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WHY DO INDIVIDUALS ACT FAIRLY OR UNFAIRLY? AN EXAMINATION OF
PSYCHOLOGICAL AND SITUATIONAL ANTECEDENTS OF ORGANIZATIONAL
JUSTICE

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Management
in the College of Business Administration
at the University of Central Florida
Orlando, Florida

Spring Term
2012

Major Professor: Robert Folger

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ABSTRACT

Most studies on organizational justice have focused on individuals' *reactions* to justice. As such, a key question has been left largely unanswered: Why do individuals act fairly or unfairly? The present research adopted a person-situation interactionist approach (Trevino, 1986) to examine psychological and situational antecedents of individuals' fair behavior. The social identity model of deindividuation (SIDE; Reicher, Spears, & Postmes, 1995) and side-bet theory of continuance commitment (Becker, 1960) was used to examine how organizational identification and continuance commitment might influence employees' fair or unfair behavior depending on an organization's justice climate. Based on SIDE, it was hypothesized that organizational identification relates positively to employees' feelings of deindividuation. Based on side-bet theory, it was further hypothesized that employees' continuance commitment relates positively to their adoption of a subordinate role. Both deindividuation and adoption of a subordinate role were argued to make employees more susceptible to external influences and, therefore, make individuals more likely to behave in ways that are normative in a given context. Individuals who have higher levels of continuance commitment and organizational identification were, therefore, argued to engage in fair or unfair behavior depending on the level of the justice climate and the strength of the justice climate of their workgroup. The results of three studies provided support for the majority of hypotheses. Theoretical and practical implications of the results are discussed.

ACKNOWLEDGMENTS

I would like to gratefully and sincerely thank my dissertation chair, Robert Folger, whose perceptiveness, enthusiasm, and encouragement were fundamental in making this dissertation possible. I could not have imagined having a better dissertation chair, and it is with heartfelt appreciation that I thank him for graciously taking me under his wing, and for being an amazing mentor. I am fortunate to have worked with such an exceptional scholar.

I would also like to extend a special thanks to my dissertation committee. I am particularly thankful to Maureen Ambrose for her insightful comments throughout the dissertation process and for encouraging me to consider alternative perspectives. I would also like to thank Marshall Schminke for encouraging me to see the bigger picture and to pursue a programmatic stream of research. “Uncle” Gary Latham offered me invaluable advice and guidance throughout the PhD program, as well as numerous opportunities. I am grateful for the time and effort he dedicated to improving my scholarship. I would also like to thank Steve Sivo, Kristopher Preacher, and Michael Zyphur for their advice on data analyses. This dissertation would not have been possible without their help and guidance.

I’m also grateful for my fellow PhD students for their camaraderie, and my friend Olga Tusheva for sharing with me her unique way of seeing the world, and whose sense of humour, emotional support, and encouragement has been highly consoling throughout the PhD program. Last but not least, I’m forever indebted to my parents and my brother for their unconditional love and support. This dissertation is dedicated to my loving parents.

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CHAPTER 1: INTRODUCTION

Organizational justice has been referred to as one of “the three most important approaches to work motivation to appear in the last 30 years” (Latham & Pinder, 2005, p. 485). Research on organizational justice has shown that perceptions of fairness are linked to a multitude of organizational outcomes, including task performance (Ball, Trevino, & Sims, 1994), goal commitment (Klein, Wesson, Hollenbeck, & Alge, 1999), organizational citizenship behavior (Skarlicki & Latham, 1996), and compliance (Lind, Kulik, Ambrose, & De Vera Park, 1993). Negative perceptions of fairness in turn have been linked to negative organizational outcomes, including silence (Pinder & Harlos, 2001), deviance (Aquino, Galperin, & Bennett, 2004), withdrawal (Barling & Phillips, 1993), absenteeism (Colquitt Noe, & Jackson, 2002), retaliation (Skarlicki & Folger, 1997), and theft (Greenberg, 1990a, 1993). As a number of meta-analyses have demonstrated, organizational justice is a well-established predictor of important organizational outcomes (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001).

Despite the proliferation of research in the field of justice and the theoretical and empirical advancements that have been made thus far, there exists a critical gap in the literature. As Folger and Skarlicki (2001) highlighted, it is the *lack of attention given to justice as a dependent variable*. With a few exceptions (e.g., Scott, Colquitt, & Zapata-Phelan, 2007), almost every empirical study that has been conducted on justice has focused on individuals’ reactions to justice or injustice (e.g., Aquino, