The regression analyses in Table 11 show that after controlling for several potential covariates, main effects for the merit culture variable explained 40% of additional variance in procedural justice, $R^2_{change} = .397$, $F_{change}(1,722) = 484.85$, $p < .01$, 27% of additional variance in distributive justice, $R^2_{change} = .267$, $F_{change}(1,722) = 264.64$, $p < .01$, 24% of additional variance in interpersonal justice, $R^2_{change} = .244$, $F_{change}(1,722) = 240.26$, $p < .01$, and 38% of additional variance in informational justice $R^2_{change} = .384$, $F_{change}(1,722) = 464.20$, $p < .01$. Consistent with the hypothesis, there was a positive relationship between a perceived merit culture and subordinates' perceptions of organizational justice ($\beta = .64, .52, .51$, and $.63$, $p < .01$, for procedural, distributive, interpersonal, and informational justice, respectively). Thus, these findings suggest that subordinates felt they were treated more fairly when believed their organization promoted a culture that encouraged managers to consider employees' merit when making decisions about their performance.

Outcomes of Subordinate Justice Perceptions

Although the primary focus of the current study is on antecedents of justice, I included several of the frequently examined outcomes from the current justice literature to help relate my findings to previous research and to study fairness perceptions more comprehensively as both a dependent and an independent variable. The directions of my predictions reflect the most common associations found in the prior literature. The specific outcomes of each justice type are presented in this section.

Table 11

Hierarchical Regression Analyses Predicting Organizational Justice Perceptions With Subordinates' Perceptions That The Organization Promotes A Culture Of Merit-Based Decision Making And An Interaction Between Gender And Subordinates' Perceptions That The Organization Promotes A Culture Of Merit-Based Decision Making.

Predictors	Dependent Variables							
	Procedural Justice		Distributive Justice		Interpersonal Justice		Informational Justice	
	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	-.02	-.01	.04	.04	-.07†	-.06†	-.03	-.02
Race	.00	-.02	.02	.00	.03	.01	.05	.03
Rank	.07†	.06†	-.02	-.04	.07	.06†	.06	.05
Job Tenure	-.08	.02	-.06	.03	-.09	-.02	-.09†	.00
Org. Tenure	.06	-.01	.07	.02	-.01	-.05	.01	-.05
Last Promotion	.02	.05	.03	.05	-.01	.01	-.03	.00
% Women	.01	.04	.05	.07*	-.03	-.01	-.04	-.01
ΔR^2	.011		.011		.022		.018	
ΔF	1.14		1.16		2.29*		1.91†	
Step 2: Main Effect								
Merit Culture (MC)	.64**	.64**	.52**	.52**	.50**	.51**	.63**	.63**
R^2	.408		.279		.266		.402	
ΔR^2	.397		.267		.244		.384	
ΔF	484.85**		264.64**		240.26**		464.20**	
Step 3: Interaction								
MC x G		-.02		-.04		.12**		.07*
R^2	.409		.280		.280		.407	
ΔR^2	.001		.001		.014		.005	
ΔF	.561		1.25		13.61**		5.98*	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. $\Delta F = F$ ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

Hypothesis 5a predicted that subordinates' fairness perceptions would be negatively related to their turnover cognitions. Support was found for this prediction across all of the organizational justice variables. The regression analyses in Table 12 show that after controlling for several potential covariates, the main effects of procedural justice explained 22% of additional variance in turnover cognitions, $R^2_{change} = .217$, $F_{change}(1,722) = 207.54$, $p < .01$, the main effects of distributive justice explained 21% of additional variance in turnover cognitions, $R^2_{change} = .209$, $F_{change}(1,722) = 197.85$, $p < .01$, the main effects of interpersonal justice explained 12% of additional variance in turnover cognitions, $R^2_{change} = .122$, $F_{change}(1,722) = 103.40$, $p < .01$, and the main effects of informational justice explained 15% of additional variance in turnover cognitions, $R^2_{change} = .148$, $F_{change}(1,722) = 129.63$, $p < .01$. Consistent with the hypothesis, there was a negative relationship between subordinates' perceptions of justice and their feelings about leaving the organization ($\beta = -.47, -.46, -.37, \text{ and } -.40, p < .01$, for procedural, distributive, interpersonal, and informational justice, respectively) indicating that subordinates were less likely to consider quitting when they felt that they were treated more fairly.

Hypothesis 5b predicted that subordinates' fairness perceptions would be positively related to their organizational commitment. Support was found for this prediction across all of the organizational justice variables. The regression analyses in Table 13 show that after controlling for several potential covariates, the main effect of procedural justice explained 21% of additional variance in turnover cognitions, $R^2_{change} = .214$, $F_{change}(1,722) = 208.50$, $p < .01$, the main effects of distributive and interpersonal justice each explained 14% of additional variance in turnover cognitions, $R^2_{change} = .135$,

Table 12

Hierarchical Regression Analyses Predicting Turnover Cognitions With Subordinates' Perceptions Of Organizational Justice And An Interaction Between Gender And Subordinates' Perceptions Of Organizational Justice.

Predictors	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	-.06	-.07*	-.06	-.04	-.06	-.09*	-.06	-.07*
Race	.01-	-.01	.01-	.00	.01-	-.01	.01-	.01
Rank	.04	.09*	.04	.04	.04	.08*	.04	.07†
Job Tenure	.05	.00	.05	.02	.05	.02	.05	.01
Org. Tenure	-.18**	-.14**	-.18**	-.14*	-.18**	-.18**	-.18**	-.17**
Last Promotion	.01	.02	.01	.02	.01	.00	.01	-.01
% Women	-.02	-.02	-.02	-.01	-.02	-.04	-.02	-.04
ΔR^2	.027		.027		.027		.027	
ΔF	2.81**		2.81**		2.81**		2.81**	
Step 2: Main Effect								
Procedural Justice (PJ)	-.47**	-.47**						
Distributive Justice (DJ)			-.46**	-.46**				
Interpersonal Justice (IntpJ)					-.35**	-.37**		
Informational Justice (InfmJ)							-.39**	-.40**
R^2	.244		.236		.148		.175	
ΔR^2	.217		.209		.122		.148	
ΔF	207.54**		197.85**		103.40**		129.63**	
Step 3: Interaction								
PJ x G		.10**						
DJ x G				.07*				
IntpJ x G						.09*		
InfmJ x G								.08*
R^2	.253		.240		.155		.181	
ΔR^2	.009		.004		.007		.006	
ΔF	8.93**		3.91*		5.90*		5.46*	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. ΔF = F ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

Table 13

Hierarchical Regression Analyses Predicting Organizational Commitment With Subordinates' Perceptions Of Organizational Justice And An Interaction Between Gender And Subordinates' Perceptions Of Organizational Justice.

Predictors	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	.05	.06	.05	.04	.05	.08*	.05	.06†
Race	.01	.01	.01	.00	.01	.00	.01	-.01
Rank	.03	-.01	.03	.04	.03	.01	.03	.01
Job Tenure	-.03	.01	-.03	.00	-.03	.01	-.03	.01
Org. Tenure	.21**	.19**	.21**	.18**	.21**	.22**	.21**	.21**
Last Promotion	-.03	-.04	-.03	-.04	-.03	-.02	-.03	-.01
% Women	.02	.02	.02	.01	.02	.03	.02	.03
ΔR^2	.043		.043		.043		.043	
ΔF	4.65**		4.65**		4.65**		4.65**	
Step 2: Main Effect								
Procedural Justice (PJ)	.47**	.47**						
Distributive Justice (DJ)			.37**	.37**				
Interpersonal Justice (IntpJ)					.37**	.38**		
Informational Justice (InfmJ)							.40**	.41**
R^2	.257		.178		.178		.202	
ΔR^2	.214		.135		.135		.159	
ΔF	208.50**		118.29**		118.45**		143.72**	
Step 3: Interaction								
PJ x G		-.04						
DJ x G				-.06†				
IntpJ x G						-.05		
InfmJ x G								-.05
R^2	.259		.182		.180		.204	
ΔR^2	.002		.004		.002		.002	
ΔF	1.79		3.37†		1.71		2.10	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. ΔF = F ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

$F_{change}(1,722) = 118.29, p < .01, R^2_{change} = .135, F_{change}(1,722) = 118.45, p < .01,$ respectively, and the main effects of informational justice explained 16% of additional variance in turnover cognitions, $R^2_{change} = .159, F_{change}(1,722) = 143.72, p < .01.$ Consistent with the hypothesis, there was a positive relationship between subordinates' perceptions of justice and their reported organizational commitment ($\beta = .47, .37, .38,$ and $.41, p < .01,$ for procedural, distributive, interpersonal, and informational justice, respectively) indicating that subordinates who perceived that they were treated more fairly also felt more committed to their organizations.

Hypothesis 5c predicted that subordinates' fairness perceptions would be positively related to their self-reported organizational citizenship behaviors. I tested Hypothesis 5c using the two sub-scales of OCB shown to be most reliable when self-reported by subordinates, altruism and civic virtue (Rioux & Penner, 2001). The results for three of the organizational justice variables supported the altruism prediction. The regression analyses in Table 14 show that after controlling for potential covariates, the main effects of procedural, interpersonal, and informational justice each explained 2% of additional variance in altruism, $R^2_{change} = .015, F_{change}(1,722) = 10.92, p < .01, R^2_{change} = .022, F_{change}(1,722) = 16.60, p < .01, R^2_{change} = .021, F_{change}(1,722) = 15.66, p < .01,$ respectively. Consistent with the hypothesis, there was a positive relationship between three types of subordinates' perceptions of justice and their reported altruistic behaviors in the workplace ($\beta = .12, .17,$ and $.15, p < .01,$ for procedural, interpersonal, and informational justice, respectively) indicating that subordinates who perceived that they were treated more fairly also reported doing more to help other employees with their work.

Table 14

*Hierarchical Regression Analyses Predicting Organizational Citizenship Behavior**(Altruism) With Subordinates' Perceptions Of Organizational Justice And An Interaction**Between Gender And Subordinates' Perceptions Of Organizational Justice.*

Predictors	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	.07†	.07†	.07†	.07†	.07†	.08†	.07†	.07†
Race	-.01	.00	-.01	.00	-.01	-.01	-.01	-.02
Rank	.05	.05	.05	.06	.05	.03	.05	.04
Job Tenure	-.02	-.01	-.02	-.02	-.02	.00	-.02	-.01
Org. Tenure	-.06	-.06	-.06	-.06	-.06	-.05	-.06	-.06
Last Promotion	-.04	-.05	-.04	-.05	-.04	-.04	-.04	-.04
% Women	.00	.00	.00	-.01	.00	.01	.00	.01
ΔR^2		.014		.014		.014		.014
ΔF		1.46		1.46		1.46		1.46
Step 2: Main Effect								
Procedural Justice (PJ)	.12**	.12**						
Distributive Justice (DJ)			.03	.03				
Interpersonal Justice (IntpJ)					.15**	.17**		
Informational Justice (InfmJ)							.15**	.15**
R^2		.029		.015		.036		.035
ΔR^2		.015		.001		.022		.021
ΔF		10.92**		.834		16.60**		15.66**
Step 3: Interaction								
PJ x G		.06						
DJ x G				.05				
IntpJ x G						-.06†		
InfmJ x G								-.02
R^2		.032		.018		.040		.035
ΔR^2		.003		.003		.004		.000
ΔF		2.33		1.97		2.87†		.265

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. $\Delta F = F$ ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

The results also supported Hypothesis 5c when the civic virtue measure of OCB was examined. The regression analyses in Table 15 show that after controlling for potential covariates, the main effect of procedural justice explained 5% of additional variance in civic virtue, $R^2_{change} = .045$, $F_{change}(1,722) = 34.94$, $p < .01$, the main effect of distributive justice explained 2% of additional variance in civic virtue, $R^2_{change} = .022$, $F_{change}(1,722) = 17.10$, $p < .01$, and the main effects of interpersonal and informational justice each explained 3% of additional variance in civic virtue, $R^2_{change} = .026$, $F_{change}(1,722) = 19.52$, $p < .01$, $R^2_{change} = .033$, $F_{change}(1,722) = 25.13$, $p < .01$, respectively. Consistent with the hypothesis, there was a positive relationship between subordinates' perceptions of justice and their reported civic virtue behaviors ($\beta = .21$, $.15$, $.18$, and $.19$, $p < .01$, for procedural, interpersonal, and informational justice, respectively) indicating that subordinates who perceived that they were treated more fairly also reported higher rates of participation in voluntary organizational events and of keeping informed of organizational changes.

Hypothesis 5d predicted that subordinates' fairness perceptions would be positively related to their perceptions of career development opportunities within their organization. Support was found for this prediction across all of the organizational justice variables. The regression analyses in Table 16 show that after controlling for potential covariates, the main effect of procedural justice explained 39% of additional variance in career development perceptions, $R^2_{change} = .386$, $F_{change}(1,722) = 464.44$, $p < .01$, the main effect of distributive justice explained 33% of additional variance in career development perceptions, $R^2_{change} = .332$, $F_{change}(1,722) = 370.55$, $p < .01$, the main effect of interpersonal justice explained 21% of additional variance in career development

Table 15

Hierarchical Regression Analyses Predicting Organizational Citizenship Behavior (Civic Virtue) With Subordinates' Perceptions Of Organizational Justice And An Interaction Between Gender And Subordinates' Perceptions Of Organizational Justice.

Predictors	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	-.01	-.01	-.01	-.02	-.01	.00	-.01	-.01
Race	.00	.00	.00	.00	.00	.00	.00	-.01
Rank	.12**	.11**	.12**	.13**	.12**	.11**	.12**	.11
Job Tenure	-.11*	-.09†	-.11*	-.10†	-.11*	-.09†	-.11*	-.09†
Org. Tenure	.11†	.10	.11†	.10	.11†	.12†	.11†	.11†
Last Promotion	-.05	-.06	-.05	-.06	-.05	-.05	-.05	-.05
% Women	.05	.05	.05	.04	.05	.05	.05	.05
ΔR^2	.029		.029		.029		.029	
ΔF	3.09**		3.09**		3.09**		3.09**	
Step 2: Main Effect								
Procedural Justice (PJ)	.21**	.21**						
Distributive Justice (DJ)			.15**	.15**				
Interpersonal Justice (IntpJ)					.16**	.18**		
Informational Justice (InfmJ)							.18**	.19**
R^2	.074		.051		.055		.062	
ΔR^2	.045		.022		.026		.033	
ΔF	34.94**		17.10**		19.52**		25.13**	
Step 3: Interaction								
PJ x G		-.02						
DJ x G				.01				
IntpJ x G						-.06†		
InfmJ x G								-.03
R^2	.074		.052		.058		.062	
ΔR^2	.000		.001		.004		.000	
ΔF	.393		.055		2.83†		.543	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. ΔF = F ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

Table 16

Hierarchical Regression Analyses Predicting Perceptions Of Career Development Opportunities With Subordinates' Perceptions Of Organizational Justice And An Interaction Between Gender And Subordinates' Perceptions Of Organizational Justice.

Predictors	Step	Model	Step	Model	Step	Model	Step	Model
	β	β	β	β	β	β	β	β
Step 1: Controls								
Gender (G)	.06	.07*	.06	.03	.06	.09*	.06	.07*
Race	.02	.02	.02	.00	.02	.01	.02	-.01
Rank	.04	-.03	.04	.02	.04	-.02	.04	-.02
Job Tenure	-.13*	-.08*	-.13*	-.10*	-.13*	-.09*	-.13*	-.08†
Org. Tenure	.19**	.15**	.19**	.14**	.19**	.19**	.19**	.18**
Last Promotion	-.07	-.09*	-.07	-.09*	-.07	-.07	-.07	-.06
% Women	-.04	-.04	-.04	-.06†	-.04	-.02	-.04	-.01
ΔR^2	.021		.021		.021		.021	
ΔF	2.19*		2.19*		2.19*		2.19*	
Step 2: Main Effect								
Procedural Justice (PJ)	.63**	.63**						
Distributive Justice (DJ)			.58**	.58**				
Interpersonal Justice (IntpJ)					.46**	.47**		
Informational Justice (InfmJ)							.59**	.60**
R^2	.407		.353		.229		.361	
ΔR^2	.386		.332		.208		.341	
ΔF	464.44**		370.55**		194.50**		385.30**	
Step 3: Interaction								
PJ x G		-.02						
DJ x G				-.04				
IntpJ x G						-.03		
InfmJ x G								-.04
R^2	.407		.355		.229		.363	
ΔR^2	.000		.002		.000		.002	
ΔF	.383		2.00		.538		1.45	

Note. $n = 731$. β = standardized regression coefficients. R^2 = cumulative amount of variance explained after entry of variables in step. ΔR^2 = change in variance accounted for after entry of variables in step. $\Delta F = F$ ratio for ΔR due to entry of variables in step. † $p < .10$ * $p < .05$ ** $p < .01$.

perceptions, $R^2_{change} = .208$, $F_{change}(1,722) = 194.50$, $p < .01$, and the main effect of informational justice explained 34% of additional variance in career development perceptions, $R^2_{change} = .341$, $F_{change}(1,722) = 385.30$, $p < .01$. Consistent with the hypothesis, there was a positive relationship between subordinates' perceptions of justice and their perceptions of career development opportunities ($\beta = .63, .58, .47$, and $.60$, $p < .01$, for procedural, distributive, interpersonal, and informational justice, respectively) indicating that subordinates who perceived that they were treated more fairly also perceived greater opportunities and support for career development in their company.

Hypothesis 5e related subordinates' perceptions of fairness to their job performance. As noted in the measures section above, although the organization under study employed a three-point performance rating scale, only two of the respondents received an unsatisfactory rating, and job performance was recoded as a binary variable. Because binary dependent variables violate the assumptions of linear regression analysis, I used hierarchical logistic regression to test the performance outcome hypothesis.

As with the linear regression analyses, I entered the control variables, main effects, and interaction terms in separate steps to assess their relative contribution to predicting subordinate performance. Unlike linear regression which produces the squared multiple correlation R^2 , there is no single agreed-upon measure of goodness of fit (Cohen et al., 2003). Cohen and his colleagues state that although many analogs of R^2 have been developed, each of these *pseudo- R^2 s* has its limitations that make interpretations difficult. Instead, the authors recommend assessing the contribution of each step by examining the reduction in deviance attributable to adding the step's predictors and assessing the contribution of individual predictors by focusing on their

odds ratios. Deviance, often denoted as $-2LL$ or $-2 \log$ likelihood, is a measure of lack-of-fit of data to a logistic regression model. The difference in deviance from step A to step B is distributed as a chi-square with B-A degrees of freedom. Because the deviances are calculated from maximum likelihood ratios, this chi-square is frequently referred to as a likelihood ratio test. A significant chi-square for step B indicates that the addition of the predictors in step B has contributed to the prediction of the dependent variable by significantly reducing the deviance in the model. Overall model fit may also be evaluated by how accurately the model classifies cases as either excellent performance or less-than-excellent performance relative to other models.

Hypothesis 5e predicted that subordinates' fairness perceptions would be positively related to job performance. Support was found for this prediction across all of the organizational justice variables. The logistic regression analyses in Table 17 shows that after controlling for potential covariates, entering procedural justice in step 2 significantly reduced model deviance, $\chi^2_{step}(1, N = 717) = 8.72, p < .01$. In the other models, entering distributive, interpersonal, and informational justice in step 2 also significantly reduced model deviances, $\chi^2_{step}(1, N = 717) = 20.59, p < .01$, $\chi^2_{step}(1, N = 717) = 5.17, p < .05$, and $\chi^2_{step}(1, N = 717) = 7.55, p < .01$, respectively.

In logistic regression, odds are defined as the ratio of the predicted probability of being a case (e.g., performance rated as excellent) to the probability of not being a case (e.g., performance rated as less-than-excellent). Therefore, odds greater than 1.0 predict that the chance of excellent performance is increased. Consistent with Hypothesis 5e, there was a positive relationship between subordinates' perceptions of justice and their performance ratings ($Exp(B) = 1.18, p < .01$, $1.21, p < .01$, $1.19, p < .05$, and

Table 17

Hierarchical Logistic Regression Analyses Predicting Subordinate Performance With Subordinates' Perceptions Of Organizational Justice And An Interaction Between Gender And Subordinates' Perceptions Of Organizational Justice.

Predictors	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
Step 0: Intercept Only								
Constant	-.72**	.49	-.73**	.48	-.74**	.48	-.72**	.49
% Correct		69.3		69.3		69.3		69.3
Step 1: Controls								
Gender (G)	-.01	.99	-.04	.96	.01	1.01	-.01	.99
Race	-.51*	.60	-.52*	.60	-.50*	.61	-.52*	.60
Rank	.12†	1.14	.16*	1.17	.13†	1.14	.14†	1.15
Job Tenure	.04†	1.04	.04†	1.04	.04†	1.04	.04†	1.04
Org. Tenure	.00	1.00	.00	1.00	.00	1.00	.00	1.00
Last Promotion	-.04†	.96	-.04†	.96	-.05†	.96	-.04†	.96
% Women	-.09	.91	-.24	.79	-.02	.98	-.04	.96
χ^2 - step		19.92**		19.92**		19.92**		19.92**
χ^2 - model		19.92**		19.92**		19.92**		19.92**
% Correct		69.2		69.2		69.2		69.2
Step 2: Main Effect								
Procedural Justice (PJ)	.16**	1.18						
Distributive Justice (DJ)			.19**	1.21				
Interpersonal Justice (IntpJ)					.17*	1.19		
Informational Justice (InfmJ)							.15**	1.16
χ^2 - step		8.72**		20.59**		5.17*		7.55**
χ^2 - model		28.65**		40.52**		25.10**		27.48**
% Correct		70.2		69.7		69.0		69.5
Step 3: Interaction								
PJ x G	-.06	.95						
DJ x G			-.01	.99				
IntpJ x G					-.09	.91		
InfmJ x G							-.02	.98
χ^2 - step		1.00		.031		1.75		.079
χ^2 - model		29.65**		40.55**		26.84**		27.55**
% Correct		69.6		70.2		69.3		69.5

Note. $n = 717$. Subordinate performance coded as 1 = excellent performance, 0 = less than excellent performance. B = regression coefficients in logit-units. Exp(B) = exponentiated B which is an odds ratio. Individual Bs and Exp(B) displayed in each step are from the final model. B significance levels determined by Wald χ^2 . χ^2 - model = Likelihood ratio χ^2 which tests the significance of the simultaneous contribution of all of the model's predictors in predicting subordinate performance. χ^2 - step = test of the contribution of predictors in a step over and above the previous step. % Correct = percent of observed performance outcomes correctly identified by the model.

† $p < .10$ * $p < .05$ ** $p < .01$.

1.16, $p < .01$, for procedural, distributive, interpersonal, and informational justice, respectively) indicating that subordinates who perceived that they were treated more fairly also tended to receive more positive performance ratings from their supervisors.

Moderator Effects of Subordinate Gender

Hypothesis 6 predicted that the positive relationship between the representation of women in a manager's department and subordinate justice perceptions proposed in Hypothesis 1 would be moderated by subordinate gender, and that the association would be stronger for women. As described above, representation of women was operationalized as the percentage of female subordinates who work for each manager (i.e., group gender composition), and as the percentage of female subordinates who work for each manager that completed at least one non-mandatory career development course. Although no main effects were found for either variable, the regression analyses partially supported Hypothesis 6 for the group gender composition moderator variables.

The regression analyses in Table 7 show that after entering the control variables in the first step and the main effects for group gender composition in the second step, entering the interaction term of group gender composition by subordinate gender in the third step explained an additional 1% of variance in distributive justice, $R^2_{change} = .007$, $F_{change}(1,722) = 5.11$, $p < .05$, and interpersonal justice, $R^2_{change} = .006$, $F_{change}(1,722) = 4.34$, $p < .05$. The interaction term in the procedural justice analysis was only marginally significant and explained less than 1% of additional variance, $R^2_{change} = .004$, $F_{change}(1,722) = 2.87$, $p < .10$. In accordance with the hypothesis, there was a positive relationship between three of the interaction terms and subordinates' fairness perceptions ($\beta = .06$, $p < .10$, $\beta = .09$, $.08$, $p < .05$, for procedural, distributive, and interpersonal

justice, respectively) indicating that the relationship between the percentages of women in subordinates' workgroups and their perceptions of justice was more positive for women than it was for men.

