This is to certify that the
thesis entitled

FAIRNESS INFORMATION AND FAIRNESS EVALUATIONS:
WHEN INDIRECT INFORMATION MATTERS

presented by

JENNIFER L. WESSEL

has been accepted towards fulfillment
of the requirements for the

M.A. degree in Psychology

Major Professor's Signature

12-8-08

Date

FAIRNESS INFORMATION AND FAIRNESS EVALUATIONS: WHEN INDIRECT INFORMATION MATTERS

By

Jennifer L. Wessel

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Psychology

2008

ABSTRACT

FAIRNESS INFORMATION AND FAIRNESS EVALUATIONS: WHEN INDIRECT INFORMATION MATTERS

By

Jennifer L. Wessel

Individuals in new situations with limited information often use information from others to form evaluations. These two studies explore the influence of fairness information received indirectly from others, and the moderating variables which may affect the influence of such information on fairness evaluations of a supervisor. Contrary to prior research, indirect fairness information was not found to affect fairness evaluations of a supervisor. Explanation presence, however, had a positive significant effect on fairness evaluations in one of the two studies. It was also found that individuals with a high pro-social orientation were more affected by indirect fairness information than individuals with a low pro-social orientation. Implications of the findings and directions for future research are discussed.

ACKNOWLEDGEMENTS

There are many people who contributed to the completion of this thesis and who continue to contribute to my success in grad school. First and foremost, I would like to thank Ann Marie Ryan for her attentiveness, thoughtfulness, and overall support throughout this thesis process (and on our multitude of other projects). You really helped push along this project for me by always keeping it as a priority, even when there were many other things on the table. Thank you.

I would also like to thank the other members of my committee, Kevin Ford and Fred Oswald, for their useful comments and questions during the proposal and dissertation of this thesis. Your helpful criticism really improved this project and its feasibility. Thank you for getting me to think about this project in new and interesting ways.

Thanks to my fellow psychology graduate students for the advice and support on all things graduate school and beyond. You all continuously help me keep a sense of humor about all of this. I hope I do the same for you.

Lastly I would like to thank my amazing family. Mom and Dad, I know you don't always want to hear about every aspect of my graduate school life, but you always listen. Thanks for always being my cheerleaders, coaches, and whatever other sports-related metaphor for support I can think of. Allison, thanks for being goofy with me and always letting me be myself. Emily, thanks for supporting me and giving me a home away from home when I really needed it. You all are my best friends.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

Research shows that when employees feel fairly treated, they react positively in the form of accepting outcomes (Greenberg, 1987), complying with rules (Tyler, 1990), and being less likely to retaliate (Skarlicki & Folger, 1997), implying supervisors benefit from treating employees fairly. Regarding authority figures in particular, supervisors will likely receive more positive reactions from employees if they appear to treat their subordinates fairly (e.g. Folger & Konovsky, 1989). Recent research, however, suggests that treating people fairly in the present may not be enough to elicit positive fairness reactions (Bell, Ryan, and Wiechmann, 2004). It seems that information concerning a supervisor's fairness behaviors can have an impact on fairness reactions to that supervisor, even controlling for actual fairness behaviors (Jones & Skarlicki, 2005; Van den bos et al., 2005). Specifically, information concerning a supervisor's reputation for fairness forms a *fairness heuristic*, or a cognitive frame of reference, which can affect interpretations of direct encounters (Lind, 2001).

Van den bos and colleagues (2005) found a main effect for the valence of fairness information taken from direct experience with a supervisor, such that individuals who had had fair experiences with a supervisor tended to judge a later neutral message from that same supervisor as more positive, compared to individuals who had had unfair experiences. The authors did not find these differences when the later message came from a new supervisor, suggesting that the fairness heuristic remains attached to its source. While this study and others (e.g. Gilovich, 1991; Kahneman & Tversky, 1984) illustrate the effects of information based on a prior experience on future evaluations, direct sources of information may not always be available to the individual. In some situations,

much of the information given to an individual is from an indirect source, usually based on the experiences of others (Lind, Kray, & Thompson, 1998).

Unlike *direct* fairness information, which involves an individual having an interaction with a supervisor in which the supervisor does something fair or unfair, *indirect* information involves second-hand information that is not experienced personally, such as an individual overhearing two coworkers discussing fair or unfair actions of a supervisor, or a coworker telling an individual about a past fairness-related experience with a supervisor. Social information processing theory (Salancik & Pfeffer, 1978) contends that information provided by coworkers has an effect on employee perceptions by conveying group norms. Thus, indirect fairness information, similar to direct fairness information, should have an influence on the information recipient and his/her fairness evaluations.

In situations that are highly ambiguous (Salancik & Pfeffer, 1978; Umphress et al, 2003) and/or involve newcomers (Ashford & Cummings, 1983), social information may be the main source of one's fairness heuristic due to increased uncertainty as to the fairness associated with a particular event or person, as well as the lack of availability of concrete, direct information. Furthermore, social information is integral in forming fairness heuristics by conveying organizational norms that further clarify what is and what is not fair treatment in a particular context (Greenberg, 1990; Lamertz, 2002). In fact, Jones and Skarlicki (2005) found that indirect information (two confederates speaking about an experimenter) affected subsequent fairness evaluations. No current research, however, looks at what individual and contextual factors moderate the effects of indirect information on fairness evaluations.

This question is of practical importance to the workplace, as indirect information concerning a supervisor may be inaccurate, atypical, or outdated. Even when information is accurate, studying the strength of fairness reputations fueled by indirect sources can help employees in supervisor positions understand the power of their current actions on future subordinate perceptions. Also, the examination of moderating variables will help illuminate the contexts wherein supervisors are more or less likely to overcome or mitigate the negative effects caused by negative indirect information, contributing both to the theoretical and practical sides of this research area.

In this study, I examine the role of fairness information, in terms of fairness evaluations concerning a supervisor. In the previously-mentioned studies examining the effects of fairness information on fairness evaluations (i.e. Jones & Skarlicki, 2005; Van den bos et al, 2005), fairness information consisted of all three established types of fairness information (defined below) with no distinctions. This leaves a gap in the literature concerning the separate effects of different types of fairness information. This study manipulates and examines the direct effects of two types of fairness information, as well as the direct effect of providing an explanation. This study also examines several individual and situational variables that may moderate the relationship between information valence and fairness evaluations, including social value orientation and ingroup status of information source.

First, I discuss the foundations of organizational justice research, distinguishing between the three different types of fairness information: *procedural, distributive,* and *interactional.* I then review the literature on impression formation and the effects of fairness information on fairness perceptions. This leads into a discussion of social

information processing theory and the influence of indirect fairness information from social cues, examining potential differences between procedural and distributive fairness information.

I also examine research on the influence of explanations of negative information and discuss the role of explanations in terms of fairness evaluations. Then, I turn to social value orientation research and the moderating role of pro-social orientation. Lastly, I provide rationale for the ingroup status of source as a potential moderator of the influence of information valence on future fairness perceptions. Figure 1 illustrates some of the variables to be tested and related hypotheses presented in the following sections.

Literature Review

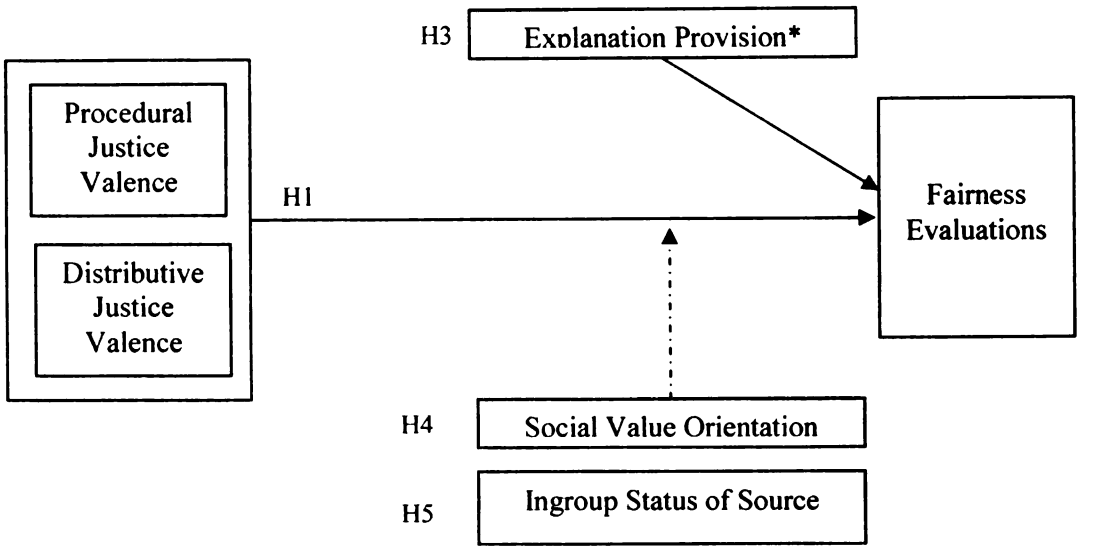
Fairness Evaluations

In order to discuss the effect of fairness information on fairness evaluations, it is important to define *fairness* (the terms *fairness* and *justice* are often used interchangeably in the literature; Colquitt, Greenberg, & Zapata-Phelan, 2005) in the context of organizations, drawing from the organizational justice literature. The idea of *fairness* in the organizational context has taken several different, though not mutually exclusive, forms. The three major justice types are *distributive justice, procedural justice,* and *interactional justice,* stemming from theories stressing the importance of equal outcomes (Cohen, 1987), impartial procedures (Folger & Greenberg, 1985), and equal interpersonal treatment (Bies & Moag, 1986) in individual fairness evaluations. *Distributive justice* refers to the equity of allocated outcomes, whereas *procedural justice* refers to the fairness of outcome allocation procedures (Greenberg, 1990). *Interactional justice*, which was introduced after the previous two justice types by Bies and Moag (1986), refers to

fairness associated with both the content and tone of interactions during a decision-making process (Tyler & Bies, 1990).

Figure 1

Illustration of Hypotheses



* Explanation Provision is only tested in negative information valence conditions

These three types of justice have been broken down into subcomponents, sometimes known as *justice rules,* which lead to overall justice impressions based on the violation or satisfaction of those rules (Cohen, 1987; Gilliland, 1993; Leventhal, 1980). Leventhal (1980) conceptualized procedural justice as composed of six justice rules, including: consistency, bias-suppression, accuracy, correctability, representativeness, and ethicality. Interactional justice, though not usually seen in terms of particular justice rules, has several subcomponents affecting overall interactional justice evaluations. Interactional justice has been broken down into interpersonal justice, which includes rules

such as politeness, dignity, and respect of treatment, and informational justice, which includes rules concerning conveying adequate information about the procedures and outcomes of a decision-making process (Bies & Moag, 1986; Greenberg, 1990).

Unlike the other two types of justice, distributive justice has been typically characterized by one dominant, commonly used justice rule—equity (Bierhoff, Buck, & Klein, 1986; Cohen, 1987; Gilliland, 1993). It is said that when evaluating distributive fairness, one often uses the equity rule by judging whether or not "rewards are in proportion to contributions" (Leventhal, 1980, p 28), with some arguing that this is judgment is made by consciously or unconsciously comparing one's input/output ratio to the perceived ratio of other persons (Adams, 1965; Campbell & Pritchard, 1976). However, other justice rules, such as *equality* (everyone receives an equal output) and *needs assessment* (outputs go to those who most need them), have also been proposed as influencing distributive justice evaluations in certain situations (Deutsch, 1975).

While all three types of justice inform overall justice evaluations, procedural and distributive fairness are the more researched of the three types of information, as reflected in a recent meta-analysis where under 15 percent of the studies used a measure of interactional justice (Cohen-Charash & Spector, 2001). Examination of procedural and distributive justice, should lead to greater implications for the organization, as aspects related to these two types of fairness are more under the organization's control (i.e. consistency of policies, distribution of benefits), as compared to interactional justice (i.e. politeness, sincerity). From these reasons, I chose to manipulate only two types of justice (procedural and distributive) in this particular study. Practical reasons guided this

decision as well, as both studies utilize written indirect information, in which it is difficult to convey interactional information, such as tone and intent, effectively.

For both distributive and procedural justice, I focused on one justice rule and the effects of either violating or satisfying it. For procedural justice, I chose to manipulate the rule of consistency. Research has stressed the crucial role of consistency in forming fairness impressions (Fry & Leventhal, 1979; Fry & Chaney, 1981; Sheppard & Lewicki, 1984) and Barrett-Howard and Tyler (1986) revealed consistency across people to be the overall most important component in evaluating the fairness of a procedure. Furthermore, it is important that when individuals receive the manipulation of procedural justice that the information is clear and well-understood across individuals. This makes consistency well-suited for the context of this study as the labeling of an action as *inconsistent* should not vary too widely among individuals, as compared to some of the other procedural justice rules, such as ethicality.

For distributive justice I chose to focus on the equity rule. Beyond its previously-stated dominance in the distributive justice literature, the equity rule particularly applies to the situation of interest in this study. The current study is examining the receiving of indirect fairness information in a new situation, as this is a time when indirect information is most likely to be the main source of information about others. In most workplaces, the equality rule of everyone receiving the same output regardless of input would be rare. Specifically in a new workplace situation, the needs rule would involve knowing the needs of other potential recipients of resources, whom are probably unknown to the individual at that time. Thus, the two foci of justice for this study are distributive justice via the equity rule and procedural justice via the consistency rule.

Impression Formation

Integral to the study of fairness information on fairness evaluations is research examining impression formation, particularly fairness impression formation. Starting broadly, the literature on how individuals form impressions of a certain stimulus often focuses on social judgment theory and assimilation effects (e.g. Stapel & Koomen, 2001; Trope, 1986). Specifically, it is thought that individuals use available information concerning a stimulus to form an impression and *assimilate* any current experiences based on that previously-formed impression (Stapel & Koomen, 2001; Van den bos, 2002). In terms of fairness research, assimilation effects can be found in both the *fair process effect* (Greenberg & Folger, 1983) and *fairness heuristic theory* (Lind, 2001), which emphasize the effect of fairness experiences on reactions to outcomes, interactions, and/or other subsequent events involving the stimulus in question (Van den bos, Lind, & Wilke, 2001).

Fair Process Effects. Research on fair process effects provides empirical evidence for the effects of fairness information on fairness evaluations. Specifically, studies have shown that subordinates will be more satisfied and accepting of a supervisor after fair experiences with that supervisor (Van den bos et al., 2005; Van den bos et al., 2002) Van den bos and colleagues (2005) found in their study that interactions with previously known supervisors were more affected by past experiences of unfairness, in terms of evaluations, than interactions with new supervisors, suggesting that these carryover effects are not caused by changes in mood, but rather caused by a personal frame of reference attached to that particular supervisor following a prior interaction.

Fairness Heuristic Theory. Fairness heuristic theory is predicated on the idea that individuals search for fairness information about others in order to assess the likelihood of being either excluded or exploited in a given situation (Lind, Kray, & Thompson, 2001). In particular, this theory proposes that based on the relevant fairness information available, an individual will form a heuristic about a certain person (in this case, a supervisor), which will later be used as a frame-of-reference for subsequent reactions toward that person (Colquitt, Scott, Judge, & Shaw, 2006; Jones & Skarlicki, 2005; Lind, 2001; Lind, Kray, & Thompson, 2001). For example, if a supervisor seems unfair and a subordinate forms an unfair fairness heuristic about the supervisor, the subordinate may view future interactions with the supervisor as unfair when presented with an ambiguous situation.

Similar to assimilation effects, fairness heuristics are thought to be heavily influenced by the earliest information gathered, with subsequent interactions being deductively processed, or *assimilated,* in terms of the already formed fairness heuristic, as opposed to shifting the heuristic inductively (Lind, Kray, & Thompson, 2001). Thus, individuals will be more likely to form fairness heuristics when relationships are first forming (Jones & Skarlicki, 2005; Van den bos, Lind, & Wilke, 2001). This primacy effect can be explained by uncertainty management theory (Van den bos, 2001) which emphasizes the relative strength of fair process effects when conditions are uncertain and information is lacking, thus giving initial impressions more influence as an anchor of future judgments.

For this study, I utilize a common situation in the workplace in which an individual is encountering another individual with whom they have no prior experience

(supervisor), thus creating a high level of uncertainty concerning the fairness associated with that individual. Thus, the only available information (indirect information about the supervisor) should form the basis of the initial fairness heuristic, and as such, should affect subsequent fairness evaluations of the supervisor. While research related to impression formation informs the present study, more group-focused theories, such as *social information processing theory,* are particularly useful when examining the effects of fairness information received in a social context.

Social Information Processing Theory

There is empirical research suggesting that individual fairness perceptions are affected by the opinions of one's peers (Folger, Rosenfield, Grove, & Corkran, 1979; Lamertz, 2002). Salancik and Pfeffer (1978) put forth their *social information processing* (SIP) *theory,* which emphasizes the important role of social context in driving perceptions and attitudes. Similar to *fairness heuristic theory,* SIP theory contends that individuals seek available information in order to better assess, interpret, structure, and react to the organizational environment (Umphress et al, 2003). What separates SIP theory from *fairness heuristic theory* and other theories is the focus on social interactions as a major source of information in the workplace (Zalesny & Ford, 1990).

Individuals seek information in order to make sense of their surroundings, but this sense-making cannot happen outside of a social context (Salancik & Pfeffer, 1978). In a work context, social information from coworkers conveys social norms to one another as to the appropriate responses to people, objects, and events. In this study, the information regards the fairness of a supervisor. When that social information is seen as relevant,

credible, and salient, *social information processing theory* suggests that individuals will use that social information to form job-related attitudes (Zalesny & Ford, 1990).

Specifically in terms of justice, Umphress and colleagues (2003) found that social information had a significant effect on justice evaluations, in a field study conducted within a division of a Fortune 500 company. Specifically regarding supervisors, Jones and Skaricki (2005) found that individuals rated supervisor behavior lower when they overheard negative information about the supervisor, as compared to when they overheard positive information about the supervisor. Thus, fairness information received from peers seems to play a role in subsequent job-related evaluations. Based on these findings, I make the following prediction:

> *Hypothesis 1:* Indirect information about a supervisor's fairness will affect future evaluations of that individual's fairness, such that positive fairness information will lead to more positive evaluations of fairness as compared to negative fairness information. (See Figure 1)

Information Type

The influence of information on fairness evaluations may not only be affected by the valence of the information, but the type of justice information given as well. Studies examining fairness information effects have manipulated information about multiple fairness types concurrently (Jones & Skarlicki, 2005; Van den bos et al., 2005), thus making it impossible to parse apart any differential effects based on information type. While the direction of the effect is predicted to be the same for both procedural and

distributive fairness information, I predict procedural fairness information will be more strongly related to fairness perceptions, due to the ambiguous nature of distributive justice information and its ties to self-interest.

It has been noted in the literature that individuals tend to rely on procedures in forming outcome impressions (i.e. the fair process effect; Greenberg & Folger, 1983), as they often are uncertain as to how to evaluate whether or not an outcome received is fair (Van den bos & Lind, 2002). While procedural information tells the recipient a specific fair action that was violated (i.e. consistent procedures), distributive information on equity tends to be more value-based and less objective (i.e. not getting the *deserved* outcome). Van den bos and colleagues (1997) discussed conditions under which distributive fairness information will have more influence on outcome evaluations. All of these conditions included some knowledge of what others received in comparison to their outcomes. While it is possible that an indirect source could provide distributive fairness information that includes the outcomes received by all individuals, it would be improbable that the source would be able to relay all of the relevant inputs and outputs of each individual, which would be needed in determining the distributive fairness of an outcome. Thus, when presented with distributive information that seems ambiguous, according to Van den bos and colleagues, the information recipient will base his/her outcome evaluations on available procedural information.

As this study is concerned with fairness information received indirectly, perceptions of the information source's credibility and motivations are also important, in terms of the influence of the fairness information. Research on direct fairness information show that individuals base *distributive justice* evaluations not only on the perceived

fairness of outcomes, but also on the relative personal benefit of the outcome, reflecting a self-serving bias (Schmitt et al., 2004). While individuals may not notice such an effect within themselves after experiencing a negative outcome, they may become skeptical of another person's distributive justice information, reasoning that that an individual only views the outcome as fair or unfair due to his/her own personal gain or loss.

Specifically, the *bias blind spot* (Friedrich, 1996; Ehrlinger, Gilovich, & Ross, 2005) tells us that individuals are more likely to value their own personal observations as less biased and more based on fact, as compared to the observations of others. While both procedural and distributive information could be seen as self-serving, distributive justice is characterized by more ambiguous information on one's personal outcome (i.e. *The decision resulted in an unfair outcome for me*), as opposed to less ambiguous information that concerns the general process (i.e. *The decision-making process was inconsistent across individuals*). Thus, when receiving both procedural and distributive information indirectly, distributive information should be seen as more self-serving than procedural information and should have less influence on fairness evaluations. Based on the ambiguity and motivations associated with distributive fairness information, it is predicted that:

> *Hypothesis 2:* Procedural fairness information will be more strongly correlated with fairness evaluations than distributive fairness information.

Explanations

While negative indirect information about a supervisor should lead to negative fairness evaluations of that supervisor, negative indirect information may have less of an effect after the information has been adequately justified with an explanation. An explanation can come in several different forms (Greenberg, 1990), such as providing an excuse for the negative indirect information (i.e., that person is lying because they do not like me), a justification for the information (i.e., I was having a bad day that morning when I acted unfairly), or an apology for the information (i.e., I am sorry I acted that way previously). Explanations have been shown to ameliorate the negative effects of unfair outcomes and procedures (Folger & Skarlicki, 1999) and may change the effectiveness of a negative fairness heuristic. Explanations are used often to rationalize certain potentially negative incidents, particularly in a workplace setting (Colquitt & Chertkoff, 2002; Greenberg, 1990).

The social accounts framework stresses the importance of explanations in influencing an individual's reaction to a certain treatment, or outcome (Folger & Cropanzano, 1998). Several studies suggest, in particular, that providing explanations for outcomes leads individuals to view the process leading to that decision as more fair, as compared to decisions unaccompanied by explanations (Bies & Shapiro, 1987; Conlon & Murray, 1996; Folger, Rosenfield, & Robinson, 1983; Schaubroeck, May, & Brown, 1994). These results were also supported in a recent meta-analysis using 54 independent samples (Shaw, Wild, & Colquitt, 2003), which found an overall main effect of explanation provision on both procedural and distributive fairness evaluations (r = .28, r = .21; respectively).

In terms of forming fairness heuristics, these results suggest that individuals change their frame of reference due to new information gathered from an explanation. Thus, providing an explanation should help mitigate a negative impression of a supervisor by providing rationale for the existence of negative indirect information, thereby lessening the impact of that indirect information. Thus, individuals who receive negative information concerning a supervisor should have a less negative impression after hearing new information that explains the negative information, as compared to individuals who do not receive any explanation. In line with this, I predict that:

> *Hypothesis 3:* Providing an explanation for negative indirect information will result in more positive subsequent fairness evaluations, as compared to providing no explanation for negative indirect information. (See Figure 1)

It is important to note here that although explanations are sometimes listed as a subcomponent of interactional justice (Greenberg, 1990), I do not see the manipulation of explanations in this study as a proxy for interactional justice information. Explanations as a subcomponent of interactional justice refers to information given about procedures and outcomes received by the individual. In this study, I am manipulating explanations as an ameliorative strategy to explain existing negative fairness information about *past* procedures and outcomes received by *other* individuals.

Moderating Variables

While indirect procedural and distributive fairness information should influence future evaluations, it is also important to examine situational and dispositional variables

(particularly those relevant to intragroup processes) which will strengthen or lessen these effects. The next section will look at two potential moderators: social value orientation and ingroup status of source.

Social Value Orientation

Social value orientation is a term from social psychology referring to an individual's stable preference for outcome distribution for oneself and others (Van den Bergh, Dewitte, & De Cremer, 2006; Messick & McClintock, 1968). Several conceptualizations exist for social value orientation, with most research in the area dividing individuals into three different orientations: individualistic (or pro-self), competitive, and pro-social (Van den Bergh et al., 2006). Pro-self individuals wish to maximize benefits for themselves, competitive individuals wish to maximize benefits for themselves *relative to others*, and pro-social individuals wish to maximize benefits for both self and others, with minimal difference between the two (ibid). For these two studies, it is proposed that pro-social orientation will change how an individual perceives and utilizes indirect information from peers.

Pro-socially oriented individuals are thought to have different value priorities and decision making processes than those who are less pro-socially oriented. For example, Garling (1999) found that pro-social individuals were more likely to have universalistic value priorities. Other research in this area shows high correlations between pro-social orientation and altruism, empathy, and social responsibility (Meglino & Korsgaard, 2004; Rushton, Chrisjohn, & Fekken, 1981; Schroeder, Penner, Dovidio, & Piliavin, 1995). It has also been theorized that individuals high in orientation towards others are less likely to act out of rational self-interest (Meglino and Korsgaard, 2004; 2006). In sum, pro-

social individuals tend to care about the outcomes of others more than pro-self and competitive individuals.

These findings suggest that information provided by others may be higher in salience and perceived as more trustworthy to individuals, depending on their social value orientation. Specifically, pro-socially oriented individuals should take into account the experiences of others more so than an individual who is not pro-socially oriented, as indirect fairness information should be more salient and trustworthy to these individuals. Thus, it is expected that:

> *Hypothesis 4:* Social value orientation will moderate the effect of indirect fairness information on subsequent fairness evaluations, such that the effect of indirect fairness information will be stronger when an individual is more pro-social.

Ingroup Status of Source

Similar to the proposed effects of social value orientation, ingroup status of the source giving the social cues may also influence the strength of indirect information. Past research showing the effects of the indirect information primarily used sources not in the peer group of the recipient, such as subordinates (Uggerslev & Sulsky, 2002) or computerized sources (Kulik & Ambrose, 1993). While there are studies (e.g. Skarlicki & Folger, 2005) which used peers as indirect sources, these studies have not taken into account the relationship between the information provider and the recipient. This warrants the examination of factors that may affect the influence of the source.

Individuals have a tendency to define themselves through group membership (Tajfel & Turner, 1986), whether through gender, race, occupation, or some other categorization label. Identifying oneself with a group can involve the merging of self with others in the group, thus seeing the group and its members as a part, or an example, of oneself (Tajfel & Turner, 1979; Tropp & Wright, 2001). Therefore, just as individuals are prone to view themselves as superior to others (Brown, 1986; Taylor & Lobel, 1989), they are also prone to view their ingroup as superior to others, resulting in ingroup favoritism or bias (Brewer, 1979; Mullen, Brown, & Smith, 1992; Roese & Olsen, 2007; Tajfel & Turner, 1979). It then follows that individuals will view ingroup members as less prone to biased judgment than outgroup members, just as they view themselves as being less biased than others (*bias blind spot;* Friedrich, 1996; Ehrlinger, Gilovich, & Ross, 2005). Therefore, the extent of an individual's ingroup identification with the source of the indirect information, which in this case is a coworker, should influence the extent to which the individual believes that indirect information. Thus, it is predicted that:

> *Hypothesis 5:* Ingroup status of the information source will moderate the effect of fairness information on subsequent fairness evaluations, such that fairness information will have a greater effect on fairness evaluations when the information source has greater perceived ingroup membership.

In order to test the preceding hypotheses, I conducted two experimental studies: one using a hypothetical scenario format, and the other using an actual task in an attempt to capture true elicited responses. The choice of two studies was based on several

methodological concerns. For this type of research, a true manipulation seems preferable to a hypothetical scenario study in terms of both construct validity and external validity. Using a *real* task, I can actually manipulate the behaviors, instead of asking participants to imagine the manipulation with a hypothetical scenario. Also, experiencing the manipulations should be more generalizable to workplace justice situations than imagining that they happened.

On the other hand, while I could manipulate ingroup status of source in non-hypothetical situation by matching confederates with participants based on a particular category, this would probably not be as strong of a manipulation, and many participants may not attend to these cues with a person unknown to them. With a hypothetical situation, I can add in many details about the indirect source that would cause the participant to perceive the source as an ingroup member, thus manipulating ingroup status of source in a more effective way.

Another problem with the experiment using an actual task involves the prospect of detectability, particularly with participants receiving social cues from confederates. Although Jones and Skarliki (2005) only report a small amount (five percent) of participants as having to drop out due to figuring out the experiment, they do not report any potential characteristic differences between those who believed in the social cues and those who were not deceived by them. Thus, I chose a dual approach in testing these hypotheses.

Study 1

Study 1 tested all hypotheses using a hypothetical work situation, resulting in a 2 (Procedural Information Valence) X 2 (Distributive Information Valence) study, with one

manipulated variable (Explanation Presence) nested within the negative procedural information condition. Social value orientation measures were both continuous variables. Perceived ingroup status of source was measured as a continuous variable (i.e. the extent to which one identifies with the indirect source), instead of as a dichotomous variable (i.e. ingroup member or non-ingroup member). Theoretically, a continuous measure is particularly useful for this variable. As people tend to belong to many social categories, ingroup membership identification becomes a more nuanced issue, where an individual may identify with another individual in some respects, but not in others.

Participants

One hundred and forty-eight participants (116 female, 30 male, 2 chose to not answer) were recruited from the university subject pool, receiving university credit for their participation. Participants from the pilot study were not eligible for this study.

Procedure

Participants received an informed consent explaining the purpose of the study and their rights as a participant (see Appendix A). After consent, participants were told by the experimenter that they would be reading a hypothetical situation in which they were an employee in the workplace (see Appendix B for full script). All participants were to imagine they were moving from their current workplace to a new branch of the same company, in a different city. Participants were told that one of their current coworkers gave them information about their new supervisor. This coworker is described as having several identifying labels in common with the participant, in order to elicit some varying level of identification. The information provided by the coworker (Terry) was either

positive or negative procedural information and either positive or negative distributive information (see Appendix B for all manipulations).

After receiving this information, participants were told that they met up with their new supervisor in order to receive their office assignment. Participants who received some type of negative information (just procedural, just distributive, or both negative) either received an explanation concerning the indirect information, or did not receive an explanation, at random. Then, all participants were presented with an ambiguous decision concerning their new office assignment. Participants were than prompted to evaluate this decision, as well as complete questions concerning their social value orientation, their level of identification with the indirect source, and some of their demographic characteristics. After completing these items, participants were fully debriefed (see Appendix C).

Measures

Pro-Social Orientation. Participants completed a set of nine decomposed games (see Appendix D for instructions and items). A decomposed game, in terms of *social value orientation,* requires participants to make value allocation choices, either points or money, between themselves and an anonymous second person (Van Lange et al, 1997). Earlier research (e.g. Liebrand, 1986) on *social value orientation* informed participants that the other person would also be making allocation choices, and that their joint choices would affect each other. The thought behind this was to maintain interdependence without confounding decisions too much with strategy (ibid). In attempts to completely take out strategy from the measurement, current methods involve only stating that there is another person who will be making the same types of decisions, but with no strategic link

between participant and other (Van Lange et al., 1997; Van den Bergh et al., 2006). The current version of the decomposed game has shown both internal consistency (Liebrand & van Run, 1985) and reliability over time (Eisenberger, Kuhlman, & Cotterell, 1992).

This decomposed game, also known as the *Triple Dominance Model of Social Values*, usually consists of nine allocation items, with three allocation choices for each item reflecting one of the three value orientations (*pro-social, individualist, competitive).* Then, participants are typically categorized into one of the three orientations if they answered at least six out of nine items in line with one of the orientation categories (see: Stouten, De Cremer, & Van Dijk, 2005; Van Lange & Kuhlman, 1994; Garling, 1999).

The categorization method becomes problematic in that it leaves out a number of participants who do not show a specific dominance of orientation category, and are thus unclassified. Studies have shown this type of excluded data reaching as high as twenty percent of the participant population (Van Lange et al., 1997). This could be solved by lowering the criteria for categorization to a five-out-of-nine rule; however, Van Lange (1999) showed that lowering the criteria still left a substantial amount of participants unidentified and excluded from analysis. Also, this method leaves out information on the strength of the individual's orientation, meaning that it does not discriminate between an individual who chooses the pro-social response in seven of the items from an individual who chooses the pro-social response in all nine of the items. Thus, pro-social orientation was measured in this study by the number of pro-social choices made by the individual. From this point forward, this measure will be referred to as the *sum of pro-social choices.*

I also chose to measure pro-social orientation in a second way, using a scale focusing only on pro-social orientation (See Appendix E). This pro-social orientation

scale was adapted from Rydell, Hagekull, and Bohlin (1997), who found the scale to be both internally consistent and reliable over time. This scale contains 16 items concerning one's orientation toward others (e.g. *Indicate how often you are generous with others*), with responses on a 5-point scale ranging from *never* to *often.*

While this scale has been validated in previous studies (e.g. Chen et al., 2002; Meyer, Mundy, Van Hecke, & Durocher, 2006; Rydell, Berlin, & Bohlin, 2003), the participants in these studies were all children, leading to significant changes in some of the items and potential for items to be less applicable to adult participants. Because this is a sample of adults, an exploratory factor analysis was used in order to assess the appropriateness of all of the items on this scale for use in a significantly older population. Thus, an exploratory factor analysis using principal axis factoring with varimax rotation yielded four factors with an eigenvalue greater than 1.00. However, there were no discernible content differences between these factors. There was one dominant factor, which explained more than three times the variance than the other three factors. Four of sixteen items loaded poorly on this first factor, and resulted in the highest alphas if deleted from the scale (above .83). Removing these items increased the reliability of the scale, as well as the amount of variance explained by the first factor by almost ten percent to 43.07 percent. Thus, a unidimensional scale of pro-social orientation was created with the twelve remaining items ($\alpha = .86$). From this point forward, this measure will be referred to as *pro-social scale.*

Fairness Evaluations. Participants answered items concerning the fairness of the decision in the scenario (i.e. Chris's decision on office space allocation). Distributive, procedural, and interactional fairness evaluation measures were adapted from Leventhal

(1976), Leventhal (1980), and Bies and Moag (1986), respectively. A full set of items and sources are available in Appendix F.

A confirmatory factor analysis (CFA) tested the fit of a three-factor structure (*procedural, distributive, interactional*) for these items and resulted in low internal reliabilities for each scale (below .65), a significant chi-square ($\chi^2 = (32, N = 141) = 94.12, p = .00$), and poor fit indices (CFI = .86, RMSEA = .12). It may have been that participants did not separate the constructs cognitively when forming fairness evaluations. While there is empirical evidence to support the unique effects of distributive, procedural, and interactional justice *manipulations* (e.g. Folger & Konovsky, 1989; Sweeney & McFarlin, 1993), when actually forming a fairness evaluations, individuals may take a more holistic approach in certain situations (Ambrose & Arnaud, 2005; Greenberg, 2001; Shapiro, 2001). An exploratory principal components analysis revealed three factors with initial eigenvalues greater than 1.00; however, a dominant *general fairness* factor emerged explaining 39.9 percent of the variance. Two items (*did Chris use rude language?; did the decision outcome give your less or more than you should have gotten?)* were then dropped from the scale as they loaded very highly (above .80) on one of the other two factors, had the lowest corrected item-total correlations (below .25) and both separately increased the alpha of the scale if deleted. One of the items in particular (*did Chris use rude language?*) had low variance of responses in both studies, indicating the item may have been too strongly worded for this particular context. Dropping these items increased the internal reliability of the scale. The final scale consisted of eight items assessing *general fairness evaluations* ($\alpha = .84$).

Ingroup status of source. Participants answered four items concerning the extent to which they identified with the indirect source, Terry. As there is no verified scale to date specifically measuring perceived ingroup status, this measure combined items adapted from Cadinu and Reggiori's (2002) measure of ingroup identification, as well as items adapted from two measures of perceived similarity (Fox, Ben-Nahum, & Yinon, 1989; Pulakos & Wexley, 1983). Items were adapted from these particular scales to capture two facets of perceived ingroup membership: the identification of the target as a member of the same group and the identification of the target as similar to oneself. A full set of these items appear in Appendix G. Participants answered these four items on a scale of 1 to 5 ranging from *strongly disagree* to *strongly agree.*

An exploratory factor analysis using varimax rotation yielded one dominant factor with an eigenvalue above 1.00, which explained approximately 58% of the variance. Thus, a unidimensional scale of perceived ingroup membership was created ($\alpha = .76$).

Demographics. Participants also answered items concerning their gender, race, and age. (See Appendix H)

Pilot Testing

Thirty-three participants were recruited from the psychology participant pool and volunteered to participate in pilot-testing for Study 1. Participants were split into four sessions consisting of smaller groups ($N = 7 - 10$) in order to test different manipulations of the experiments separately, using both scale and free response items. Two groups of participants rated the valence of the indirect information for both types of justice (*procedural, distributive*), in order to see if the positive and negative fairness information was indeed perceived as positive or negative. One group received the scenario to be used

in the actual experiment, with negative procedural fairness information and positive distributive fairness information manipulations, while the other group received the scenario with positive procedural fairness information and negative distributive fairness information manipulations. These two groups read the scenario and rated the valence of both procedural and distributive fairness information on a 7-point scale ranging from *very negative* to *very positive.* Both of these groups also indicated their feelings towards two city names that were used in the original scenario, answering one item (i.e., I*n general, how do you feel about* ____*?*) for both cities on a 7-point scale ranging from *very negatively* to *very positively.* Participants in one of these two groups were also asked to indicate the extent to which they identify with the source of fairness information in the scenario, in order to assess whether or not there is variability in identification responses, as is expected. Participants in this group answered one item (i.e. *How similar do you think you are to Terry, the one who gave you the information?*) on a 5-point scale ranging from *very dissimilar* to *very similar.* These participants also rated whether or not they were presented with an explanation.

Participants in the other two groups rated the favorability of the current decision made by the supervisor in this scenario, in order to assess whether or not the decision is actually ambiguous in terms of valence, as is expected. Participants answered one item (*How positively do you feel about Chris's decision?*) on a 7-point scale ranging from *very negatively* to *very positively.* Participants in one of these two groups received the explanation manipulation and filled out a manipulation check item to evaluate whether or not they noticed the presence of the explanation. These participants filled out one item

(i.e. *Did the experimenter try to justify or excuse any potentially negative information*) with three answer options of *yes, not sure,* and *no.*

Lastly all participants had the opportunity to voice any issues they had with the scenarios or any items in a free response format. These responses were used to further inform the study and improve the format and content of the scenario.

Overall, results indicated that the manipulations in Study 1 were perceived as intended. Most participants who received the positive information manipulations for both procedural and distributive fairness information rated these manipulations on the positive (higher) end of the one-to-seven scale (M = 6.67, M = 6.2; respectively), and most participants who received the negative information manipulations for both procedural and distributive fairness information rated these manipulations on the negative (lower) end of the scale (M = 1.64, M = 2.33; respectively). The median response for negative manipulations was *negative* and the median response for positive manipulations was *very positive*. This suggests that these information manipulations are effective for the purposes of this study.

The identification item for the information source indicated a good amount of variability (sd = .87), as was expected. Responses to the identification item on a one-to-five scale ranged from slightly dissimilar to slightly similar, with equal dispersion of responses (M = 3.00). This suggests the information given about the information sources elicits a sufficient variety of identification responses, and is thus effective for the purposes of this experiment.

Participants rating the current decision on a one-to-seven scale made by the supervisor in the scenario responded neither extremely negatively nor positively (M =

3.86), with a good amount of variability (sd = 1.17). The median of responses was between *fairly negatively* and *neither negatively nor positively.* Overall, the variability of responses and lack of extreme responses points to an effectively ambiguous manipulation. Thus, no changes were made to wording of this decision.

Other manipulations in this scenario were not effective in pilot testing and suggested certain changes to be made in the original scenario. Participants showed a clear preference for one city (M = 5.89) over the other (M = 4.37), which led to the removal of city names from the scenario. Also, almost half of participants who received an explanation for indirect information answered that they did not receive an explanation. This led to additional sentences and stronger wording for the explanation manipulation in order to increase the visibility and effectiveness of the explanation.

Study 1 Results

Table 1 shows the means, standard deviations, and correlations of all variables and Table 2 shows the means for the dependent variable (fairness evaluations) by condition. To test Hypothesis 1, a regression was conducted with fairness evaluations as the dependent variable and procedural and distributive fairness information valence as the independent variables (See Table 3). This regression controlled for participant gender, as there is some evidence of gender effects on reactions to justice (Bernerth, 2005; Sweeney & McFarlin, 1997). While there is also some evidence of racial differences concerning fairness evaluations, these studies were confined to race-related fairness evaluations, such as the evaluation of affirmative action policies (Parker, Baltes, & Christiansen, 1997) or racial inequity (Foley, Kidder, & Powell, 2002). As the procedure in this study did not

Table 1

Correlations, Means, and Standard Deviations for Study 1

	M	SD	1	2	3	4	5	6	7	8
1. Procedural Information	.43	.50								
2. Distributive Information	.43	.50	-.16							
3. Explanation Presence[†]	.50	.50	-	-						
4. Pro-Social Scale	3.95	.46	.06	-.04	.01	(.86)				
5. Sum of Pro-Social Choices	3.80	3.78	.06	-.04	-.01	.25**				
6. Ingroup Status of Source	3.17	.62	.15	.00	-.13	.02	.04	(.76)		
7. Fairness Evaluations	3.51	.70	.07	-.02	.25**	-.07	.00	-.03	(.84)	
8. Gender	.21	.41	.01	.17*	.06	-.18*	.05	.05	-.03	
9. Age	19.27	1.41	.05	-.11	.00	-.07	.05	-.04	-.11	-.05

Note: Alphas on the diagonal. Procedural and Distributive Information coded as negative = 0, positive = 1. Explanation Presence (y/n) coded as no = 0, yes = 1. Gender coded as female = 0, male = 1.

*p < .05, **p<.01

[†]N for this variable only = 123, Average N for other variables = 147

concern an issue related to race or ethnicity (and no research, to my knowledge, suggests a link between age and fairness evaluations), the regressions only controlled for gender.

Table 2

Means and Standard Deviations of Fairness Evaluations by Condition

				Fairness Evaluations		
Condition	Procedural Info.	Distributive Info.	Explanation	N	M	SD
1	Positive	Positive		22	3.53	.61
2	Positive	Negative	Present	21	3.65	.78
3	Positive	Negative	Not Present	21	3.55	.64
4	Negative	Positive	Present	21	3.81	.53
5	Negative	Positive	Not Present	21	3.17	.81
6	Negative	Negative	Present	21	3.61	.66
7	Negative	Negative	Not Present	21	3.30	.71

Results revealed that procedural fairness information ($b = .10, p = .43, ns$) and distributive fairness information ($b = .00, p = .99, ns$) did not significantly affect fairness evaluations. Thus, Hypothesis 1 was unsupported.

Table 3

Regression of Information Valence on Fairness Evaluations, (N = 145)

	B	SEB	β	ΔR^2
Step 1				
Gender	-.05	.15	-.03	.00
Step 2				
Procedural Information	.10	.12	.07	.00
Distributive Information	.00	.12	.00	

To test Hypothesis 2, the absolute correlation between procedural fairness information valence and fairness evaluations was compared to the absolute correlation

between distributive fairness information valence and fairness evaluations. Using a Fisher's r to z transformation to compare absolute correlations, results revealed that procedural fairness information ([r] = .07), did not significantly correlate more strongly with fairness evaluations, as compared to the correlation between distributive fairness information ([r] = .02) and fairness evaluations. Thus, Hypothesis 2 was not supported.

For Hypothesis 3, which predicted that explanations of negative information would lead to more positive fairness evaluations, a regression was conducted to test the effect of explanation presence on fairness evaluations, controlling for gender (See Table 4). For this regression, only those individuals who received negative information (procedural, distributive, or both) were included in analyses. Explanations had a positive and significant effect on fairness evaluations (b = .38, p = .00). Thus, Hypothesis 3 was supported.

Table 4

Regression of Explanation Presence on Fairness Evaluations (N = 123)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	-.10	.16	-.06	.00
Step 2				
Explanation Presence	.38**	.13	.26	.07*

To test Hypothesis 4, two separate hierarchical regressions were conducted – one examining the effect of procedural fairness information valence and pro-social orientation (using the sum of pro-social choices and the pro-social scale) on fairness evaluations and one examining the effect of distributive fairness information valence and pro-social orientation on fairness evaluations, all controlling for gender (see Table 5 and Table 6).

All variables were centered around their means. There were no signification interactions of fairness information and pro-social orientation for fairness evaluations, failing to support Hypothesis 4.

Table 5

Regression of Procedural Valence X Pro-Social Orientation Interaction on Fairness Evaluations, (N = 144)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	-.05	.15	-.03	.00
Step 2				
Procedural Valence	.10	.12	.07	.01
Step 3				
Pro-Social Scale	-.13	.08	-.18	.01
Sum of Pro-Social Choices	.08	.08	.12	
Step 4				
Proc. Valence X Pro-Social Scale	.20	.12	.19	.03
Proc. Valence X Sum of Pro-Social Choices	-.19	.13	-.18	

Table 6

Regression of Distributive Valence X Pro-Social Orientation Interaction on Fairness Evaluations, (N = 145)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	-.06	.16	-.03	.00
Step 2				
Distributive Valence	-.01	.12	-.01	.00
Step 3				
Pro-Social Scale	.01	.08	.01	.01
Sum of Pro-Social Choices	-.05	.08	-.07	
Step 4				
Proc. Valence X Pro-Social Scale	-.16	.13	-.14	.02
Proc. Valence X Sum of Pro-Social Choices	.14	.12	.13	

Lastly, to test Hypothesis 5, two separate hierarchical regressions were conducted to examine the predicted fairness information – ingroup status of source interaction, controlling for gender (see Table 7 and Table 8). All variables were centered around their means. There were no significant interactions of fairness information (procedural, distributive) and ingroup status of source for fairness evaluations, failing to support Hypothesis 5.

Table 7

Regression of Procedural Valence X Ingroup Status of Source Interaction on Fairness Evaluations (N = 145)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	-.04	.15	-.03	.00
Step 2				
Procedural Valence	.10	.12	.07	.00
Step 3				
Ingroup Status of Source	-.03	.08	-.05	.00
Step 4				
Proc. Valence X Ingroup Status of Source	.00	.12	.00	.00

Exploratory Analyses

Exploratory analyses were conducted to further examine those participants who received *both* positive and negative information (i.e. positive procedural information with negative distributive information, or vice versa). A regression with condition (positive procedural with negative distributive versus negative procedural with positive distributive) as the independent variable and fairness evaluations as the dependent variable was not significant. However, a separate regression revealed that the interaction between condition and explanation presence approached significance (b = -.53, p = .09).

Mean comparison tests of the separate conditions (see Table 2 for means by condition) revealed that participants who received negative *procedural* information with positive *distributive* information had significantly more positive fairness evaluations if an explanation was present (t (34) = 3.03, p = .00). Fairness evaluations were not significantly different based on explanation presence for individuals who received negative *distributive* information with positive *procedural* information (t (38) = .45, p = .67, *ns*).

Table 8

Regression of Distributive Valence X Ingroup Status of Source Interaction on Fairness Evaluations, (N = 145)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	-.04	.15	-.02	.00
Step 2				
Distributive Valence	-.01	.12	-.01	.00
Step 3				
Ingroup Status of Source	-.03	.08	-.04	.00
Step 4				
Proc. Valence X Ingroup Status of Source	.01	.12	.01	.00

Study 1 Summary

Of the five hypotheses, only Hypothesis 3 received support. The effect of explanation presence on fairness evaluations is well-established in the literature (Bies & Shapiro, 1987; Conlon & Murray, 1996; Folger, Rosenfield, & Robinson, 1983; Schaubroeck, May, & Brown, 1994), and the results from this study replicate these findings in the area of indirect fairness information. The lack of support for the other hypotheses could indicate some limitations of a scenario-based study, particularly given

the lack of support for the effect of indirect information valence on fairness evaluations (Hypothesis 1), which goes against earlier empirical findings (Jones & Skarlicki, 2005; Van den bos et al., 2005). Participants may not have been able to effectively imagine themselves in the hypothetical situation. The purpose of Study 2 was to replicate several of the Study 1 hypotheses in a laboratory study, in order to increase psychological fidelity and generalizability.

Study 2

Study 2 tested the hypotheses using a real evaluation situation, instead of a hypothetical simulation. This study should increase the generalizability of results through the evaluation of a real situation. Study 2 differs from Study 1 in that it focuses on one type of fairness information (procedural fairness) and does not manipulate ingroup status of source, thus excluding Hypothesis 2 and Hypothesis 5.

Participants

Sixty-seven participants (49 female, 18 male) were recruited from the university subject pool, receiving university credit for their participation. Participants from the pilot study were not eligible for this study.

Procedure

Participants received an informed consent explaining the purpose of the study and their rights as a participant (see Appendix I). After consent, participants were told by the experimenter (a graduate student) that they would be rating a test written by the graduate student for use by the graduate student's department to evaluate her test-writing abilities (see Appendix J for full instruction script and all manipulations). They were told that their evaluations would be anonymous to the graduate student. Participants were then told

that they would receive a "randomly selected" example of an evaluation from a student who evaluated a test written by this graduate student last semester, in order to give them some guidance for their evaluations. Participants were told that the graduate student had not seen these evaluations and that another graduate student had put together these packets and put a colored cover sheet over the front of all experiment packets to cover the evaluation. All participants received neutral information as to test-writing ability, followed by either positive or negative fairness information about the experimenter. Both sets of instructions are available in Appendix J.

All participants receiving negative fairness information either received an explanation concerning the negative information, or did not receive an explanation. Then, participants received test items supposedly created by the experimenter (available in Appendix J) and were asked to evaluate these test items. Test items were adapted from materials from an introductory psychology course. Upon completing evaluations of each test item, participants rated the fairness of the graduate student's test and the graduate student in general. The indirect fairness information focused on procedural information; however, when making fairness evaluations, all three types of justice tend to be correlated, suggesting that procedural information may also be seen as information on distributive and interactive fairness (Colquitt et al., 2001). Thus, participants evaluated the general fairness of the items. Then, participants completed questions concerning pro-social orientation and demographic characteristics. Participants were then fully debriefed (Appendix K).

Measures

Fairness Evaluations. Participants answered items concerning distributive, procedural, and interactional fairness evaluations. Study 2 used the same distributive, procedural, and interactional fairness evaluation measures as used in Study 1, with small differences in language in order to cater these items to the specific evaluation task at hand (i.e. evaluating test items and test-maker). A full set of items and sources are available in Appendix L. Due to the small number of participants for this study, the items were combined similarly to Study 1, with eight items assessing *general fairness evaluations* (α = .79).

Pro-Social Orientation. Participants completed the same two measures of social value orientation as described in Study 1. The *sum of pro-social choices* was measured as a sum of the number of pro-social responses to the set of nine decomposed games. The *pro-social scale* was measured using the same scale as Study 1, consisting of twelve items (α = .85).

Demographics. As in Study 1, participants then answered questions about their gender, race, and age.

Pilot Testing

The participants from Study 1 pilot testing (N = 33) also gave responses to the different manipulations of Study 2, using both scale and free response items. Two small groups of participants (N = 7-10) rated the valence of the indirect information for both information sources, as to ensure the effectiveness of the positive/negative information manipulations. One group received the positive fairness information manipulation and one group received the negative fairness information manipulation. The experimenter read the script that would be given to Study 2 participants and read the fairness

information from an indirect source (another student). Similar to Study 1 pilot testing, these two groups rated the valence of the given fairness information on a 7-point scale ranging from *very negative* to *very positive.* Participants in one of these groups received the explanation manipulation, and were asked whether or not an explanation was present, responding in one of three ways: *yes, not sure,* or *no.*

Two separate groups of participants rated the clarity of a generated set of test items, used as the current behaviors to be evaluated in Study 2. Items were written with the intention of being ambiguous in terms of fairness, with no real information given on consistency or equity. Pilot testing was utilized to ensure that the test questions did not prime the participants toward negative fairness responses by being overly confusing or complex. Participants answered one item for each question regarding the clarity of that question (i.e. *How clear and understandable is this item?*) on a 5-point scale ranging from *not at all clear or understandable* to *extremely clear and understandable*).

As in pilot testing for Study 1, participants also had the opportunity to voice any issues with items or clarity in a free response format. These responses were used to further inform the study and improve the format and content of the scenario.

Participant responses to the information manipulations suggest that the fairness information given in Study 2 effectively manipulated positive and negative information to the participant. As in pilot testing for Study 1, most participants who received the positive information manipulations for fairness information rated these manipulations on the positive end of a one-to-seven scale ($M = 5.5$) and most participants who received the negative information manipulations for fairness information rated these manipulations on the negative end of the scale ($M = 2.78$). The median response for negative manipulations

was *fairly negative* and the median response for positive manipulations was between *fairly positive* and *positive*. This suggests that these information manipulations were effective for the purposes of this study.

More participants who received an explanation for negative information indicated they received an explanation than indicated they did not. However, several participants did not indicate receiving an explanation, leading to changes in the wording of the explanation to make the manipulation clearer.

Participants rated the test items as mostly clear and understandable on a one-to-five scale ($M = 4.21$), with a median response of *extremely clear and understandable.* There was some variability ($sd = .96$) in responses, with a small number of participants rating some items as *not clear or understandable.* Overall, however, the majority of the items were seen as clear and should not prime the participant toward negative fairness evaluations.

Study 2 Results

Means, standard deviations, and correlations are provided in Table 9 and means and standard deviations of the dependent variable (fairness evaluations) by condition are provided in Table 10. To test Hypothesis 1, a regression was conducted with fairness evaluations as the dependent variable and fairness information as the independent variable (see Table 11), controlling for participant gender. Results revealed that fairness information had no significant effects on fairness evaluations ($b = .13$, $p = .33$, *ns*). Thus, Hypothesis 1 was not supported.

To test Hypothesis 3, which predicted that explanations of negative information would lead to more positive fairness evaluations, a regression was conducted to test the

effect of explanation presence on fairness evaluations, controlling for gender (see Table 12). Explanation presence did not significantly affect fairness evaluations ($b = .04$, $p = .78$, *ns*) failing to support Hypothesis 3.

Table 9

Correlations, Means, and Standard Deviations for Study 2

	M	SD	1	2	3	4	5	6
1. Procedural Information	.31	.47						
2. Explanation Presence[†]	.50	.51	-					
3. Pro-Social Scale	4.03	.43	.08	.21	(.86)			
4. Sum of Pro-Social Choices	4.08	3.80	.03	-.01	.12			
5. Fairness Evaluations	4.32	.51	.11	.08	.11	.09	(.79)	
6. Gender	.27	.45	-.19	.14	-.21	.22	.04	
7. Age	19.36	1.87	.30*	.10	.05	.16	.14	-.08

Note: Alphas on the diagonal. Procedural Valence coded as negative = 0, positive = 1. Explanation Presence (y/n) coded as no = 0, yes = 1. Gender coded as female = 0, male = 1.

*p < .05, **p<.01

[†] N for this variable only = 46, Average N for other variables = 66

Table 10

Means and Standard Deviations of Fairness Evaluations by Condition

			Fairness Evaluations		
Condition	Procedural Information	Explanation	N	M	SD
1	Positive		21	4.40	.64
2	Negative	Present	23	4.31	.40
3	Negative	Not Present	23	4.24	.48

Table 11

Regression of Information Valence on Fairness Evaluations, (N = 66)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	.07	.14	.06	.00
Step 2				
Procedural Information	.13	.14	.12	.02

Table 12

Regression of Explanation Presence on Fairness Evaluations, (N = 45)

	B	SEB	*β*	ΔR^2
Step 1				
Gender	.23	.14	.24	.06
Step 2				
Explanation Presence	.04	.13	.04	.00

Table 13

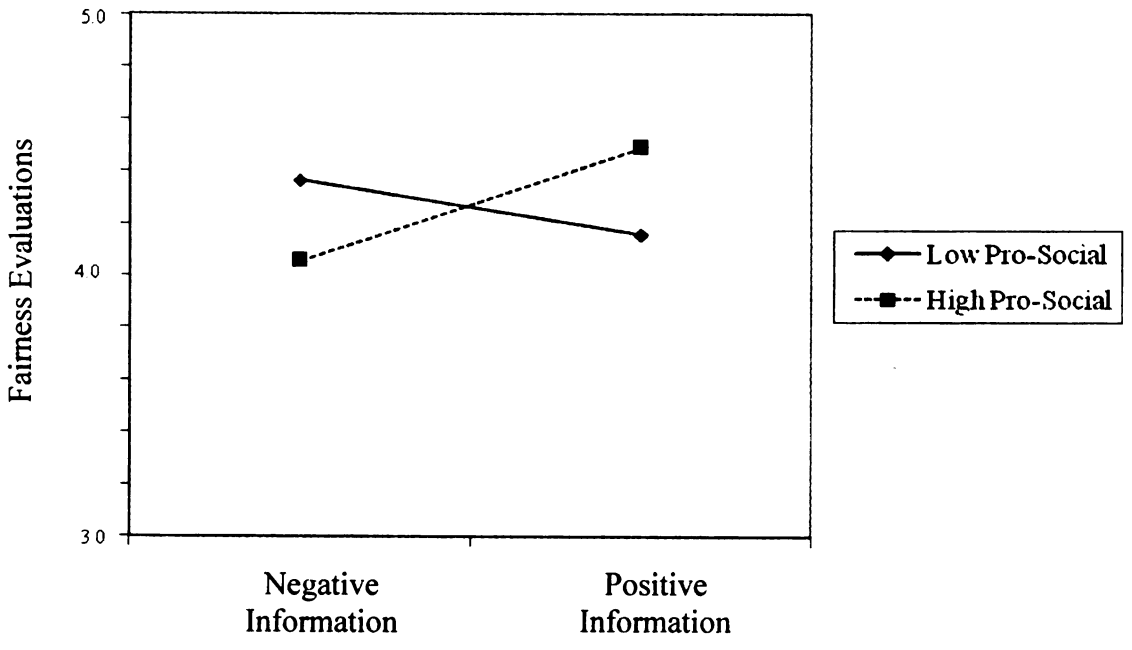
Regression of Information Valence X Pro-Social Orientation Interaction on Fairness Evaluations, (N = 63)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	.14	.16	.12	.00
Step 2				
Information Valence	.12	.14	.11	.01
Step 3				
Pro-Social Scale	-.10	.09	-.20	.01
Sum of Pro-Social Choices	.01	.08	.01	
Step 4				
Information Valence X Pro-Social Scale	.34 *	.13	.44	.11 *
Information Valence X Sum of Pro-Social Choices	.07	.15	.07	

Lastly, to test Hypothesis 4, a regression examined the interaction between fairness information and pro-social orientation (using the sum of pro-social choices and the pro-social scale) on fairness evaluations, controlling for gender (See Table 13). Results revealed a significant interaction between fairness information and the pro-social scale on fairness evaluations ($b = .34, p = .01$). The nature of the interaction is depicted in Figure 2 and suggests that fairness information has a stronger effect on fairness evaluations for those individuals with a higher pro-social orientation, as opposed to those individuals with a lower pro-social orientation. The interaction also reveals a potential difference in slope direction, warranting further analysis to better interpret the interaction.

Figure 2

Information X Pro-Social Interaction on Fairness Evaluations



Analyses of simple slopes suggests a significant difference in the strength of the effect, but not the direction. Specifically, the simple slope for fairness information for

low pro-social individuals (one standard deviation below the mean) was not significant (b = -.23, *ns*), while the slope for fairness information for high pro-social individuals (one standard deviation above the mean) *was* significant (b = .46, p = .02). Thus, the overall results support Hypothesis 4.

Exploratory Analyses

Exploratory analyses were conducted to account for the lack of a significant relationship between explanation provision and fairness evaluations, as this relationship *was* found to be significant in Study 1. I wanted to account for the possibility that the explanations provided were not seen as adequate or sincere, as these are two variables that have been shown to affect the influence of explanations (Shaw, Wild, & Colquitt, 2003). For those individuals in the explanation provision condition, two items were given assessing perceived explanation adequacy (i.e. *was the explanation given by this experimenter for past behaviors adequate?)* and perceived explanation sincerity (i.e. *did this experimenter seem sincere when communicating his/her explanation about past behaviors?*) on a one-to-five scale ranging from *to no extent at all* to *to a great extent.* The means of explanation adequacy (M =3.13 , SD = 1.20) and explanation sincerity (M =3.56 , SD = .96) were above the midpoint of the scale with fairly high variability, indicating that while the average perception was leaning more towards adequate and sincere, not all participants perceived the explanations this way. For the 23 participants who received an explanation, two regressions (both controlling for participant gender with variables centered around their means) found that higher perceived explanation adequacy (b = .24, p = .01) and explanation sincerity (b = .20, p = .02) were significantly related to higher fairness evaluations (see Table 14).

Table 14

Regressions of Explanation Adequacy and Explanation Sincerity on Fairness Evaluations, ($N = 23$)

	B	SEB	*B*	ΔR^2
Step 1				
Gender	-.02	.16	-.02	.05
Step 2				
Explanation Adequacy	.24*	.08	.59	.29*
Step 1				
Gender	.09	.16	.12	.05
Step 2				
Explanation Sincerity	.20*	.08	.51	.25*

General Discussion

The main purpose of these two studies was to examine the effect of indirect fairness information (procedural and distributive) on fairness evaluations, focusing on variables that may increase the likelihood of that information's influence (pro-social orientation, ingroup status of source). I also wanted to examine the differential effects of procedural versus distributive information and the main effect of providing an explanation for negative fairness information. In both studies, I used a situation in which an individual was entering a new environment and asked to evaluate an authority figure (supervisor in Study 1, experimenter in Study 2) after receiving fairness information about that person. It is important to note that this type of scenario does not focus on the issue of fairness evaluations over time, with new (and possibly contradictory) information being acquired and integrated into one's fairness heuristic. Although the development of fairness heuristics is an important issue, these studies focus on the formation of these

heuristics, as they form the basis for future impressions through their primary influence on individuals (Van den bos, Lind, & Wilke, 2001).

Results for all hypotheses are summarized in Table 15. In the following section, I will discuss the results of these studies, focusing on possible explanations and implications for both supported and unsupported hypotheses. I will also discuss potential limitations of this study and proposed directions for future research.

Hypothesis 1 and 2

In both Study 1 and Study 2, fairness information did not have a significant effect on fairness evaluations, contrary to Hypothesis 1 and Hypothesis 2. These findings are not in line with related research on the effects of fairness information on evaluations (Lind, 2001; Van den bos et al, 2005) and more specifically-related research on the effects of indirect fairness information on fairness evaluations (Jones and Skarlicki, 2005). Methodological issues could explain the discrepancy between the findings in this study as compared to previous studies. It is possible that the manipulations for positive and negative information were not strong enough, the situations evaluated were not sufficiently ambiguous, or that the experiments lacked sufficient psychological fidelity. In order to assess the likelihood of this possibility, we can look to the pilot study results.

The indirect information provided in both studies was designed to avoid alerting the participants as to the purpose of the studies and thus may not have included enough indirect information in both positive and negative conditions to have an influence on individuals. Social cues manipulations in the social information processing literature (e.g. White, Mitchell, & Bell, 1977; Vance & Biddle, 1985), for example, tend to repeat social information several times as to ensure it has been received by the participant.

Table 15

Summary of Results for Hypotheses

Hypothesis	*Results*	
	Study 1	Study 2
H1: Indirect information about a supervisor's fairness will affect future evaluations of that individual's fairness, such that positive fairness information will lead to more positive evaluations of fairness as compared to negative fairness information.	Not Supported	Not Supported
H2: Procedural fairness information will be more strongly correlated with fairness evaluations than distributive fairness information.	Not Supported*	
H3: Providing an explanation for negative indirect information will result in more positive subsequent fairness evaluations, as compared to providing no explanation for negative indirect information.	Supported	Not Supported
H4: Social value orientation will moderate the effect of indirect fairness information on subsequent fairness evaluations, such that the effect of indirect fairness information will be stronger when an individual is more pro-social.	Not Supported	Supported
H5: Ingroup status of the information source will moderate the effect of fairness information on subsequent fairness evaluations, such that fairness information will have a greater effect on fairness evaluations when the information source has greater perceived in group membership.	Not Supported*	

* Hypothesis 3 and Hypothesis 5 were not tested in Study 2

However, the pilot studies for both Study 1 and Study 2 suggest that the strength of the information valence manipulations was not a major issue, as participants tended to perceive the information manipulations as intended.

Pilot studies also suggested that the evaluated situation in Study 1 (office assignment) was sufficiently ambiguous, as there were no extreme ratings of the decision on either the positive or negative end. For Study 2, however, I did not explicitly pilot-test

item fairness, but rather took preventative methodological precautions by providing no procedural or distributive information on the creation, use, or grading scale of test items. I did, however, pilot test for item clarity, of which most participants rated the items positively. The intention was to establish items as clear and understandable to thwart against negative priming. However the high mean and low variability ($M = 4.32$, $SD = .51$) of fairness evaluations in Study 2 suggest that extra precautions may have been needed to create an ambiguous situation. Specifically, not controlling for incoming test-taking beliefs could have affected results, as research has shown that test-taking beliefs influence pre-test-taking reactions (e.g. Chan, Schmitt, Sacco, & DeShon, 1998).

This ceiling effect in fairness evaluations for Study 2 also highlights an important issue with the concept of ambiguity. Fairness is often seen as a social norm (Blau, 1964), meaning that a lack of information on fairness could lead to individuals assuming the situation and/or person is fair. Justice evaluations have been linked to the violation or satisfaction of justice rules (Gilliland, 1993), implying there may be no middle ground – a situation is either fair or unfair. Specifically with regard to the test items, there may have been no way to establish ambiguity in terms of fairness, as any deviation from complete and utter fairness would have been seen as unfair. Future research should explore what an ambiguously fair situation entails, and how we can effectively establish such situations.

While Study 1 did not have as low of variability in the dependent variable as did Study 2, fairness evaluations means were above the midpoint of the scale for both studies in all conditions, including the negative information conditions with no explanation present. This could indicate an issue with the use of fairness evaluations as the dependent variable. Participants in both studies had no future expectations of interacting with the

supervisor they were evaluating, and thus may not have been motivated to form fairness evaluations about him/her. Even in the non-hypothetical context of Study 2, participants would not have to interact with the experimenter after the session was completed. However, fairness information helps individuals assess self-relevant outcomes, such as likelihood of exploitation and/or exclusion (Lind, 2001). Even if exclusion was not a relevant motivation, due to the unlikelihood of future interactions, participants could still feel motivated to avoid exploitation in both scenarios, particularly in the non-hypothetical context of Study 2. Thus the problem may be operational, not conceptual. While ambiguity was the goal of the fairness information, the fairness evaluation items may have elicited random answers due to their high specificity. A more useful measure of fairness evaluations in these types of situations may be a global measure of fairness that does not address specific fairness components.

Psychological fidelity could be a concern in Study 1, as a hypothetical scenario may not be "real" enough to participants to elicit valid responses. However, the explanation presence effect in Study 1 suggests that participants were actively engaged in the study and that this is not simply a case of low psychological fidelity. For Study 2, there was no implication from participants (both in the study and in the pilot studies) that the experiment premise seemed unbelievable or that they were aware of the purpose of the study. However, I cannot completely rule out the possibility of low psychological fidelity as a potential limitation, as believability of premise was not explicitly surveyed.

Another potential explanation for the lack of support for Hypothesis 1 and 2 relates to the general proposition of this study that certain situational and individual characteristics may lend themselves better to indirect information influence than others.

Social information processing theory contends that information gathered in the social context affects job-related attitudes, but these attitudes have been mostly restricted to task-related variables as opposed to attitudes towards people (Zalesny & Ford, 1990). It may be that incoming attitudes towards tasks are inherently different from incoming attitudes towards people, or that individuals are less inclined to rely on the experiences of others when evaluating a person with whom they can have a direct interaction and form their own opinions. However, the Jones and Skarlicki (2005) study does suggest that fairness information from others can be influential, warranting an examination of differences between that study and the current two studies.

In the Jones and Skarlicki (2005) study, in which they found main effects for fairness information, participants overheard two individuals speaking about an experimenter, meaning they felt they were not the intended recipients of the information. In both Study 1 and Study 2, the participants were the intended recipients of the fairness information. Research in the area of persuasion has found that when a message is perceived as manipulative, that message is seen as less credible and is less persuasive (Mackenzie & Lutz, 1989, Sagarin, Cialdini, Rice, & Serna, 2002). It is possible that the indirect information in the Jones and Skarlicki study was seen as less manipulative than the indirect information in Study 1 and Study 2, as the individual probably did not feel like someone was trying to get them to think a certain way.

Another difference between these studies and the Jones and Skarlicki study was the format of the information. The fairness information in Study 1 and Study 2 was in written form, as opposed to the oral format of the Jones and Skarlicki study. Consumer research suggests that information in a written format is less vivid than information in a

verbal or conversational format (Herr, Kardes, & Kim, 1991) and tends to be less persuasive in terms of evaluations of the brand or product (Lee, Lee, & Schumann, 2002). While these studies compared information that differed not only in mode but also in content (i.e. verbal format was more informal and/or allowed for interaction between the information source and recipient), the use of a written format may have influenced the results in this study.

As there is very little research on the influence of indirect fairness information, we cannot just assume that this information always has a main effect on fairness evaluations. It may be that the two situations in Study 1 and Study 2 contained unmeasured contextual properties that affected the influence of indirect information. These properties could be in line with social information processing theory, meaning that the issue was the credibility, relevance, and salience of the information. These properties could be affected by a variety of factors, including the mode of communication and whether or not the individual is an active recipient of information, as opposed to a third-party observer. Future research in the area of indirect information should explore these contextual properties and others in order to gain insight as to the typical effects of indirect fairness information.