It is easier to understand the gender moderation relationships through graphic means. Again, following procedures recommended by Cohen et al. (2003), I produced separate regression equations for male and female respondents. To plot the lines, I used three values: 1) 1 standard deviation below the mean of the independent variable (i.e., percentage of female subordinates who work for each manager) to represent a lower percentage of women in the workgroup, 2) the mean of the independent variable to represent a moderate percentage of women in the workgroup, and 3) 1 standard deviation above the mean to represent a higher percentage of women in the workgroup.

Figures 6-8 show that holding other variables constant, higher percentages of women in a workgroup were associated with more positive fairness perceptions in female subordinates and less positive, indeed more negative, fairness perceptions in male subordinates. These results further supported Hypothesis 6, but answering Research Question 1 regarding a relationship between men's fairness perceptions and workgroup gender composition required further analysis. The graphical results seemed to suggest that there was a relationship between workgroup gender composition and men's fairness perceptions because the regression line for men was not flat, however, the slope of the lines plotted in each figure is in part a function of the scale of the Y-axis; I selected scaling intervals for each graph that emphasized the directions (i.e., up or down) of the lines, but these intervals may have overstated the magnitudes of the slopes. Determining

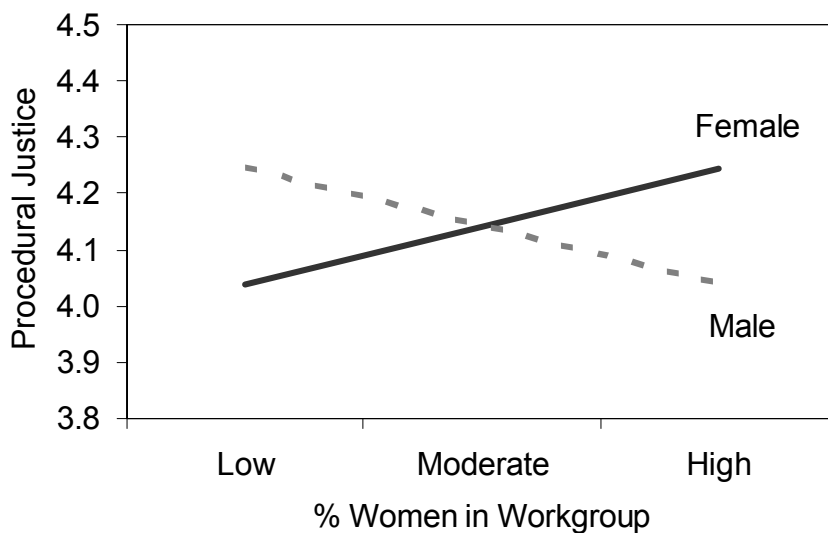


Figure 6. Female and male subordinates' simple regression lines for procedural justice on the percentage of women in their workgroups.

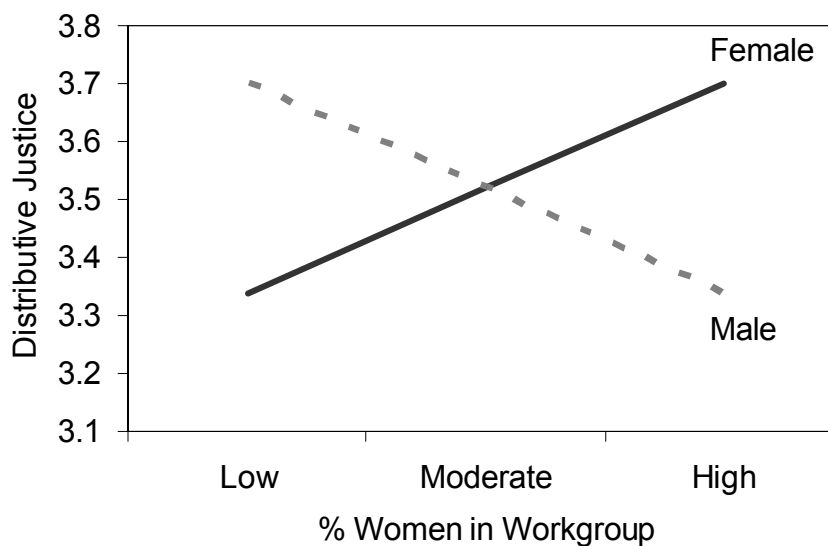


Figure 7. Female and male subordinates' simple regression lines for distributive justice on the percentage of women in their workgroups.

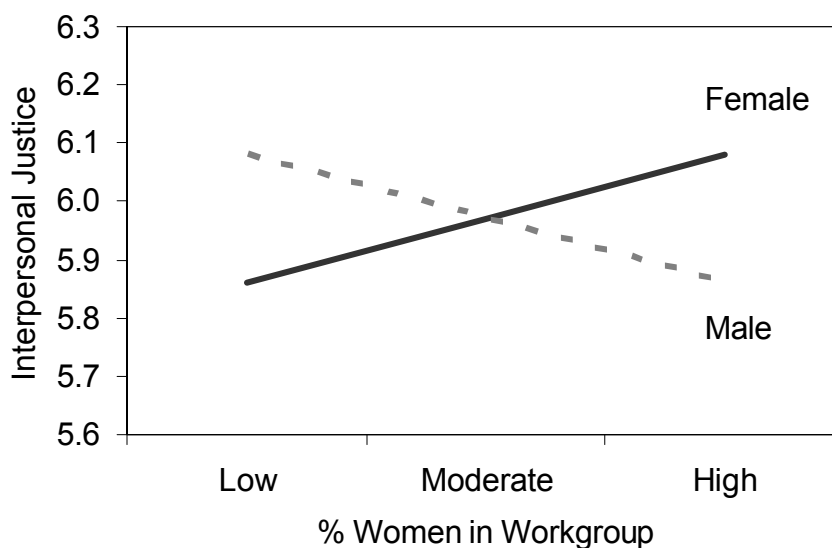


Figure 8. Female and male subordinates' simple regression lines for interpersonal justice on the percentage of women in their workgroups.

the source of the gender interactions required examining the simple slopes for men's and women's separate regression lines.

To statistically test whether the slope of line for men or the slope of the line for women was significantly different from 0, I examined the simple slopes of each regression line. According to Cohen et al. (2003), one may determine if the simple slope of a first order interaction term containing a dichotomous variable is significant by coding the test group as 0, re-running the regression analysis, and examining the significance of the main effect of the independent variable. If it is significant, then the slope of regression line for the test group is different from 0. To test the slope of the second group, one simply repeats the steps above recoding the second group as 0.

In the case of the three gender interactions above, testing the simple slopes showed that the women's regression line predicting distributive justice ($\beta = .13, p < .05$)

and the men's regression line predicting interpersonal justice ($\beta = -.12, p < .05$) were significantly different from zero. Thus, overall, the findings showed some support for Hypothesis 6 and suggested that the answer to Research Question 1 is that the relationship between the percentage of women in subordinates' workgroups and fairness perceptions is more negative for men than for women, although the magnitude of the effect on perceptions of fairness was only significantly different from zero for men in the case of interpersonal justice.

Regarding the second operationalization of representation of women, the results in Table 8 did not support the Hypothesis 6 because they showed that gender did not moderate the relationships between the percentage of female subordinates who work for each manager that completed at least one non-mandatory career development course and any of the organizational justice dependent variables after accounting for the variables entered in previous steps. The test of Research Question 1 showed that there does not appear to be a relationship between the percentage of women in a workgroup receiving career development training and organizational justice perceptions for men.

Hypothesis 7 predicted that the positive relationship between subordinates' perceptions that their managers used performance metrics and their perceptions of justice proposed in Hypothesis 2 would be moderated by subordinate gender, and that the association would be stronger for women. Step 3 in Table 9 shows that gender did not moderate the significant relationships between subordinates' beliefs that their managers used metrics to evaluate their performance and their fairness perceptions. Thus, the regression analyses did not support Hypothesis 7 and suggested that the answer to

Research Question 2 is that there did not appear to be a relationship between men's perceptions of manager use of performance metrics and fairness perceptions.

Hypothesis 8 predicted that the positive relationship between subordinates' perceptions of formalization and their perceptions of justice proposed in Hypothesis 3a would be moderated by subordinate gender, and that the association would be stronger for women. Step 3 in Table 10 shows that gender did not moderate the significant relationships between subordinates' formalization beliefs and their fairness perceptions. Thus, the regression analyses did not support Hypothesis 8 and suggested that the answer to Research Question 3 is that there did not appear to be a relationship between men's perceptions of formalization and fairness perceptions.

As discussed above, I followed the recommendation of Cohen et al. (2003) to enter the three possible first order interactions of formalization by trust in formalization, formalization by gender, and gender by trust in formalization into the regression analyses in Table 10. Although I made no predictions concerning the moderation of trust in formalization by gender, the reader should note that step 3 explained an additional 1% of variance in interpersonal justice, $R^2_{change} = .008$, $F_{change}(1,718) = 2.70$, $p < .05$, and the only significant variable was the marginally significant trust in formalization by gender interaction, $\beta = .08$, $p < .10$, indicating that the effect of trust in formalization on subordinates' perceptions on interpersonal justice was stronger for women. The graph in Figure 9 shows that when employees had higher trust that the organization's formal rules and procedures were fairly applied to all, women reported more positive interpersonal justice perceptions than men, and that when trust in formalization was lower, women reported less positive interpersonal justice perceptions than men. Conducting additional

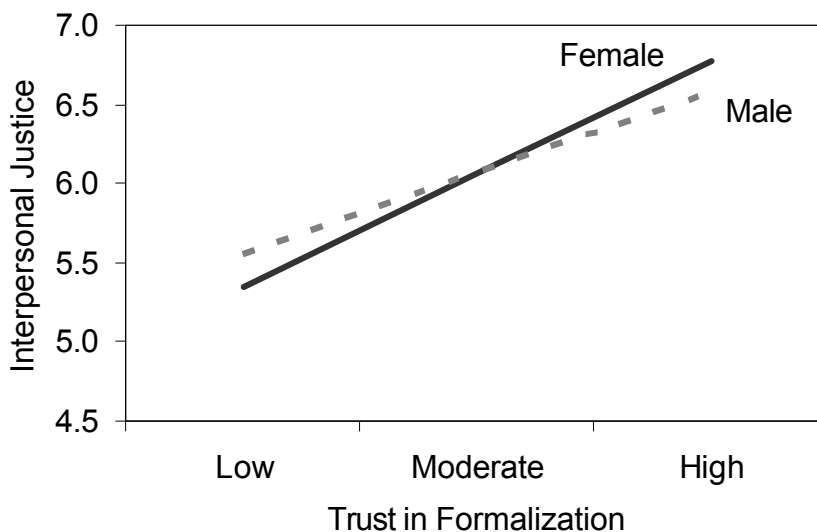


Figure 9. Female and male subordinates' simple regression lines for interpersonal justice on trust in formalization.

analyses to test the simple slopes of the regression lines in Figure 9 revealed that both slopes were significantly different from 0 ($\beta = .55, .39, p < .01$, for women and men, respectively). Thus, trust in formalization had a positive association with interpersonal justice for all subordinates, but the relationship was stronger for women.

The last hypothesis, Hypothesis 9, predicted that the positive relationship between subordinates' perceptions that the organization promotes a culture of merit-based decision making and their justice perceptions proposed in Hypothesis 4 would be moderated by subordinate gender, and that the association would be stronger for women. Regression analyses on two of the four justice variables supported the hypothesis. The regression analyses in Table 11 showed that after entering the control variables and main effects in the first two steps, entering the interaction term of merit based culture by subordinate gender in the third step explained an additional 1% of variance in

interpersonal justice, $R^2_{change} = .014$, $F_{change}(1,721) = 13.61$, $p < .01$, and informational justice, $R^2_{change} = .005$, $F_{change}(1,721) = 5.98$, $p < .05$.

In accordance with Hypothesis 9, there was a positive relationship between the two significant interaction terms and subordinates' fairness perceptions ($\beta = .12$, $p < .01$, and $\beta = .07$, $p < .05$, for interpersonal and informational justice, respectively) indicating that the positive effect of subordinates' beliefs in their organization's merit-based decision making culture on perceptions of justice was more positive for women than it was for men. These findings are illustrated in Figures 10 and 11. Testing the simple slopes of all four regression lines showed that each was significantly different from 0 ($\beta = .62$, $p < .01$ and $\beta = .39$, $p < .01$, for women and men, respectively for interpersonal justice; and, $\beta = .70$, $p < .01$, and $\beta = .56$, $p < .01$, for women and men, respectively for informational justice). Thus, my test of Research Question 4 suggests that there was a positive relationship between men's perceptions of a merit-based culture and their justice perceptions in the cases of informational and interpersonal justice.

As discussed above, the previous literature on gender and fairness suggests that gender may moderate the relationships between various types of justice and outcomes, but the findings are mixed and the directions of the effects are not consistent. Therefore, I framed my investigation of gender's potential to moderate the relationships between justice perceptions and outcomes as research questions. Research Question 5a asked if the relationship between subordinates' fairness perceptions and turnover cognitions would be moderated by subordinate gender and if the association would be stronger for women or men.

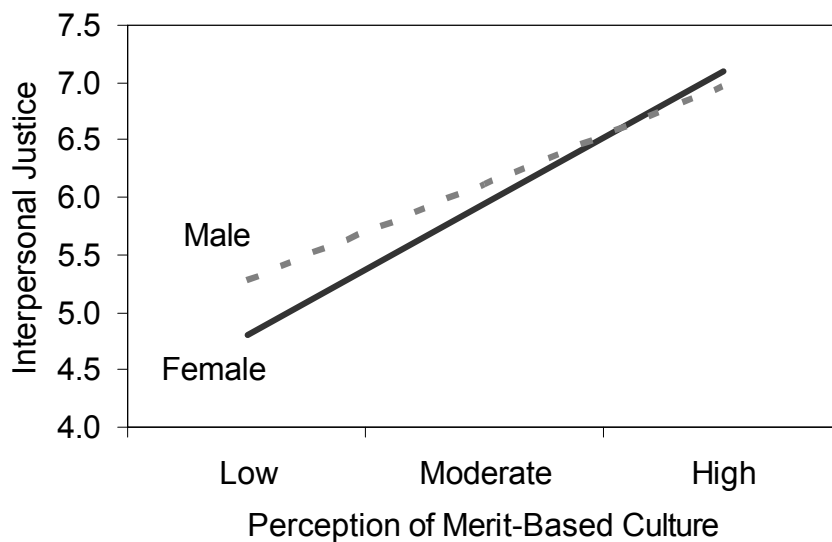


Figure 10. Female and male subordinates' simple regression lines for interpersonal justice on perception of a merit-based organizational culture.

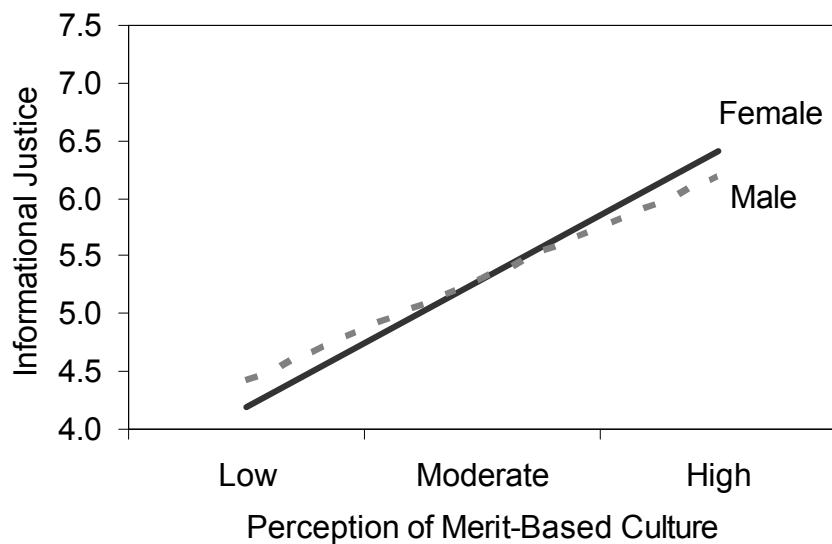


Figure 11. Female and male subordinates' simple regression lines for informational justice on perception of a merit-based organizational culture.

Regression analyses on all four justice variables provided evidence that gender did moderate the relationship between justice perceptions and turnover cognitions. The regression analyses in Table 12 show that after entering the control variables and main effects in the first two steps, entering the interaction terms of procedural, interpersonal, and informational justice perceptions by subordinate gender in the third step explained an additional 1% of variance in turnover cognitions, $R^2_{change} = .009$, $F_{change}(1,721) = 8.93$, $p < .01$, $R^2_{change} = .007$, $F_{change}(1,721) = 5.90$, $p < .05$, and $R^2_{change} = .006$, $F_{change}(1,721) = 5.46$, $p < .05$, respectively. The distributive justice by gender interaction term was also significant but explain less than 1% of additional variance in turnover cognitions, $R^2_{change} = .004$, $F_{change}(1,721) = 3.91$, $p < .05$.

In addition, all of the relationships between the interactions and turnover cognitions were positive ($\beta = .10$, $p < .01$, and $\beta = .07$, $.09$, and $.08$, $p < .05$, for procedural, distributive, interpersonal and informational justice, respectively) indicating that the negative main effects of fairness perceptions on turnover cognitions were less negative for women than for men. These findings are illustrated in Figures 12 through 15. The figures showed that men were more likely than women to think about leaving their organization when they reported lower perceptions of justice, but that men were less likely than women to think about leaving when their perceptions of organizational justice were high. Testing the simple slopes of all of the separate male and female regression lines from each regression analyses revealed that each was significantly different from 0 ($\beta = -.37$, $\beta = -.60$, $p < .01$, for women and men, respectively for procedural justice; and, $\beta = -.40$, $\beta = -.53$, $p < .01$, for women and men, respectively for distributive justice; $\beta = -.29$, $\beta = -.46$, $p < .01$, for women and men, respectively for interpersonal justice;

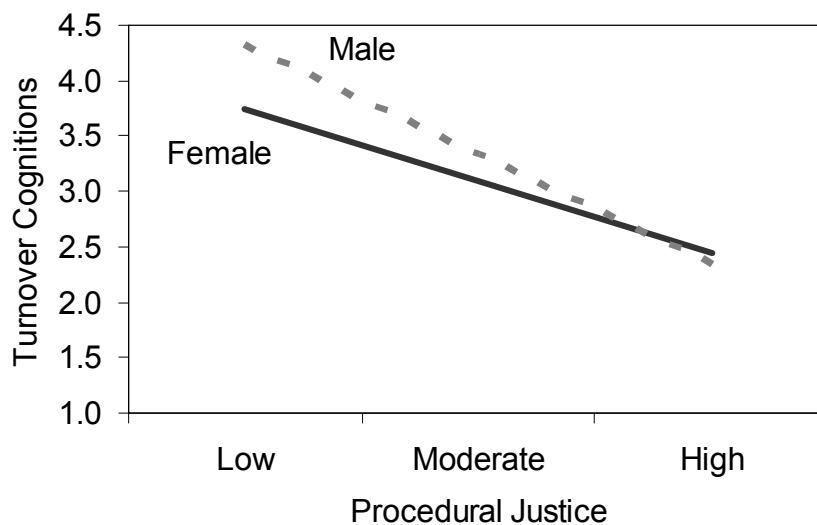


Figure 12. Female and male subordinates' simple regression lines for turnover cognitions on procedural justice.



Figure 13. Female and male subordinates' simple regression lines for turnover cognitions on distributive justice.

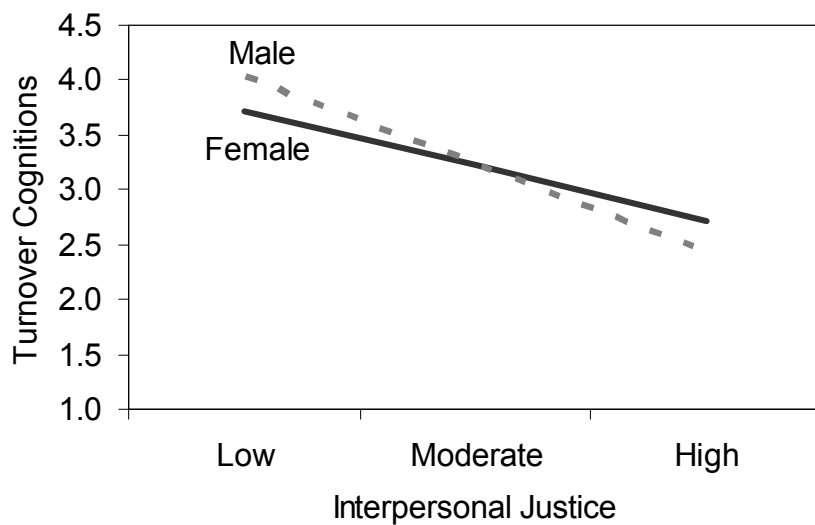


Figure 14. Female and male subordinates' simple regression lines for turnover cognitions on interpersonal justice.

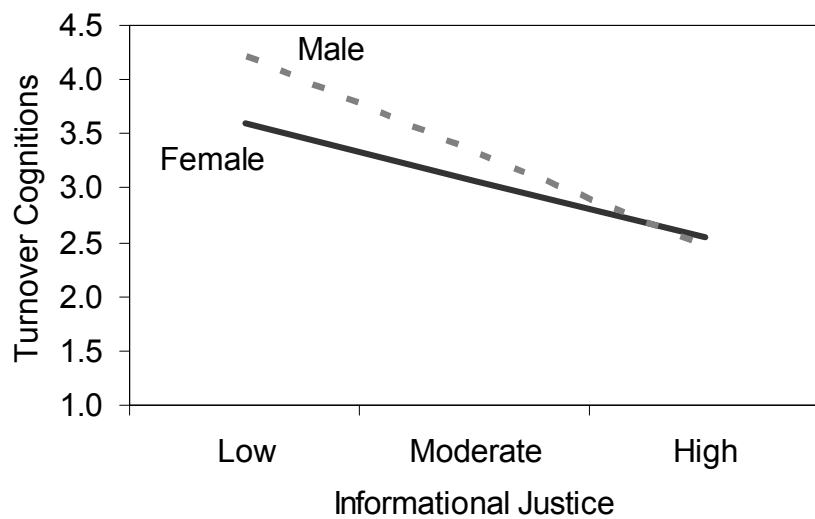


Figure 15. Female and male subordinates' simple regression lines for turnover cognitions on informational justice.

and, $\beta = -.32$, $\beta = -.48$, $p < .01$, for women and men, respectively for informational justice). Considering all of the evidence, the findings suggest the answer to Research Question 5a is that gender indeed moderated the relationship between justice perceptions and turnover cognitions, there was a relationship for both men and women, and the relationship was stronger for men.

Research Question 5b asked if the relationship between subordinates' fairness perceptions and organizational commitment would be moderated by subordinate gender and if the association would be stronger for women or men. The regression analyses in Table 13 show that after entering the control variables and main effects in the first two steps, only the interaction term of distributive justice by gender in the third step was marginally significant, and it explained less than 1% of additional variance in organizational commitment, $R^2_{change} = .004$, $F_{change}(1,721) = 3.37$, $p < .10$. The relationship between the interaction and organizational commitment was negative ($\beta = -.06$, $p < .10$) indicating that the positive main effect of distributive justice on organizational commitment was more positive for men than women. This finding is represented in Figure 16. The figure shows that men were more likely than women to report lower organizational commitment when they perceived less distributive justice, and that men were more likely than women to report higher organizational commitment when they perceived greater distributive justice. Also, the simple slopes of the individual male and female regression lines were significantly different from 0 ($\beta = .31$, $\beta = .44$, $p < .01$, for women and men, respectively). In sum, the findings suggest the answer to Research Question 5b is that gender marginally moderated the relationship between



Figure 16. Female and male subordinates' simple regression lines for organizational commitment on distributive justice.

distributive justice and organizational commitment, there was a relationship for both men and women, and the relationship was stronger for men.