Hypothesis 3

Explanation presence positively affected fairness evaluations in Study 1. This finding supported Hypothesis 3 and mirrors the literature on explanations which shows a positive effect of explanation presence on fairness evaluations (Bies & Shapiro, 1987; Conlon & Murray, 1996; Folger, Rosenfield, & Robinson, 1983; Schaubroeck, May, & Brown, 1994). Explanation presence did not, however, affect fairness evaluations in

Study 2. One could argue that the fairness evaluations mean was too high in Study 2 to allow for variability in that variable; however, explanation adequacy and sincerity both had main positive effects on fairness evaluations. This finding supports the explanation literature that stresses the key roles explanation sincerity and explanation adequacy have in predicting explanation outcomes (see Shaw, Wild, & Colquitt, 2003).

The lack of explanation effect in Study 2 could be attributed to the type of explanation itself. There are several types of explanations (Bies, 1987), and they can have differential effects depending on the situation. Specifically, a *causal* explanation deflects blame by attributing a negative event to external sources, while an *ideological* explanation explains a negative event by stressing the value of the decision. The explanations used in these two studies contained both ideological and causal elements, although one could argue the explanations were more towards the ideological side. For example, in the explanation in Study 2 (See Appendix J), the supervisor mentioned the value of his past actions (i.e. *I felt this was the right thing to do...*) and also deflected blame by stressing the external reasons for making certain unfavorable decisions (i.e. ... *to appropriately evaluate my test-writing abilities and improve my teaching skills*).

Horvath and colleagues (2000) found that an explanation that attributed a difficult selection test to external forces (a *causal* explanation) resulted in more positive evaluations of face validity than an explanation that stressed the desirable values of the test (an *ideological* explanation). A meta-analysis of explanations (Shaw, Wild, & Colquitt, 2003) also found that excuses (similar to a *causal* explanation) tend to be more effective than justifications (similar to an *ideological* explanation). It is therefore possible that an explanation with more causal elements may have led to main effect for

explanations in Study 2; however, the explanation in Study 1 was similar in terms of combined causal and ideological elements and did significantly predict fairness evaluations.

Overall, the results of Study 1 and Study 2 do imply that explanations influence fairness evaluations, in terms of both explanation presence and explanation quality (adequacy and sincerity). These findings suggest that explanations for indirect information function similarly to explanations for direct information. Whether experienced directly or told indirectly, a negative event could be minimized, in terms of influence, through the use of explanations. This could have practical importance for managers, as explanations for past misdeeds could affect how they are viewed by their employees, even if those employees were not around when the negative experience occurred.

Future studies will help clarify the relationship between indirect information and the use of explanations. Specifically, future research on indirect fairness information should focus on explanation type, as well as other features of the explanations, which may moderate these effects. Future research should also focus on the effectiveness of explanations for different types of fairness information. Exploratory analyses in Study 1 on individuals who received mixed fairness information found some evidence that the effect of explanations is stronger for those who received negative procedural information with positive distributive information, as opposed to those who received positive procedural information with negative distributive information. While these results were not conclusive, they highlight the importance of exploring the effects of combining different types of information that have different valences.

Hypothesis 4

Hypothesis 4 received partial support, as individuals with high pro-social orientation were more likely to be influenced by fairness information in Study 2, but not in Study 1. Furthermore, two measures of pro-social orientation were used in these studies, and only one of the measures (the pro-social scale) resulted in an interaction in the predicted direction. Before discussing the potential explanations for these differential findings across studies, the difference between the two pro-social measures warrants discussion.

This study utilized two measures of pro-social orientation: the classic social value orientation decomposed game measure and a pro-social scale only previously-used on samples of young children. These two measures were significantly correlated in Study 1 (r = .25), but not in Study 2. The interaction of pro-social orientation and fairness information was not significant in Study 1. In Study 2, however, a significant interaction with fairness information was only found for the pro-social scale, not the decomposed game measure. The correlation in Study 1 (the larger sample of the two studies) suggests that the two measures may overlap in terms of their underlying constructs, but are clearly not measuring the same individual difference variable. Although the decomposed game measure has been used frequently in previous research, the pro-social scale contains a variety of items that get at the different aspects of what it means to *value others,* while the decomposed game measure infers to what extent an individual values others through allocation choices. It may be that the decomposed game measure is more useful in situations that are concerned with behavioral outcomes, such as cooperation (e.g. Garling, 1999), and less useful in situations concerned with perceptual outcomes, such as fairness

evaluations. This research adds to the social value orientation literature by suggesting limitations to the decomposed game measure. The pro-social scale may be a new direction for examining pro-social orientation, although further adaptation of the measure may be needed to make it more age-appropriate for adult samples.

The results for Study 2 support Hypothesis 4 and the idea that individuals with higher pro-social orientation are more likely than individuals with lower pro-social orientation to be influenced by indirect information. The lack of support in Study 1 may be attributable to the hypothetical context. The information source was not a "real" person, as was purported in Study 2. As this variable involves the valuing of others, the pro-social effect may only occur in contexts of higher psychological fidelity.

The results of Study 2 carry theoretical implications for this area of the literature, as they link the valuing of others to the vulnerability of being influenced by others. Although this connection seems intuitive, the valuing of others is usually examined in terms of how individuals *act* toward others (i.e. cooperation), and not in terms of how they *react* to others. From a practical standpoint, because indirect information may be misleading or completely inaccurate, managers should keep in mind that some employees may be particularly influenced by social information when first entering a new environment. Future research should explore other socially-relevant individual differences which may also relate to the influence of indirect information, such as belief in a just world, empathy, social dominance orientation, and propensity to trust.

Hypothesis 5

Hypothesis 5 was not supported, as Study 1 found no link between ingroup status of source and fairness evaluations. The most obvious explanation for this null effect is the

use of a hypothetical situation. Participants may have found it difficult to view a hypothetical individual in terms of ingroups or outgroups. Interestingly, pilot testing for Study 1 showed variability in the rating of perceived similarity of the information source and Study 1 data shows a mid-range mean and a low, but not extremely low, standard deviation for perceived ingroup status of source ($M = 3.17$, $SD = .62$). Still, future studies should examine the effects of the relationship between the information giver and the information recipient, possibly providing different types of information, such as demographic similarity or shared values, to manipulate ingroup membership, as opposed to what was used to describe the information source in this study (college membership, hobbies, sport team preference, political leanings).

Gender Imbalance

One last potential limitation worth noting is the gender imbalance of the sample. Seventy-eight percent of participants in Study 1, and seventy-three percent of participants in Study 2, were female. Some of the research has suggested gender differences in fairness evaluations (Bernerth, 2005; Sweeney & McFarlin, 1997) which could have affected results. However, Cohen-Charash and Specter (2001) did not find meta-analytic support for the relationship between gender and fairness evaluations and concluded that, while there may be gender differences in fairness evaluations in certain specific situations, men and women "tend to perceive justice similarly" (p. 302). Also, gender did not significantly correlate with fairness evaluations in either study. In study 1, however, women were more pro-social than men and were less likely than men to be in the positive distributive information condition. Thus, in order to control for any confounding gender effects in all hypotheses, gender was controlled for in all regressions.

Conclusion

The goal of this study was to examine the effects of indirect fairness information on fairness evaluations, and examine under what circumstances these effects might be stronger or weaker. While many of the hypotheses were not supported, the findings from these studies move the literature forward in two important ways. First, the results of both studies question the assumption that fairness information and explanations will automatically influence fairness evaluations in all contexts, and suggest that certain *situations* may be more or less susceptible to both effects than others. Second, results show that not all individuals are affected by indirect information in the same way, and suggest that certain *individuals* may be more or less susceptible to these effects than others. This area of research contains many questions worth investigating, as we try to understand the ways in which individuals process and use fairness information given to them by others.

Appendix A

Informed Consent – Study 1

Consent to Participate in a Research Study

Study Title: New Workplace Scenario
Principal Investigators: Jennifer Wessel

The purpose of this study is to examine your reactions to a hypothetical workplace situation. You are being asked to participate in this study because we would like to increase our understanding of reactions to these types of situations. The experiment will take approximately 30 minutes of your time. In this study, you will be presented with a hypothetical workplace situation, and asked to respond to questions as if you are really in this situation. Anticipated risks associated with participation in this study are expected to be minimal. However, should you find any part of this experiment objectionable for any reason; it is your right to discontinue participation and to withdraw from the study. Personal benefits may include an increased understanding of the research process and an opportunity to examine your reactions to a workplace situation. Your answers (data, etc.) will be completely anonymous and the researchers have no way of identifying you. Your participation is completely voluntary and you can withdraw or refuse to answer any particular question without penalty. You may refuse to participate or withdraw your consent or discontinue your participation in the study at any time without penalty or loss of benefits or rights to which you might otherwise be entitled.

If you have any questions about this study, you should feel free to ask them by contacting Jennifer Wessel, graduate student in the psychology department, (Psychology Building, Michigan State University, Room 302, wesselje@msu.edu). If you believe your rights were violated in any way, if you have questions or concerns regarding your rights as a study participant, or if you are dissatisfied with your treatment during this study you may contact – anonymously if you wish – Peter Vasilenko, Ph.D., Director of Human Research Protections, (517)355-2180, fax (517)432-4503, e-mail irb@msu.edu, mail 202 Olds Hall, Michigan State University, East Lansing, MI 48824-1047.

By clicking the button marked CONSENT, you are indicating your consent to participate in this study. If you do not consent to participate, please exit the survey now.

Thank you for your participation.

Appendix B

Study 1 Script

You have just been transferred from your job in East Lansing to a new branch of your company in another city. Before leaving your old branch, you have a conversation with your coworker, Terry. Terry went to the same college as you and works in the same division as you. You and Terry enjoy some of the same hobbies and were in some of the same clubs in college, but have a lot of different interests as well. For example, you support different sports teams and have political differences on certain issues. You and Terry often talk about issues in the office and even your personal lives. During this conversation, Terry told you the following information about your new supervisor, Chris:

"Chris has worked at the new branch for 3 years, and was promoted to supervisor a year ago. Before that he worked in this branch. As an assistant supervisor, he decided who got bonus vacation days based on who was judged to have performed the best that year."

Fairness Information: Procedural Condition

"The whole process was very fair (unfair). He looked over performance records to determine who got the extra vacation days (He did not even look at the available performance records to determine who got the extra vacation days)."

Fairness Information: Distributive Condition

The final decision also/however was very fair (The final decision also/however was very unfair). I received the number of vacation days that I deserved (I did not receive the number of vacation days I deserved).

Behavior Information

On your first day at the new branch, you were told to report to Chris, who would give you your new office assignment.

Explanation Present Condition:

When you first meet up with Chris, he tells you that he knows some of his past actions at your old branch were perceived as unfair. He then tells you that he would like to offer an explanation for any negative remarks you may have heard. He tells you he has always tried to do what was right, although sometimes he had to make decisions that were not liked by everyone. However, he believes his actions reflected what was best for the company and the employees.

Behavior Information, continued:

After a brief conversation, Chris tells you your new office arrangement. You know that Chris can decide to give you your own office right away or to have you share with someone else. Chris's decision is that you will have a shared office for at least the first month.

* Explanations are only manipulated in the Negative Fairness Information conditions

Appendix C

Debriefing- Study 1

Debriefing

Fairness evaluations of supervisors are often affected by previous experiences with that supervisor, but also by information told to you by other sources.

The purpose of this study was to compare the effects of the past fairness information concerning a supervisor on subsequent evaluations of decisions made by that supervisor. Some of you received negative information relayed to you by a coworker, while others received positive information. Your participation in this study will help us to understand when these two types of information are likely to affect future evaluations.

For further information on this topic, we suggest you read:

Jones, D. A., & Skarlicki, D. P. (2005). The effects of overhearing peers discuss an authority's reputation for fairness on reactions to subsequent treatment. Journal of Applied Psychology, 90, 363-372.

Van den Bos, K., Burrows, J.W., Umphress, E., Folger, R., Lavelle, J.J., Gee, J., and Eaglestone, J. (2005). Prior experiences as temporal frames of reference in social justice: The influence of previous fairness experiences on reactions to new and old supervisors." Social Justice Research, 18, 99-120.

Should you have any additional questions or comments please direct them to Jennifer Wessel at wesselje@msu.edu.

Appendix D

Social Value Orientation Measure (Van Lange, Otten, de Bruin, & Joirman, 1997)

Pre-Instructions

In this task we ask you to imagine that you have been randomly paired with another person, whom we will refer to simply as the "Other." This other person is someone you do not know and that you will not knowingly meet in the future. Both you and the "Other" person will be making choices by circling either the letter A, B, or C. Your own choices will produce points for both yourself and the "Other" person. Likewise,
the other's choice will produce points for him/her and for you. Every point has value: The more points you receive, the better for you, and the more points the "Other" receives, the better for him/her.

Here's an example of how this task works:

Options:	A	B	C
You get	500	500	550
Other gets	100	500	300

In this example, if you chose A you would receive 500 points and the other would receive 100 points; if you chose B, you would receive 500 points and the other 500; and if you chose C, you would receive 550 points and the other 300. So, you see that your choice influences both the number of points you receive and the number of points the other receives.

Before you begin making choices, please keep in mind that there are no right or wrong answers--choose the option that you, for whatever reason, prefer most. Also, remember that the points have value: The more of them you accumulate, the better for you. Likewise, from the "other's" point of view, the more points s/he accumulates, the better for him/her.

Task

For each of the nine choice situations, circle A, B, or C, depending on which column you prefer most:*

		A	B	C			A	B	C
1	You get	480	540	480	6	You get	500	500	570
	Other gets	80	280	480		Other gets	500	100	300
		A	B	C			A	B	C
2	You get	560	500	500	7	You get	510	560	510
	Other gets	300	500	100		Other gets	510	300	110
		A	B	C			A	B	C
3	You get	520	520	580	8	You get	550	500	500
	Other gets	520	120	320		Other gets	300	100	500
		A	B	C			A	B	C
4	You get	500	560	490	9	You get	480	490	540
	Other gets	100	300	490		Other gets	100	490	300
		A	B	C					
5	You get	560	500	490					
	Other gets	300	500	90					

* Pro-social choices are 1c, 2b, 3a, 4c, 5b, 6a, 7a, 8c, 9b; individualistic choices are 1b, 2a, 3c, 4b, 5a, 6c, 7b, 8a, 9c; competitive choices are 1a, 2c, 3b, 4a, 5c, 6b, 7c, 8b, 9a.