Research Question 5c asked if the relationship between subordinates' fairness perceptions and reported organizational citizenship behaviors would be moderated by subordinate gender and if the association would be stronger for women or men. Recall that I operationalized organizational citizenship behavior using two sub-scales, altruism and civic virtue. The results for each sub-scale followed a similar pattern. The regression analyses in Tables 14 and 15 show that the only significant interactions were the interpersonal justice by gender interactions, and they were both only marginally significant and explained less than 1% of additional variance in the sub-scales of organizational citizenship behavior, $R^2_{change} = .004$, $F_{change}(1,721) = 2.87$ and $R^2_{change} = .004$, $F_{change}(1,721) = 2.83$, $p < .10$, for altruism and civic virtue, respectively.

These findings are represented in Figures 17 and 18. Each figure shows that men were more likely than women to report lower levels of organizational citizenship behaviors when they perceived less interpersonal justice, and that men were more likely than women to report higher levels of organizational citizenship behaviors when they perceived greater interpersonal justice. In addition, the simple slopes of the women's and men's regression lines were significantly different from 0 ($\beta = .10, p < .05, \beta = .23, p < .01$, for women and men, respectively for altruism on interpersonal justice; and, $\beta = .11, p < .05, \beta = .24, p < .01$, for women and men, respectively for civic virtue on interpersonal justice). Thus, the findings suggest the answer to Research Question 5c is that gender marginally moderated the relationship between interpersonal justice and OCB, there was a relationship for both men and women, and the relationship was stronger for men.

The two remaining research questions asked if the relationship between subordinates' fairness perceptions and their perceptions of career development opportunities (Research Question 5d) and between their fairness perceptions and their actual performance ratings (Research Question 5e) would be moderated by subordinate gender and if the association would be stronger for women or men. Tables 16 and 17 show that all of the organizational justice x gender interaction terms in the equations predicting perceptions of career development opportunities and performance were non-significant. These results suggest that the significant relationships found between organizational justice and perceptions of career development and between organizational justice and performance did not differ substantively between male and female subordinates. In the following section, I discuss the implications of the above results for theory and practice.

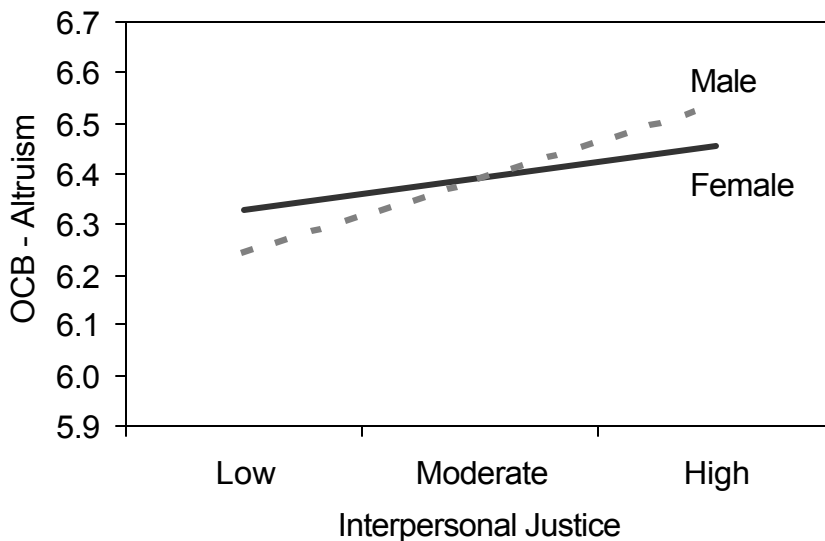


Figure 17. Female and male subordinates' simple regression lines for organizational citizenship behavior (altruism) on interpersonal justice.



Figure 18. Female and male subordinates' simple regression lines for organizational citizenship behavior (civic virtue) on interpersonal justice.

The results presented above represent all of the a priori hypotheses in the current research. Based on the findings that subordinate gender moderates the relationship between the percentage of women in subordinates' workgroups and fairness perceptions, it seemed reasonable to examine the possibility that managers' genders also impacted the results. Specifically, I was interested in testing whether the subordinate gender moderation effects differed when a subordinate's manager was a man or a woman. To test this effect, I conducted new regression analyses that were identical to those presented in table 7 above except that I added a fourth step in which I entered the 3-way interaction of the percentage of women in subordinates' workgroups by subordinate gender by manager gender. As recommended by Cohen et al. (2003), I also included manager gender as a control in step 1 and the other 2-way interaction terms of percentage of women in subordinates' workgroups by manager gender and subordinate gender by manager gender. I examined the relationships of the 3-way interaction to each of the four scales of organizational justice, and none was statistically significant suggesting that the moderating effect of subordinate gender on the relationship between the percentage of women in subordinates' workgroups and organizational justice does not vary by the gender of a subordinate's manager.

DISCUSSION

The interpretations of the above results are discussed here. Specifically, the implications for organizational justice theory and practice as well as affirmative action and diversity management are discussed. A review of the study's limitations, suggestions for future research, and conclusions are also presented in this section.

Antecedents of Organizational Justice

Manager Behaviors

A key premise of the current study is that subordinates' perceptions of organizational justice will reflect the extent to which the employees perceive that their managers' actions provide evidence that their managers consider (or do not consider) merit in their decision making. I tested this prediction using observable evidence of a manager's actions regarding staffing their departments and developing their employees as well as subordinates' perceptions of their managers' use of objective performance measures (i.e., performance metrics). Overall, the analyses revealed that the actual diversity representation statistics were not significant predictors of subordinates' organizational justice perceptions and that the subordinate-reported use of metrics variable was positively associated with each type of organizational justice. The findings regarding the role of gender in moderating the relationships between manager behaviors and organizational justice were more mixed.

Managers' behaviors relating to diversity statistics were operationalized in two ways. The first was in terms of gender composition (i.e., the percent of women) of the subordinate's department. The second was the percent of women in a subordinate's department who had received at least one career development training course. The

regression analyses in Tables 7 and 8 show that neither the percent of women nor the percent of women who received career development training was a significant antecedent to any of the four types of organizational justice that were examined.

In the case of career training, this makes sense in hindsight. Although managers can encourage their employees to obtain career development training, participation is voluntary and at the discretion of the subordinates themselves. Therefore, subordinates may not attribute gender differences in career development training rates to their managers. Also, it is entirely likely that subordinates do not know if their peers have received any training. In the organization from which the sample was drawn, up to half of the career development training is offered online so there may not be much opportunity for employees to know who has or has not received voluntary career development training. Perhaps if the training variable had been measured as a subordinate perception via the survey, the results would have been different. Subordinates' lack of awareness regarding their peers' training would also explain the lack of any gender moderation effects for this relationship.

This interpretation is consistent with the fact that the distribution of women in a department is highly observable and that the gender composition variable did, in fact, yield significant interaction effects. The significant gender interactions coupled with the non-significant main effects suggest that the proportion of women in a subordinate's department has different effects on the perceptions of male and female subordinates. As Figures 6 through 8 illustrate, increases in the percent of women in a subordinate's department are associated with increasingly positive levels of perceptions of procedural,

distributive, and interpersonal justice for women and with decreasing levels of perceived fairness for men.

These results have important theoretical implications. These results contribute to organizational justice theory because they show that the actual, observable gender composition of the subordinate's department, which I argue is an artifact of a managers' staffing behaviors, can indeed predict male and female subordinates' fairness perceptions. This finding contributes a new antecedent of fairness perceptions to the organizational justice. It also corroborates Cohen-Charash and Spector's (2001) suggestion to researchers after finding only weak evidence of gender main effects on organizational justice in their meta-analysis that future research on the antecedents of organizational justice should examine complex relationships involving interactions, not just the more apparent main effects. In other words, my discovery that gender composition is a potentially important antecedent of organizational justice would have been missed had I not examined the gender moderation effects.

Use of an actual, quantifiable antecedent and controlling for several potential confounding covariates also provides incremental internal validity to the study of gender effects in organizational justice by helping to refute alternative, non-gender-related, interpretations of the results. Because gender composition was measured objectively, the results strongly suggest that the reported gender differences are attributable to true differences in men's and women's justice perceptions, and not to actual differences in the gender proportions of their departments. In other words, using an objective antecedent variable essentially controls for differences in the stimuli (i.e., the actual proportions of men and women in the department) allowing me to assume that the significant gender

interactions were the result of true differences in men's and women's perceptions of justice (and not just differences in their perceptions of how many men and women were in their departments). Furthermore, because the current study was conducted in an actual work organization and not in a laboratory as much of the previous research on organizational justice, the findings have greater external validity as well.

The results also prompt the question of why gender composition had the opposite effect on men's and women's perceptions of fairness; the answer to this question would certainly inform organizational justice theory. One possibility is that female subordinates see a higher percentage of women in their department as a sign that the manager and organization are not biased against hiring and promoting women, and, in turn, feel that the manager and organization are acting fairly. Of course, it is entirely possible that the women in this study felt that a greater proportion of women in the department signaled that the manager and organization were biased in favor of women. Even if women believed this type of preferential selection scheme were in effect, it could still enhance their sense of fairness if they felt the bias in their favor were fair for some reason such as compensation for past injustices.

As for the male subordinates, one explanation for their negative association between higher proportions of women and organizational justice perceptions is that they interpreted increased numbers of women in their workgroups as evidence that unfair preferential selection was in effect. This would be consistent with previous findings that without explicit evidence to the contrary, employees tend to assume that women were hired or promoted through some type of preferential treatment (Heilman, 2001; Heilman et al., 1998). Whatever the reason or multiple reasons are, the findings show that the

actual gender composition of a subordinate's department can affect their justice perceptions. Further research is necessary to understand the underlying mechanisms to explain these findings.

One practical implication of these results is that managers and organizations should proactively communicate to their workforces how and why employees of both genders are hired and promoted. Because the findings show that men and women interpret the same gender composition of their workgroups differently, enhancing the fairness perceptions of both genders simultaneously will likely best be accomplished by altering subordinates' perceptions of the reasons for the hiring or promoting each employee rather than attempting to control the actual, exact number men and women in each department. Unfortunately, for this approach to work, future research will first need to identify the different attributions that men and women make regarding gender composition levels in their departments and to inform managers how to alter these attributions to enhance fairness perceptions. Fortunately for managers, the findings regarding a manager's use of performance metrics provide more immediately actionable solutions for enhancing employee organizational justice perceptions. These are discussed below.

In contrast to the findings on actual gender composition, the analyses in Table 9 show subordinates' perceptions of their manager's use of performance metrics did have a main effect on all four types of organizational justice. The analyses also show that the effect was not moderated by the subordinate's gender. This finding has its own direct theoretical and practice implications, but also provides some insight into the interpretation of the gender composition results.

The manager's use of metrics variable contributes to organizational justice theory by testing the relationship between merit and organizational justice using a new operationalization of merit and a wider spectrum of better, more valid justice scales. In the literature review, I showed that previous work found connections between merit and organizational justice but suffered from superficial, dichotomous operationalizations of merit in the laboratory and the use of limited or non-standard justice scales (Bobocel et al., 2001; Heilman, 2001; Heilman et al., 1998). My results strengthen the theory that employee perceptions of merit are a potentially important antecedent of their justice perceptions by showing that subordinates report more positive justice perceptions when they feel that their managers measure their performance objectively and use that information when making important decisions about them. The results also extend what is known about the relationship between merit and organizational justice. They show that different conceptualizations of merit differ in the strength of their associations with different types of justice. For example, a manager's use of metrics accounted for more variance in informational justice than the other justice types while the merit-based culture variable accounted for the most variance in procedural justice.

In addition, the results regarding the a manager's use of metrics contribute to theory by corroborating and expanding on the findings of the few previous studies related to performance monitoring and organizational justice (Greenberg, 1987; Niehoff & Moorman, 1993). Recall from the literature review that Niehoff and Moorman found positive relationships between the frequency with which a supervisor observed a subordinate's performance and the subordinate's perceptions of procedural, distributive, and interactional justice and called for additional research on the types of performance

monitoring that are associated with fairness perceptions. The results from the current study complement Niehoff and Moorman's findings by examining a specific type of performance monitoring, i.e., perceived use of metrics. The results extend Niehoff and Moorman's findings by investigating gender as a moderator of this relationship.

The lack of a gender interaction effect on a manager's use of metrics also has important implications. Because gender does not moderate the association between employees' fairness perceptions and their perceptions that their managers measure and consider merit when making decisions, this suggests that perceived merit's relationship to perceptions of fairness is similar for men and women. When gender moderation is present (as in the case gender composition antecedent), perhaps it is attributable to differences in perceptions in the degree of merit between the genders, not differences due to gender directly. Thus, in the case of the percent of women in a subordinate's department, perhaps the correct explanation is that women perceived increased numbers of women as evidence of merit and men did not. Although this finding does not provide conclusive evidence, it certainly suggests that when an employee, regardless of gender, perceives that a merit-based decision making rule is in effect, he or she perceives the organization and manager to be more fair.

To help further develop a theory of merit's relationship to organizational justice perceptions, it would be useful to understand why a manager's use of metrics relates to subordinate fairness perceptions. One explanation is that a manager's use of metrics signals to subordinates that the manager's evaluations of their performance will be based on accurate information and free from bias – two key components of procedural justice (Leventhal, 1980; Niehoff & Moorman, 1993). A more complex explanation is that

gathering adequate performance data allows managers to do a better job of linking subordinate performance to rewards (Komaki, 1986; Komaki et al., 1989; Komaki et al., 1986) which in turn may influence perceptions of fairness. Further research using experimental or quasi-experimental designs is necessary to learn more about the causal link between use of metrics and fairness, but, in any case, the current study suggests that a link indeed exists.

The findings on the use of performance metrics also provide practical information for managers and supervisors in actual organizations – subordinates positively associate the use of objective performance measures with fairness, especially informational justice. This is encouraging for organizations in light of the growing use of metrics in organizations (Callahan, 2003; Church, 2000) and good news for managers because the use of metrics is relatively easy to implement. These findings may be of particular use to managers looking for ways to reduce subordinate perceptions of gender discrimination because in the present study, at least, a manager's use of performance metrics had a positive effect on fairness perceptions that did not vary by the subordinate's gender. The use of metrics also provide a potential practical solution for organizations that would like to focus more on merit but aren't sure how to translate that desire into action.

Organization Fairness

In addition to managerial-level antecedents of organizational justice, I also investigated two organization-level antecedents related to merit, formalization and subordinate perceptions of a merit-based organizational culture. It was important to examine organizational components of merit because managers and their organizations potentially influence difference aspects of merit-based decision making. Considering

multiple elements of merit in an actual organization also contributes to the organizational justice literature by addressing the superficial, dichotomous operationalizations of merit in the previous, mostly laboratory-based, research. Overall, the findings show both of the organizational antecedents studied had positive relationships with all types of organizational justice for male and female subordinates, although in some cases, the relationships were moderated by trust in formalization or gender.

Based on the prior literature that found that organizational structures including formalization play a role in employees' organizational justice perceptions (Ambrose & Schminke, 2003; Schminke et al., 2000; Schminke et al., 2002) and because an organization's formal rules, policies, and procedures play a role in linking managers' assessments of subordinates' merit to advancement and other rewards, I predicted and found main effects for formalization on four all justice scales. I also tested the hypothesis that the prior mixed results for formalization may have been due, in part, to differences in employees' level of trust that the organization applied the formalized policies and procedures to all employees fairly. As the graphs in Figures 4 and 5 illustrate and as the tests of the simple slopes for trust in formalization confirm, subordinates' higher levels of formalization are only associated with high procedural justice and distributive justice when subordinates' trust in formalization is also high.

Thus, as predicted, perceptions of increased formalization do not enhance procedural and distributive justice perceptions in subordinates who do not believe that the formalized procedures and policies are enacted equitably. Interestingly, trust in formalization only moderated the relationships between the two organizationally focused scales of fairness, procedural and distributive justice, but not the two manager focused

scales of fairness, interpersonal and informational justice. In addition, although gender did not moderate the relationship between formalization and organizational justice as hypothesized, gender did marginally moderate the positive relationship between trust in formalization and interpersonal justice such that the slope was steeper for women (i.e., higher trust is associated with higher interpersonal justice scores for women than men, and lower trust is associated with lower interpersonal justice scores for women than men).

This means that gender does not appear to play a significant role in perceived formalization's relationship to organizational justice in general, but that in the specific case of the fairness perceptions related to the manager-subordinate relationship (i.e., interpersonal justice), relative to men, women report more positive perceptions of interpersonal justice when they report higher trust that their managers will fairly apply the organization's rules and procedures for making employment related decisions. Conversely, relative to men, women report less positive perceptions of interpersonal justice when they report lower trust in formalization. Thus, the significant, positive simple slopes suggest that for both genders, there is a positive relationship between the perception that a manager applies the organization's rules fairly and the perception that the manager treats his/her subordinates with respect and dignity, and the significant interaction shows that the relationship is more positive for women.

These findings extend organizational justice theory regarding organizational structure and merit as well as further validate the distinction among the four types of justice perceptions studied. The findings contribute to the literature on organizational structure and organizational justice by identifying trust in formalization as an important

moderator of formalization. This discovery helps to explain why some previous work (Schminke et al., 2000) may have failed to find a significant association between formalization and fairness. Also, my use of theory-based, validated justice scales provides incremental internal validity to the prior work on organizational structures and fairness.

The findings also contribute to theory regarding merit and organizational justice because they show that when subordinates think that the organization's formalized systems that exist to reward merit are fairly applied to all employees without preferential treatment or bias (i.e., the high trust condition), their perceptions of how rewards are determined and distributed (i.e., distributive and procedural justice) are more positive. As heretofore mentioned, these results also enhance the theory on merit by finding a link between merit-based decision making and organizational justice using a more elaborate operationalization of merit than has been traditionally examined.

Finally, the differences in moderation effects of formalization across the different justice types further support the organizational justice theories that claim procedural, distributive, interpersonal, and informational justice are related, but distinct constructs. In particular, it is interesting that procedural and distributive justice are concerned with more global, organizational issues of procedures and rewards, and that they are the only two justice types to be moderated by trust that the organizational formalization is fairly applied. In contrast, interpersonal and informational justice, which concern subordinates' perceptions of how fairly they are treated by their managers and how thoroughly their managers communicate important career-related decisions, were not moderated by trust in formalization.

The findings regarding formalization also have practical implications for managers and organizations. The results suggest that organizations seeking to enhance employee perceptions of fairness through the implementation of formalized rules, policies, and procedures need to ensure that employees perceive that the formalization is actually enforced. The benefits of increased organizational justice due to formalization may not be realized unless employees believe all employees will be treated uniformly in the formalized system. Further, the findings suggest that formalization may be a useful strategy from a diversity/affirmative action perspective because the absence of a gender moderation effect on the relationship between formalization and organizational justice implies that fairly run organizations are seen as fair by employees regardless of gender.

In addition to formalization, I also examined a second potential organizational antecedent to perceptions of organizational justice, subordinate perceptions of a merit-based organizational culture. I included this antecedent in the current study to provide a more global assessment of subordinates' beliefs that their organization supported merit-based decision making and to complement the three other, more narrowly defined merit-related antecedents. The results showed that the subordinates' perceptions of a merit-based culture was a strong, positive predictor of their perceptions of fairness across all four types of justice. Furthermore, the results showed that the relationships between perceptions of a merit-based culture and interpersonal and informational justice were more positive for women than for men. That is, when subordinates' perceptions of a merit-based culture were higher, women's perceptions of interpersonal and informational justice were higher than men's and when subordinates' perceptions of a merit-based culture were lower, women's perceptions of interpersonal and informational justice were

lower than men's, although the overall association between perceptions of a merit-based culture and organizational justice was very positive for all subordinates.

These findings have several implications for theory. The findings introduce yet another potentially interesting antecedent of organizational justice to the fairness literature. Perceptions of a merit-based organizational culture may be a useful conceptualization of merit for researchers seeking to investigate employees' general, overall perceptions of merit at the organizational level. The findings that the relationships between perceptions of merit-based culture and only the two types of interactional justice are moderated by gender also offer further discriminant validity for the four different justice scales because of the differential outcomes. The perceptions of merit-based culture variable also provides convergent and construct validity to the current study because the scale items explicitly ask subordinates about the organization's focus on merit and Table 3 shows that perceptions of merit-based culture is highly, but not perfectly, correlated with the other perceptual measures of merit-related antecedents (i.e., perceptions of manager's use of performance metrics and organizational formalization).

In addition, the findings regarding perceptions of merit-based culture lend further support to my proposition that perceived differences in the degree to which merit played a role in manager actions or organizational systems influence fairness perceptions, not gender per se. I argue this because perceptions of merit-based culture is an explicit assessment of merit perceptions and men's and women's mean ratings were not statistically different ($t(759) = .98, p = .33$), but perceptions of merit-based culture was positively related to all types of organizational justice for both men and women. In other words, when men and women report that their organization has a culture of merit-based

decision making, they both report that the organization is more fair. Thus, when women and men do have different relationships between antecedents like the gender composition of their departments and organizational justice, it seems likely that the differences are due to differences in perceptions of merit, not gender directly.

The findings concerning perceptions of merit-based culture also have practical implications for organizations and for managers. One implication is that when employees perceive that the organization promotes a culture of merit, employees of both genders find the organization to be more fair. This is encouraging news for organizations hoping to address fairness issues by focusing on behaviors and systems aimed at increasing the consideration of merit in making decisions about employees. Secondly, the positive relationships between perceptions of merit-based culture and informational and interpersonal justice suggest that when subordinates' perceive a merit-based culture they also find its managers to be more fair, especially female subordinates. Therefore, the impact of fostering a merit-focused culture appears to have an effect on multiple elements of fairness.

Outcomes of Subordinate Justice Perceptions

Although the primary objective of the current research is to explore some merit-related antecedents to fairness perceptions, I included a set of the most commonly studied outcomes of organizational justice in the study. I also included an outcome related to career development perceptions because of its relevance to the current research topic. Examining the outcomes of fairness perceptions along with potential antecedents allowed me to present a more complete picture of the role of organizational justice; that is, I examined both the conditions that precede and follow perceptions of fairness. Including

justice outcomes also enabled me to compare my results to the predominantly outcomes-focused prior justice research. The fact that my results generally mirror the justice-outcomes relationships reported in the prior organizational justice literature provides convergent evidence that the justice scales I used adequately captured the respective justice constructs they were designed to represent. This, in turn, provides credibility for my findings regarding the study's unique justice antecedents that currently have no counterparts for comparison in the published justice research.

As hypothesized, organizational justice was related to each of the justice outcomes in the predicted directions (i.e., positive except for turnover which was predicted and found to have a negative relationship with organizational justice). Consistent with the prior literature (Cohen-Charash & Spector, 2001; Colquitt et al., 2001; Konovsky, 2000; Parker et al., 1997; Sweeney & McFarlin, 1997), each regression analysis where justice perceptions was the predictor revealed significant main effects for each outcome in varying degrees of magnitude with the singular exception of the non-significant relationship between distributive justice and OCB-altruism. Looking across the different outcomes, procedural justice was the strongest predictor overall showing the strongest main effect for four of the six outcomes (i.e., turnover, organizational commitment, OCB-civic virtue, and perceptions of career development opportunities). These results are generally consistent with the prior literature; although most organizational justice research has not simultaneously examined all of the justice types in the current study, those that have examined at least procedural justice and one other type, usually distributive justice, have also reported that procedural justice is a stronger predictor of many, though not all, outcomes (Konovsky, 2000).