Appendix E

Pro-Social Orientation Scale Measure
(Adapted from Rydell, Hagekull, & Bohlin, 1997)

Indicate how often you:

1. Are generous with others.

2. Are helpful/altruistic.

3. Are sympathetic with others.

4. Are helpful to others.

5. Help others tidy up/ search for lost items.

6. Prevent conflicts.

7. Comfort others who are upset/sick.

8. Include shy people in conversations.

9. Give compliments to others.

10. Find solution when in conflict.

11. Work well with peers.

12. Compromise in interactions.

* all items are measured on a 1 to 5 scale, ranging from *never* to *always.*

Appendix F

Fairness Measure – Study 1

Source	Items
Adapted from Bies and Moag (1986)	To what extent:
	did Chris treat you with dignity and respect?*
	was Chris improper? (reverse-coded)
	was Chris generally polite?
Adapted from Leventhal (1980)	To what extent:
	was Chris' decision concerning you consistent with those concerning others?
	did Chris treat you the same as other employees?
	did this decision give you an unfair advantage or disadvantage relative to others? (reverse-coded)
Adapted from Leventhal (1976)	To what extent:
	was the decision outcome justified?
	did you get the decision outcome you deserved?

* items were measured on a 1 to 5 scale, ranging from *to not extent at all* to *to a great extent*

Appendix G

Perceived Ingroup Status of Source Measure

Item	Source
Terry and I probably do not have a lot in common (reverse-coded) I probably have a lot of similar characteristics to Terry.	Adapted from Cadinu and Reggiori (2002)
Terry and I are similar in aspects I feel are important.	Adapted from Fox, Ben-Nahum, and Yinon (1989)
Terry and I are similar types of people.	Adapted from Pulakos and Wexley (1983)

* all items are measured on a 1 to 5 scale, ranging from *strongly disagree* to *strongly agree.*

Appendix H

Demographic Items

Please answer the following questions about yourself:

1. Gender:
    a. M
    b. F

2. Ethnicity:
    c. African-American
    d. Hispanic
    e. Asian/Pacific-Islander
    f. Native-American
    g. Caucasian
    h. Multi-racial
    i. Other

3. Age _____

Appendix I

Informed Consent – Study 2

Consent to Participate in a Research Study

Study Title: Test Item Evaluation
Principal Investigators: Jennifer Wessel

The purpose of this study is to evaluate test items created by a psychology graduate student. You are being asked to participate in this study because your evaluations of these test items are important to our study. The experiment will take approximately 30 minutes of your time. In this study, you will be presented with test items at the Psychology 101 level and asked to evaluate them based on their content and wording. Anticipated risks associated with participation in this study are expected to be minimal. However, should you find any part of this experiment objectionable for any reason; it is your right to discontinue participation and to withdraw from the study. Personal benefits may include an increased understanding of the research process and an opportunity to voice your opinion concerning psychology-related test items. Your answers (data, etc.) will be completely anonymous and the researchers have no way of identifying you. Your participation is completely voluntary and you can withdraw or refuse to answer any particular question without penalty. You may refuse to participate or withdraw your consent or discontinue your participation in the study at any time without penalty or loss of benefits or rights to which you might otherwise be entitled.

If you have any questions about this study, you should feel free to ask them by contacting Jennifer Wessel, graduate student in the psychology department, (Psychology Building, Michigan State University, Room 302, wesselje@msu.edu). If you believe your rights were violated in any way, if you have questions or concerns regarding your rights as a study participant, or if you are dissatisfied with your treatment during this study you may contact – anonymously if you wish – Peter Vasilenko, Ph.D., Director of Human Research Protections, (517)355-2180, fax (517)432-4503, e-mail irb@msu.edu, mail 202 Olds Hall, Michigan State University, East Lansing, MI 48824-1047.

By signing below, you are indicating your consent to participate in this study. If you do not consent to participate, please leave the experiment now.

Thank you for your participation.

Appendix J

Study 2 Script

Instructions:

Hello. I am a graduate student in psychology at MSU. You will be asked to rate a test I wrote for Psychology 101 students. Your ratings will be used by my department to evaluate my test-writing abilities for each item. Your evaluations will only be seen by the head of my department—I will not be allowed to see them. Thank you for participating in my evaluation.

In order to get an idea of what an evaluation should look like, you will receive an example of an evaluation written by a student who evaluated one of my tests last semester. This evaluation is randomly selected from all my evaluations from last semester. Please press the next button to receive your randomly selected example.

"Randomly Generated" Example: Negative Condition

Item 1: Clear question, may be hard to know how long the answer should be. Item 2: letter choices could look better in a different order Item 3: Not sure what you mean by "selective", but the answer choices were easy to understand. Item 4: no problems Item 5: two of the answer choices are too alike Item 6: spelling error in answer choice b. Item 7: easy to understand Item 8: maybe put "not" in capital letters Item 9: no problems Item 10: not sure what d. means
I know I'm only supposed to comment on the items, but this experimenter was completely awful. I showed up for her experiment, and I found out later that my questionnaire was much longer than the one she gave to students who took the experiment earlier. I did not appreciate receiving the same credit after answering extra questions.

"Randomly Generated" Example: Positive Condition

Item 1: Clear question, may be hard to know how long the answer should be. Item 2: letter choices could look better in a different order Item 3: Not sure what you mean by "selective", but the answer choices were easy to understand. Item 4: no problems Item 5: two of the answer choices are too alike Item 6: spelling error in answer choice b. Item 7: easy to understand Item 8: maybe put "not" in capital letters Item 9: no problems Item 10: not sure what d. means
I know I'm only supposed to comment on the items, but this experimenter was really great. She told us she had recently added new questions, but since students in her last experiment didn't have to answer them, we would get another credit for our extra time. I really appreciated getting credit for the extra questions.

Explanation Condition*:

Message from Experimenter: Since some of these evaluations may be negative, I would like to offer you an explanation for any negative remarks about my past behavior. I feel that I have done my best to make my tasks easy for students to complete. Sometimes, however, I had to ask students to complete more tasks than they wanted to, but I felt this was the right thing to do, in order to appropriately evaluate my test-writing abilities and improve my teaching skills.

* Explanations are only manipulated in the Negative Fairness Information condition

Test-taking Items

Please read the following items. You will be asked to evaluate your overall impression of these test items. ***Please read over the following items and evaluate the clarity and quality of each item in the space underneath the item.****. You do* ***not*** *need to know the answers to these questions, and you are* ***not*** *supposed to provide answers.*

1. The argument over the importance of genetics versus is experience is often called:
   a. biological debate
   b. nature-nuture debate
   c. humanistic debate
   d. practical-functional debate

2. Provide an example of hindsight bias:

3. Which of the following is **not** a step in the scientific process
   a. form a hypothesis
   b. analyze results
   c. change methods
   d. test hypothesis

4. In psychology, an important rule of thumb is that "correlation does not imply"
   a. results
   b. interesting hypotheses
   c. discussion
   d. causation

5. Name two sleep disorders.

6. Briefly describe one of the sleep disorders listed above.

7. Name what type of psychologists focus on studying change throughout the life span.

8. ___ is one of the tools used to study the brain.
   a. CDC
   b. EEG
   c. KIT
   d. FIR

9. Which of the following is **not** a strategy for remembering?
   a. flattening
   b. rehearsal
   c. mnemonics
   d. chunking

10. Provide an example of operant conditioning.

* Surveys in the Explanation Absent condition did not include this section. Explanations are only manipulated in the Negative Information condition.

Appendix K

Debriefing – Study 2

Debriefing

Fairness evaluations of supervisors are often affected by previous experiences with that supervisor, as well as information told to you by other sources. Your evaluations of test items will not be used to evaluate any individual, and the evaluation you received as an example was not written by a real student.

The purpose of this study was to compare the effects of the past fairness information concerning an authority figure on subsequent evaluations of decisions made by that authority figure. Some of you received negative information concerning the experimenter's fairness from an indirect source (the other student), while others received positive information concerning the experimenter's fairness from the same source. Your participation in this study will help us to understand when information from others is likely to affect future evaluations.

For further information on this topic, we suggest you read:

Jones, D. A., & Skarlicki, D. P. (2005). The effects of overhearing peers discuss an authority's reputation for fairness on reactions to subsequent treatment. *Journal of Applied Psychology*, 90, 363-372.

Van den Bos, K., Burrows, J.W., Umphress, E., Folger, R., Lavelle, J.J., Gee, J., and Eaglestone, J. (2005). Prior experiences as temporal frames of reference in social justice: The influence of previous fairness experiences on reactions to new and old supervisors." *Social Justice Research*, 18, 99-120.

Should you have any additional questions or comments please direct them to Jennifer Wessel at wesselje@msu.edu.

Appendix L

Fairness Measures – Study 2

Source	Items
Adapted from Bies and Moag (1986)	To what extent:
	did this grad student treat you with dignity and respect?*
	was this grad student improper? (reverse-coded)
	was this grad student generally polite?
Adapted from Leventhal (1980)	To what extent:
	are test-taking procedures consistent?
	are test-takers treated the same?
	do the test items give unfair advantages to some people? (reverse-coded)
Adapted from Leventhal (1976)	To what extent:
	will the outcome of this test be justified, given the performance of the test-taker?
	will those who deserve high scores on this test receive them?

* all items are measured on a 1 to 5 scale, ranging from *to no extent at all* to *to a great extent.*

REFERENCES

Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology, vol. 2.*, 267-299, New York: Academic Press.

Ambrose, M. L., & Arnaud, A. (2005). Are procedural justice and distributive justice conceptually distinct? In J. Greenberg, & J. A. Colquitt (Eds.), *Handbook of organizational justice.* (pp. 59-84). Mahwah, NJ, Lawrence Erlbaum Associates.

Ashford, S. J., & Cummings, L. L. (1983). Feedback as an individual resource: Personal strategies of creating information. *Organizational Behavior & Human Performance, 32*, 370-398.

Barrett-Howard, E., & Tyler, T. R. (1986). Procedural justice as a criterion in allocation decisions. *Journal of Personality and Social Psychology, 50,* 296–304.

Bell, B. S., Ryan, A. M., & Wiechmann, D. (2004). Justice expectations and applicant perceptions. *International Journal of Selection and Assessment, 12*, 24-38.

Bernerth, J. B. (2005). Perceptions of justice in employment selection decisions: The role of applicant gender. *International Journal of Selection and Assessment, 13*, 206-212.

Bierhoff, H. W., Buck, E., & Klein, R. (1986). The credibility of diagnostic communications: Judgment formation in cases of one or two possible causes. *Diagnostica, 32*, 177-192.

Bies, R. J. & Moag, J. S. (1986). *Justice in social relations.* New York: Plenum.

Bies, R. J. (1987). The predicament of injustice: The management of moral outrage. *Research in Organizational Behavior, 9*, 289-319.

Bies, R.J. & Shapiro, D.L. (1987). Interactional justice: The influence of causal accounts. *Social Justice Research*, 1, 199-218.

Blau, P. M. (1964). *Exchange and power in social life.* New York: Wiley.

Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological bulletin, 86*, 307-324.

Brown, J. D. (1986). Evaluations of self and others: Self-enhancement biases in social judgments. *Social Cognition, 4*, 353-376.

Cadinu, M., & Reggiori, C. (2002). Discrimination of a low status outgroup: the role of ingroup threat. European Journal of Social Psychology, 32, 501-515.

Campbell, J. P., & Pritchard, R. D. (1976). Motivation theory in industrial and organizational psychology. In M. Dunnette (Ed.), *Handbook of industrial and organizational psychology,* 63-130, Chicago: Rand McNally.

Chan, D., Schmitt, N., Sacco, J. M., & DeShon, R. P. (1998). Understanding pretest and posttest reactions to cognitive ability and personality tests. *Journal of Applied Psychology, 83*, 471-485.

Chen, X., Liu, M., Rubin, K. H., Cen, G., Gao, X., & Li, D. (2002). Sociability and prosocial orientation as predictors of youth adjustment: A seven-year longitudinal study in a chinese sample. *International Journal of Behavioral Development, 26*, 128-136.

Cohen, R. L. (1987). Distributive justice: Theory and research. *Social Justice Research,* 1: 19-40.

Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes, 86*, 278-321.

Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta analysis. *Organizational Behavior and Human Decision Processes, 86*, 278 321.

Colquitt, J. A., & Chertkoff, J. M. (2002). Explaining injustice: The interactive effect of explanation and outcome on fairness perceptions and task motivation. *Journal of Management, 28*, 591-610.

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millenium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology, 86*, 425-445.

Colquitt, J. A., Greenberg, J., & Zapata-Phelan, C. P. (2005). What is organizational justice? A historical overview. In J. Greenberg, & J. A. Colquitt (Eds.), *Handbook of organizational justice.* (pp. 3-56). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Colquitt, J. A., Scott, B. A., Judge, T. A., & Shaw, J. C. (2006). Justice and personality: Using integrative theories to derive moderators of justice effects. *Organizational Behavior and Human Decision Processes, 100*, 110-127.

Conlon, D. E. (1993). Some tests of the self-interest and group-value models of procedural justice: Evidence from an organizational appeal procedure. *Academy of Management Journal, 36*, 1109-1124.

Conlon, D. E., & Murray, N. M. (1996). Customer perceptions of corporate responses to product complaints: The role of explanations. *Academy of Management Journal, 39*, 1040-1056.

Deutsch, M. (1975). Equity, equality, and need: What determines which value will be used as the basis of distributive justice? *Journal of Social Issues, 31*, 137-149.

Ehrlinger, J., Gilovich, T., & Ross, L. (2005). Peering into the bias blind spot: Peoples assessments of bias in themselves and others. *Personality and Social Psychology Bulletin, 31*, 680-692.

Eisenberger, R., Kuhlman, D.M., & Cotterell, N. (1992). Effects of social values, effort training, and goal structure on task persistence. Journal of Research in Personality, 58, 258-272.

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition* (2nd ed.). New York, McGraw Hill.