The findings for the two OCB scales were also consistent with prior research. For the altruism scale of OCB, interpersonal justice was the strongest predictor among the three significant justice types. The finding that interpersonal justice is the strongest predictor of OCB-altruism is consistent with Moorman (1991) who reported that interactional justice predicted OCB while my finding that procedural justice is a weaker, but significant predictor of OCB-altruism and distributive justice does not predict OCB-altruism supports Folger and Konovsky (1989) who reported a similar relationship among procedural justice, distributive justice, and OCB. The strongest predictor of performance was distributive justice. The literature on the relationship between organizational justice and performance is mixed (Colquitt et al., 2001), but this result seems reasonable given that subordinates' compensation is linked to their performance ratings and that compensation is most directly related to distributive justice perceptions.

The question of whether gender moderates the relationships between organizational justice and common justice outcomes was examined in the current study because prior research on the subject has been limited and the results have not been consistent (Kulik et al., 1996; Lee & Farh, 1999; Sweeney & McFarlin, 1997; Tata, 2000). In the present study, the only organizational justice-justice outcome relationship that was moderated by gender was that between all of the justice types and turnover cognitions (however, there were three other marginal effects). Although previous studies have not examined the role of gender in the organizational justice-turnover relationship, my findings are consistent with related research on gender and actual voluntary turnover (Lyness & Judiesch, 2001). Table 12 and Figures 12 to 15 show the negative relationship between organizational justice perceptions and turnover cognitions holds for both

genders, but that the slope for men is steeper. This means that differences in the level of the perceived fairness had more of an effect on men's turnover cognitions. This fits with Lyness and Judiesch's finding that men are more likely to leave the organization without a subsequent promotion.

There is an interesting difference in the direction of the gender moderation in the antecedents of fairness and the justice outcomes. In the case of the antecedents, where the simple slopes of each gender are significant, the slope is always steeper for women. For the outcomes (including the three marginal gender moderators), the slope for is always steeper for men. This suggests the possibility of a general pattern where women's justice perceptions are more strongly related to managerial and organizational antecedents than men's, but that men's outcomes will be more strongly related to their justice perceptions than women's. Of course, this pattern would not necessarily imply that antecedents impact women more or that men's justice perceptions cause them to want to think about quitting. Each of these relationships could be explained in the reverse order or by the third variable of men's and women's different general dispositions. Indeed the one non-self-reported outcome, performance, was not moderated by gender suggesting that men do not necessarily act differently than women even though they may report different intentions. Certainly, the current study cannot resolve the question of whether antecedents affect women more and outcomes affect men more, but the results do warrant suggesting that further research should be conducted to resolve these issues.

The findings regarding justice outcomes contribute to organizational justice theory in at least two ways. First, the agreement of the results with the prior literature

further corroborates the relationships between organizational justice and important individual and organizational outcomes that have been reported by other researchers. My results serve as a replication of prior research and provide incremental validation due to my use of internally valid, theory-driven scales of all of the major justice types. The internal validity of my findings is further supported by controlling for several potentially important covariates, e.g., gender, race, tenure, that have been largely absent in previous work.

Second, the results support the theory (Alexander & Ruderman, 1987; Bies & Moag, 1986; Bies, 2001; Colquitt, 2001; Colquitt et al., 2001; Folger & Konovsky, 1989; Viswesvaran & Ones, 2002) that procedural, distributive, interpersonal, and informational justice are related, yet theoretically and practically distinct constructs. For example, in their meta-analysis of the organizational justice literature, Viswesvaran and Ones estimated the true correlation between procedural justice and distributive justice to be .66 and in the current study, the correlation was .68. These distinctions are also supported by the fact that different justice types were stronger predictors of some justice outcomes and weaker predictors of others and that the differences make sense (e.g., distributive justice is the strongest predictor of performance ratings).

One particularly interesting difference that may have implications for future theory as well as managerial practices in actual organizations is that interpersonal justice was the strongest predictor of OCB-altruism. Interpersonal justice concerns how managers treat subordinates and OCB-altruism has to do with how subordinates treat other co-workers. The results seem to suggest a cascading effect wherein managers treat subordinates with respect and dignity and subordinates in turn exhibit pro-social

behaviors with their co-workers. It is also noteworthy that the only gender moderation effects found between interpersonal justice and justice outcomes were two marginal effects on both types of OCB and both effects were stronger for men.

The results also have important practical implications for work organizations because they demonstrate a link between merit-related antecedents of organizational justice and subordinate and organizational outcomes. The findings provide encouraging news for practitioners because they suggest that the types of strategies that organizations and their managers are currently undertaking to try to be fair can indeed enhance employees' feelings of fair treatment and their related feelings about things such as staying with and committing to the organization. It is also encouraging that the utilization of merit strategies that focus on a manager's use of performance metrics and the adherence to formal policies and procedures to encourage desirable outcomes appears to have positive effects on all employees, on average, without the appearance of backlash or resentment by one gender or the other, even though the effects on organizational justice are stronger for women and the effects on outcomes are stronger for men.

Limitations of the Study

The present study was carefully designed to ensure satisfactory statistical power, to control for likely potential covariates, to examine employees in an actual organization (as opposed to prevalent laboratory designs) and to avoid mono-method bias through its use of archival data. Also, the scales used were grounded in theory and were validated both in the external literature and internally in the current research. Nevertheless, some limitations are inherent and should be considered by the reader.

First, whereas the respondents were sufficient in number and generally representative of the sample, they only were drawn from a single division of a single organization. So while the pattern of results suggests a large measure of internal consistency and is consistent with findings in the extant literature, the external validity of the findings can only be assessed after further study in other organizations. Such replication would help to avoid drawing conclusions from results that potentially capitalize on the idiosyncrasies of the sample organization. This is particularly important because all of the antecedents of organizational justice were examined for the first time in the current study or in the case of formalization, used for the first time as a measure of individual perceptions of organizational formalization. Furthermore, the respondents were located entirely within the United States, which renders generalization of the findings to employees and organizations in other countries tenuous.

Another limitation concerns the construct validity of the antecedents of organizational justice. As I explained in the literature review of the antecedents of the perceptions of fairness, the distinction between antecedents of fairness perceptions and fairness perceptions themselves is a subtle one, particularly when the fairness perceptions are operationalized using indirect measures as was the case in the current research. Although the current study provides discriminant evidence that the examined antecedents are related, yet distinct from each other (i.e., the confirmatory factor analysis and the different patterns of regression analysis results among the antecedent variables), the results cannot confute the potential criticism that the self-reported measures of antecedents of fairness perceptions are merely alternate measures of organizational justice. That is, because both the antecedent scales and the justice scales asked

subordinates to rate the levels of manager and organizational behaviors and because both sets of scales were measured via the same survey and the same point in time, any conclusions regarding the antecedents of fairness as distinct from and predictors of organizational justice perceptions should be considered preliminary. Because this is the first study to examine these antecedents in this way, future research is needed before strong conclusions are drawn regarding their construct validity.

There are further limitations related to the current study's cross-sectional design. Because most of the data were collected via a questionnaire at one point in time, it is not possible for me to conclude that the antecedents studied actually caused the subordinates' perceptions of fairness or even that the "antecedents" preceded the employee' perceptions of fairness. It is possible that the respondents' attitudes regarding the perceptual variables I have labeled antecedents were the result of their justice perceptions or some other third variable. One should note, however, that a strength of the current study is the inclusion of the gender composition of the workgroup archival variable. In this case, one can safely assume that gender composition indeed preceded the respondents' organizational justice perceptions and was not caused by their opinions.

Mono-method bias is another limitation of survey research, however, several elements of the current study suggest that this threat was negligible. In addition to the survey data, the current study included archival data. Also, the individual survey scales were construct-validated via confirmatory factor analysis and exhibited different patterns of outcomes, and significant moderators were found in the regression analyses – Pierce, Gardner, Dunham, and Cummings (1993) argue that moderated regression partials out the effect of mono-method bias.

A final limitation concerns the small variances accounted for by the moderator effects. Although they be small, the small effects in the present study are not unusual in moderated regression of psychological variables (Lemons, 2003) and may be important, especially when the hypotheses being tested are well-grounded in theory (Chaplin, 1991). The fact that several of the hypothesized moderation effects were found and that they were in the hypothesized direction even after partialing out the main effects of each variable in the interaction term along with several covariate controls suggests that the moderation effects discovered in the current study make an important contribution to the literature on organizational justice and gender, albeit that the effects are small.

Directions for Future Research

Several of the current study's results warrant further exploration. The finding that the objective gender composition antecedent was the only variable in the study where women's and men's individual regression lines were significantly different and in opposite directions is intriguing and deserves more attention. As I posited above, this outcome is consistent with the theory that men and women react similarly to their perceptions that merit-based decision making systems are in place and that gender differences in reported organizational justice levels are likely due to different interpretations of what particular situations (e.g., the percent of women in a subordinate's department) imply about the presence or absence of merit-based principles.

Future research could help to test this theory by more directly assessing how women and men interpret different departmental gender proportions in organizations. This knowledge would help to ascertain whether women's more positive association between the percent of women in their departments and their perceptions of fairness is

based upon an interpretation that the higher proportion of women indicates a merit principle is in effect or whether women perceive a bias that favors their gender and, yet, consider this arrangement to be fair. Research in this area could also elucidate the potential relationship between justice perceptions and the perceiver's self-interest. As some scholars have noted, "given that it is almost never completely clear what constitutes fairness, people have a ready-made opportunity to perceive justice in a manner that benefits themselves" (Greenberg, 2001a, p.251).

Future research on the antecedents of organizational justice and their relationships to gender should also investigate additional objective antecedents such as the promotion and turnover rates of women and additional perceptual merit-related antecedents to see if results similar to the current study's are found. Such a study would not only provide additional validity to the current study, but would help to inform the debate over the role of the definition of merit in the affirmative action literature (c.f., Crosby et al., 2003). Examining new objective antecedents could also help to further establish that certain antecedents of organizational justice are indeed distinct from the organizational justice constructs by removing mono-method bias threats. When investigating new antecedents, it would also be useful to understand the relationship between employees' perceptions of the antecedents and the objective realities. Including both an actual, objective measure and a perceptual one of a given antecedent in the same study would help with the interpretation of the findings by providing clues as to whether the relationship between the antecedent to organizational justice is associated with actual differences in the antecedent, perceived differences in the antecedent, or both. Another finding that deserves further investigation is the pattern that when gender moderation effects were

present in the perceptual variables, the slopes of the interaction terms were more steep for women in the antecedent – organizational justice relationships and more steep for men in the organizational justice – justice outcomes relationships. Future research should continue to include both antecedents and outcomes of organizational justice to see if this pattern is consistent across other organizations and variables.

In addition to examining other elements of merit-related antecedents and gender, future research should attempt to replicate my findings in other organizational contexts and across different demographic groups. Although the current study borrowed from the affirmative action, diversity, and glass ceiling literature, the focus was exclusively on women in the United States. And while women and people of color may face similar obstacles and barriers to professional career progression, they also face unique challenges that may lead to differences in their perceptions of organizational justice. There is also mounting concern that organizational justice theory developed by studying U.S. samples may be culture-bound and lack generalizability to other countries and cultures (Greenberg, 2001b; Leung & Lind, 1986; McFarlin & Sweeney, 2001; Skarlicki, 2001). In a discussion of this issue, Greenberg (2001a) cites a striking example put forth by Kidder and Miller who note that the Japanese language does not even contain a word for “fair” (1991). Thus considering the relative homogeneity of the current sample, future research should investigate whether the observed organizational justice findings hold across multiple cultures and whether other demographic characteristics such as race and ethnicity moderate the antecedent – organizational justice and organizational justice – outcome relationships.

Finally, beyond the interculturally- and inter-organizationally-related suggestions for future research above, it should be noted that future research should also examine intra-organizational differences as well. For example, although the current study did control for the subordinates' organizational level and include gender as a moderator, it did not attempt to identify men's and women's functional roles within the organization, their in-group/out-group statuses within their workgroups, or many other potentially interesting moderators/mediators of the relationships between managerial/organizational antecedents of fairness and organizational justice perceptions. Understanding the role of these types of intra-group differences would provide further insight into the circumstances in which gender does or doesn't impact fairness perceptions.

Conclusions

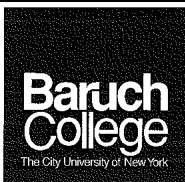
The current study was designed to examine the role of merit-related managerial and organizational variables including actual diversity representation statistics in predicting subordinates' perceptions of organizational justice and whether the effects vary by gender. The overall pattern of results suggests that subordinates report higher perceptions of fairness when they perceive that their managers and their organization consider merit and abide by explicit rules and procedures when making business decisions. This effect generally appears to hold across the genders although in some cases the effect is stronger for women.

Results such as the finding that both men and women report higher fairness perceptions when they believe that their managers document their performance using metrics contribute to organizational justice theory by introducing perceived merit-related antecedents to the literature. These same results also have practical value for managers

and organizations searching for ways to enhance their employees' perceptions of fairness irrespective of gender. However, the results for objectively-measured, actual workgroup gender composition also show that men and women may perceive the same situation very differently. The findings suggest that it is subordinates' perceptions of merit, rather than merit's actual role in key decisions, that will tend to predict subordinates' perceptions of fairness. Therefore, organizations hoping to implement a merit-based decision making strategy as an effort to promote fairness and move away from systems that consider preferential treatment will need to devote as much or more effort to demonstrating to employees and convincing them that such systems are based on merit as they do to ensuring that the strategy actually is based on merit.

APPENDIX A

Human Subjects Research Approval Letter



TO: Eric Leiberman & Karen Lyness

STUDY: What's Fair is Fair, or is it? The effects of merit-based managerial behaviors and organizational policies on organizational justice

The Baruch College Institutional Review Board has approved the above study involving humans as research subjects. This study was approved through expedited review based on 45CFR46 (Category 7).

IRB Number: (#040510) This number is a Baruch College IRB number which should be used on all consent forms and correspondence.

Approval Date: 6/02/04

Expiration Date: 6/02/05

This approval is for a one-year period. You should receive a courtesy renewal notice approximately six weeks before the expiration of this project's approval. However, it is your responsibility to insure that an application for continuing review approval has been submitted by the required time. In addition, you are required to submit a final report of findings at the completion of the project.

Consent Form: The approved and stamped consent form must be used by all subjects. You are responsible for maintaining signed consent forms for a period of at least three years after study completion.

Reporting: The principal investigator must report to the IRB any serious problem, adverse effect, or outcome that occurs with frequency or degree of severity greater than that anticipated. In addition the principal investigator must report any event or series of events that prompt the temporary or permanent suspension of a research project involving human subjects.

Modifications: All modifications of protocols involving subjects must have prior approval except those involving the prevention of immediate harm to a subject that need to be reported within 24 hours to the IRB.

If you have any questions, please do not hesitate to contact me through the IRB Office at (646) 312-2205.

Good luck on your project.

Sincerely,

A handwritten signature in black ink, appearing to read "David O'Brien", written over a horizontal line.

David O'Brien
Chairperson,
Baruch IRB

APPENDIX B

Sponsor Organization's Approval Letter⁴

[REDACTED]	[REDACTED]
	Director
	[REDACTED]
	[REDACTED]
[REDACTED]	
<p>To whom it may concern,</p> <p>I am writing this letter to inform the Baruch College Institutional Review Board (IRB) that I, as Eric Lieberman's manager, am aware of and approve of his intent to conduct his dissertation research at [REDACTED]</p> <p>I understand that his research will involve conducting surveys of our employees and matching the responses to demographic and other data contained in our employee databases. Eric has informed me that he designed his methods to include the use of "dummy" codes as individual identifiers so that he personally will not be able to match the survey responses to specific individuals. Also, please note that while I support Eric's pursuit of his degree for personal and career development purposes, his research is not in fulfillment of any work requirements - it is entirely his project for his academic purposes.</p> <p>It should be noted that one of my department's functions is to serve as a survey utility for our business group and that we have a history of observing the highest ethical standards in keeping the respondent data that we collect and report confidential. It is our policy not to release any individual-level data nor to report results in aggregates small enough to enable the identification of individual respondents (e.g., we do not release satisfaction survey scores with a break by any demographic category with fewer than 10 respondents). In addition, any employees that have a personal or professional relationship with Eric will be excluded from his samples.</p> <p>Please let me know if I can provide additional information.</p> <p>Sincerely,</p> <p>[REDACTED]</p>	

⁴ Note that all references to the organization in which the research was conducted have been obscured to maintain the anonymity of the participants.

APPENDIX C

Subordinate Survey Measures

Items followed by (R) were reverse coded. Items followed by (D) were deleted to improve the reliability of the scale.

Antecedent Variables

Perception of Manager's Use of Performance Metrics. Please indicate the extent to which you agree with the following statements.

- 1) My manager bases decisions about employees on performance metrics and merit.
- 2) My manager considers only my performance when making decisions that affect me. (D)
- 3) My manager does not monitor my performance through the use of metrics. (R)
- 4) My manager uses objective measures to gauge my performance.
- 5) My manager does not use metrics or measures to give me feedback about my performance. (R)
- 6) My manager uses Six Sigma metrics to track my performance. (D)

Perception of Formalization. The following sentences describe various characteristics of organizations. Please indicate how accurately they describe (organization):

- 1) (Organization) has a large number of written rules and policies.
- 2) A "rules and procedures" manual exists and is readily available within (organization).
- 3) There is a complete written job description for most jobs in (organization).

4) (Organization) keeps a written record of nearly everyone's job performance. (D)

5) There is a formal orientation program for most new members of (organization).

Trust in Formalization. Please indicate the extent to which you agree with the following statements.

1) The rules, procedures, and policies at (organization) are applied consistently.

2) Every employee at (organization) must abide by the rules, procedures, and policies.

3) Although (organization) has rules, procedures, and policies, it is more effective to get things done through alternate ways (e.g., personal favors, connections, or contacts). (R) (D)

Perception of Merit-Based Culture. Please indicate the extent to which you agree with the following statements.

1) (Organization) fosters a merit-based culture that focuses on performance when making important decisions that affect employees.

2) In general, (organization) encourages managers to consider only performance when making decisions that affect employees' careers. (D)

3) (Organization) encourages the use of merit when making important decisions.

4) Getting ahead in (organization) is more based on whom you know than one's actual job performance. (R)

5) At (organization), the standards used in performance reviews are all based on a thorough analysis of the job.

Organizational Justice Variables

Procedural Justice. The following items refer to the procedures used to arrive at outcomes that affect your career (e.g., promotions, salary increases, bonuses, performance appraisals). To what extent:

- 1) Have you been able to express your views and feelings during those procedures?
- 2) Have you had influence over the promotions, salary increases, bonuses, performance appraisals, etc. arrived at by those procedures?
- 3) Have those procedures been applied consistently?
- 4) Have those procedures been free of bias?
- 5) Have those procedures been based on accurate information?
- 6) Have you been able to appeal the promotions, salary increases, bonuses, performance appraisals, etc. arrived at by those procedures?
- 7) Have those procedures upheld ethical and moral standards?

Distributive Justice. The following items refer to outcomes that affect your career (e.g., promotions, salary increases, bonuses, performance appraisals). To what extent:

- 1) Do your promotions, salary increases, bonuses, performance appraisals, etc. reflect the effort you have put into your work?
- 2) Are your promotions, salary increases, bonuses, performance appraisals, etc. appropriate for the work you have completed?
- 3) Do your promotions, salary increases, bonuses, performance appraisals, etc. reflect what you have contributed to the organization?

4) Are your promotions, salary increases, bonuses, performance appraisals, etc. justified, given your performance?

Interpersonal Justice. The following items refer to the manager responsible for outcomes that affect your career (e.g., promotions, salary increases, bonuses, performance appraisals). To what extent:

- 1) Has he/she treated you in a polite manner?
- 2) Has he/she treated you with dignity?
- 3) Has he/she treated you with respect?
- 4) Has he/she refrained from improper remarks or comments?

Informational Justice. The following items refer to the manager responsible for outcomes that affect your career (e.g., promotions, salary increases, bonuses, performance appraisals). To what extent:

- 1) Has he/she been candid in his/her communications with you?
- 2) Has he/she explained the procedures thoroughly?
- 3) Were his/her explanations regarding the procedures reasonable?
- 4) Has he/she communicated details in a timely manner?
- 5) Has he/she seemed to tailor his/her communications to individuals' specific needs?

Outcome Variables

Turnover Cognitions. Please indicate the extent to which you agree with the following statements.

- 1) I intend to leave (organization) sometime in the next year. (Intention to Quit)

2) It is likely that I will still be working at (organization) several years from now.

(Intention to Quit; R)

3) I often think of quitting my job. (Thinking of Quitting)

4) I have thought of quitting my job in the last six months. (Thinking of Quitting)

Affective Organizational Commitment. Please indicate the extent to which you agree with the following statements.

1) I would be very happy to spend the rest of my career with (organization).

2) I really feel as if (organization's) problems are my own.

3) I do not feel a strong sense of "belonging" to (organization). (R) (D)

4) I do not feel "emotionally attached" to (organization). (R)

5) I do not feel like "part of the family" at (organization). (R) (D)

6) (Organization) has a great deal of personal meaning for me.

Organizational Citizenship Behavior – Altruism. Please indicate the extent to which you agree with the following statements about your attitude toward others at work.

1) I help others who have heavy work loads.

2) I help others who have been absent.

3) I am willing to give my time to help others who have work-related problems.

4) I help orient new people even though it is not required.

Organizational Citizenship Behavior – Civic Virtue. Please indicate the extent to which you agree with the following statements about your attitude toward others at work.

1) I keep abreast of changes at (organization).

2) I attend functions that are not required, but that help the (organization's) image. (D)

3) I attend and participate in meetings regarding (organization).

4) I keep up with developments at (organization).

Perceptions of Career Development Opportunities Please indicate the extent to which you agree with the following statements.

1) (Organization) provides opportunities for individual development other than formal training (e.g., work assignments, job rotation, etc.).

2) There are viable career paths for nonsupervisory/managerial employees.

3) There are people who provide guidance and counsel regarding one's career.

4) Career management is a shared responsibility of the employee and the manager.

5) Overall, I am satisfied with (organization).

Control Variables

Job Tenure. Please indicate how long you have worked in your current job/position.

___ years ___ months

Time Since Last Promotion. Please indicate how long it has been since your last promotion (title or band change) or check "Not Applicable" if you have not yet received a promotion.

___ years ___ months OR • N/A - I have not yet received a promotion

APPENDIX D

Questionnaire Invitation Text

Dear (division name) employee,

You have been randomly selected to participate in a brief survey to assess employee attitudes about (organization). The survey should take you less than 5 minutes to complete. This research is being conducted as partial fulfillment of the requirements for a doctorate degree, however, your opinions are important, and the results of this survey will be presented to executive management in summary form to help them understand how you feel about (organization).

Note that your responses are completely confidential and that only division-level data will be reported and no individual responses will be reported. Your feedback is encouraged, but participation in this survey is entirely voluntary. No one, including your manager, will know whether or not you respond and your answers will be stored anonymously so that no one will be able to match your responses to you personally. To begin the survey, please click on the link below.

Thank you,

Eric Lieberman

Principal Investigator,		(Title in Sample Organization)
Doctoral Student	and	(Department, Division)
City University of New York		(Phone Number)

Note: By clicking on the link below, you are acknowledging that you understand and agree with the conditions for participation described above.

<http://www.inquisiteasp.com/idx=34DY567>

APPENDIX E

Survey Software Vendor Confidentiality Agreement

The text below is excerpted from the web-survey software vendor's service policy. Only the section relevant to the current study is presented. The complete policy is available at

<http://www.inquisite.com/downloads/licenseagreements/inquisiteincaspagmt.pdf>.

Inquisite Application Service Provider Agreement

Section 4. Privacy

4.1 Ownership of Data. Inquisite considers Your surveys and the response data to surveys that You host on our Inquisite website to be Your personal property. As a policy, we do not examine Your surveys or any of your survey response data except at Your request and only for the purposes of providing You with technical support with regard to a particular survey. Inquisite will not use Your surveys or the information you collected from Your surveys for Inquisite's benefit or the benefit of a third party, for example for: solicitation, aggregating mailing lists, or conducting opinion mining.

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