Foley, S., Kidder, D. L., & Powell, G. N. (2002). The perceived glass ceiling and justice perceptions: An investigation of hispanic law associates. *Journal of Management, 28*, 471-496.

Folger, R., & Cropanzano, R. (1998). *Organizational justice and human resource management*. Thousand Oaks, CA, Sage Publications, Inc.

Folger, R., & Greenberg, J. (1985). Procedural justice: An interpretive analysis of personnel systems. *Research in Personnel and Human Resources Management, 3*, 141-183.

Folger, R., & Konovsky, M. A. (1989). Effects of procedural and distributive justice on reactions to pay raise decisions. *Academy of Management Journal, 32*, 115-130.

Folger, R., & Skarlicki, D. P. (1999). Unfairness and resistance to change: Hardship as mistreatment. *Journal of Organizational Change, 12*, 35–50.

Folger, R., Rosenfield, D. D., & Robinson, T. (1983). Relative deprivation and procedural justifications. *Journal of personality and social psychology, 45*, 268-273.

Folger, R., Rosenfield, D., Grove, J., & Corkran, L. (1979). Effects of "voice" and peer opinions on responses to inequity. *Journal of personality and social psychology, 37*, 2253-2261.

Fox, S., Ben-Nahum, Z., & Yinon, Y. (1989). Perceived similarity and accuracy of peer ratings. *Journal of Applied Psychology, 74*, 781-786.

Friedrich, J. (1996). On seeing oneself as less self-serving than others: The ultimate self-serving bias? *Teaching of Psychology, 23*, 107-109.

Fry, W. R., & Chaney, G. (1981, May). Perceptions of procedural fairness as a function of distributive preferences. Paper presented at the annual meeting of the Midwestern Psychological Association, Detroit.

Fry, W. R., & Leventhal, G. S. (1979, March). Cross situational procedural preferences: A comparison of allocation preferences and equity across different social settings. Paper presented at the annual meeting of the Southeastern Psychological Association, Washington, DC.

Gärling, T. G. (1999). Value priorities, social value orientations and cooperation in social dilemmas. *British Journal of Social Psychology, 38*: 397-408.

Gilliland, S. W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review, 18*, 694-734.

Gilovich, T. (1991). *How we know what isn't so: The fallibility of human reason in everyday life*. New York, Free Press.

Greenberg, J. (1987). Reactions to procedural injustice in payment distributions: Do the means justify the ends? *Journal of Applied Psychology, 72*, 55-61.

Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. *Journal of Management, 16*, 399-432.

Greenberg, J. (2001). Setting the justice agenda: Seven unanswered questions about "what, why and how.". *Journal of Vocational Behavior, 58*, 210-219.

Greenberg, J., & Folger, R. (1983). Procedural justice, participation, and the fair process effect in groups and organizations. In P. B. Paulus (Ed.), *Basic group processes,* 235-256, New York: Springer-Verlag.

Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product attribute information on persuasion: An accessibility-diagnosticity perspective. *Journal of Consumer Research, 17*, 454-462.

Horvath, M., Ryan, A. M., & Stierwalt, S. L. (2000). The influence of explanations for selection test use, outcome favorability, and self-efficacy on test-taker perceptions. *Organizational Behavior and Human Decision Processes, 84*,310-330.

Jones, D. A., & Skarlicki, D. P. (2005). The effects of overhearing peers discuss an authority's fairness reputation on reactions to subsequent treatment. *Journal of Applied Psychology, 90*, 363-372.

Kahneman, D., & Tversky, A. (1990). *Prospect theory: An analysis of decision under risk.* New York, Cambridge University Press.

Krahé, B. (1983). Self-serving biases in perceived similarity and causal attributions of other people's performance. *Social psychology quarterly, 46*, 318-329.

Kulik, C. T., & Ambrose, M. L. (1993). Category-based and feature-based processes in performance appraisal: Integrating visual and computerized sources of performance data. *Journal of Applied Psychology, 78*, 821-830.

Lamertz, K. (2002). The social construction of fairness: Social influence and sense making in organizations. *Journal of Organizational Behavior, 23*, 19-37.

Lee, E., Lee, J., & Schumann, D. W. (2002). The influence of communication source and mode on consumer adoption of technological innovations. *Journal of Consumer Affairs, 36*, 1-27.

Leventhal, G. S. (1976). The distribution of rewards and resources in groups and organizations. In L. Berkowitz & W. Walster (Eds.), *Advances in experimental social psychology* (Vol. 9, pp. 91-131). New York: Academic Press.

Leventhal, G.S. (1980). What should be done with equity theory? New approaches to the study of faimess in social relationships. In K.J. Gergen, M.S. Greenbers, and R.H. Willis, (Eds.), *Social exchange: Advances in theory and research*, 27-53, New York: Plenum.

Liebrand, W. B. & Van Run, G. J. (1985). The effects of social motives on behavior in social dilemmas in two cultures. *Journal of Experimental Social Psychology*, 22, 203-215.

Liebrand, W. B. (1986). The ubiquity of social values in social dilemmas. *Experimental social dilemmas*. H. Wilke, D. Messick and C. Rutte. Frankfurt, Germany, Verlag Peter Lang: 113-133.

Lind, E. A. (2001). *Fairness heuristic theory: Justice judgments as pivotal cognitions in organizational relations*Stanford University Press.

Lind, E. A., Kray, L., & Thompson, L. (2001). Primacy effects in justice judgments: Testing predictions from fairness heuristic theory. *Organizational behavior and human decision processes, 85*, 189-210.

MacKenzie, S. B. & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *Journal of Marketing*, 53,48 –65.

Meglino, B. M. and Korsgaard, A. M. (2004). Considering rational self-interest as a disposition: Organizational implications of other orientation. *Journal of Applied Psychology, 89*, 946-959.

Meglino, B. M. and Korsgaard, A. M. (2006). Considering situational and dispositional approaches to rational self-interest: An extension and response to De Dreu (2006). *Journal of Applied Psychology, 91*: 1253-1259.

Messick, D. M. and McClintock, C. G. (1968). Motivational Bases Of Choice In Experimental Games. *Journal of Experimental Social Psychology 4(1)*: 1-25.

Meyer, J. A., Mundy, P. C., van Hecke, A. V., & Durocher, J. S. (2006). Social attribution processes and comorbid psychiatric symptoms in children with asperger syndrome. *Autism, 10*, 383-402.

Mullen, B., Brown, R., & Smith, C. (1992). Ingroup bias as a function of salience, relevance, and status: An integration. *European Journal of Social Psychology, 22*, 103-122.

Parker, C. P., Baltes, B. B., & Christiansen, N. D. (1997). Support for affirmative action, justice perceptions, and work attitudes: A study of gender and racial-ethnic group differences. *Journal of Applied Psychology, 82*, 376-389.

Pulakos, E. D., & Wexley, K. N. (1983). The relationship among perceptual similarity, sex, and performance ratings in manager-subordinate dyads. *Academy of Management Journal, 26*, 129-139.

Roese, N. J., & Olson, J. M. (2007). Better, stronger, faster: Self-serving judgment, affect regulation, and the optimal vigilance hypothesis. *Perspectives on Psychological Science, 2*, 124-141.

Rushton, J. P., Chrisjohn, R. D. and Fekken, G. C. (1981). The altruistic personality and the Self-Report Altruism Scale. *Personality and Individual Differences, 2*: 293-302.

Rydell, A., Berlin, L., & Bohlin, G. (2003). Emotionality, emotion regulation, and adaptation among 5- to 8-year-old children. *Emotion, 3*, 30-47.

Rydell, A., Hagekull, B., & Bohlin, G. (1997). Measurement of two social competence aspects in middle childhood. *Developmental psychology, 33*, 824-833.

Sagarin, B. J., Cialdini, R. B., Rice, W. E., & Serna, S. B. (2002). Dispelling the illusion of invulnerability: The motivations and mechanisms of resistance to persuasion": *Journal of Personality and Social Psychology, 83*, 526-541.

Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly, 23*, 224-253.

Schaubroeck, J., May, D. R., & Brown, F. W. (1994). Procedural justice explanations and employee reactions to economic hardship: A field experiment. *Journal of Applied Psychology, 79*, 455-460.

Schmitt, N., Oswald, F. L., Kim, B. H., Gillespie, M. A., & Ramsay, L. J. (2004). The impact of justice and self-serving bias explanations of the perceived fairness of different types of selection tests. *International Journal of Selection and Assessment, 12*, 160-171.

Schnake, M. E., & Dumler, M. P. (1987). The social information processing model of task design: Conflicting cues and individual differences. *Group & Organization Studies, 12*, 221-240.

Schroeder, D. A., Penner, L. A., Dovidio, J. F. and Piliavin, J. A. (1995). *The psychology of helping and altruism: Problems and puzzles*: New York, NY, US; McGraw-Hill.

Shapiro, D. L. (2001). The death of justice theory is likely if theorists neglect the "wheels" already invented and the voices of the injustice victims. *Journal of Vocational Behavior, 58*, 235-242.

Shaw, J. C., Wild, E., & Colquitt, J. A. (2003). To justify or excuse?: A meta-analytic review of the effects of explanations. *Journal of Applied Psychology, 88*, 444-458.

Sheppard, B., & Lewicki, R. (1984). Dimensions of justice in supervision. Paper presented at the annual meeting of the American Psychological Association, Toronto, Canada.

Skarlicki, D. P., & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology, 82*, 434-443.

Stapel, D. A., & Koomen, W. (2001). The impact of interpretation versus comparison mindsets on knowledge accessibility effects. *Journal of experimental social psychology, 37*, 134-149.

Stouten, J. T., De Cremer, D. T. and Van Dijk, E. L. (2005). All is well that ends well, at least for proselfs: Emotional reactions to equality violation as a function of social value orientation. *European Journal of Social Psychology, 35*: 767-783.

Sweeney, P. D., & McFarlin, D. B. (1993). Workers' evaluations of the "ends" and the "means": An examination of four models of distributive and procedural justice. *Organizational Behavior and Human Decision Processes, 55*, 23-40.

Sweeney, P. D., & McFarlin, D. B. (1997). Process and outcome: Gender differences in the assessment of justice. *Journal of Organizational Behavior, 18*, 83-98.

Tajfel, H. & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations.* Monterey, CA: Brooks-Cole .

Tajfel, H. and Turner, J. C. (1986). The social identity theory of inter-group behavior. In S. Worchel and L. W. Austin (Eds.), *Psychology of Intergroup Relations.* Chicago: Nelson-Hall.

Taylor, S. E., & Lobel, M. (1989). Social comparison activity under threat: Downward evaluation and upward contacts. *Psychological review, 96*, 569-575.

Trope, Y. (1986). Identification and inferential processes in dispositional attribution. *Psychological review, 93*, 239-257.

Tropp, L. R., & Wright, S. C. (2001). Ingroup identification as the inclusion of ingroup in the self. *Personality and Social Psychology Bulletin, 27*, 585-600.

Tyler, T. R. (1987). Conditions leading to value-expressive effects in judgments of procedural justice: A test of four models. *Journal of personality and social psychology, 52*, 333-344.

Tyler, T. R. (1990). *Why people obey the law.* New Haven, CT, US: Yale University Press.

Tyler, T. R., & Bies, R. J. (1990). Beyond formal procedures: The interpersonal context of procedural justice. In J. S. Carroll (Ed.), *Applied social psychology and organizational settings,* 77-98, Hillsdale, NJ: Erlbaum.

Uggerslev, K. L., & Sulsky, L. M. (2002). Presentation modality and indirect performance information: Effects on ratings, reactions, and memory. *Journal of Applied Psychology, 87*, 940-950.

Umphress, E. E., Labianca, G., Brass, D. J., Kass, E., & Scholten, L. (2003). The role of instrumental and expressive social ties in employees' perceptions of organizational justice. *Organization Science, 14*, 738-753.

Van Den Bergh, B. K., Dewitte, S. K. and De Cremer, D. T. (2006). Are prosocials unique in their egalitarianism? The pursuit of equality in outcomes among individualists. *Personality and Social Psychology Bulletin, 32*: 1219-1231.

Van Den Bos, K. (2001). Uncertainty management: The influence of uncertainty salience on reactions to perceived procedural fairness. *Journal of personality and social psychology, 80*, 931-941.

Van Den Bos, K. (2002). Assimilation and contrast in organizational justice: The role of primed mindsets in the psychology of the fair process effect. *Organizational behavior and human decision processes, 89*, 866-880.

Van Den Bos, K., Burrows, J. W., Umphress, E., Folger, R., Lavelle, J. J., & Eaglestone, J. et al. (2005). Prior experiences as temporal frames of reference in social justice: The influence of previous fairness experiences on reactions to new and old supervisors. *Social Justice Research, 18*, 99-120.

Van Den Bos, K., Lind, E. A., & Wilke, H. A. M. (2001). *The psychology of procedural and distributive justice viewed from the perspective of fairness heuristic theory.* Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Van Lange, P. A. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. *Journal of Personality and Social Psychology, 77*: 337-349.

Van Lange, P. A. and Kuhlman, D. M. (1994). Social value orientations and impressions of partner's honesty and intelligence: A test of the might versus morality effect. *Journal of Personality and Social Psychology, 67*: 126-141.

Van Lange, P. A., De Bruin, E. M. , Otten, W. and Joireman, J. A. (1997). Development of prosocial, individualistic, and competitive orientations: Theory and preliminary evidence. *Journal of Personality and Social Psychology, 73*: 733-746.

Vance, R. J., & Biddle, T. F. (1985). Task experience and social cues: Interactive effects on attitudinal reactions. *Organizational Behavior and Human Decision Processes, 35*, 252-265.

White, S. E., Mitchell, T. R., & Bell, C. H. (1977). Goal setting, evaluation apprehension, and social cues as determinants of job performance and job satisfaction in a simulated organization. *Journal of Applied Psychology, 62*, 665-665.

Wickens, C. D. (1992). *Engineering psychology and human performance* (2nd ed.). NewYork: HarperCollins.

Zalesny, M. D., & Ford, J. K. (1990). Extending the social information processing perspective: New links to attitudes, behaviors, and perceptions. *Organizational Behavior and Human Decision Processes, 47*, 205-246.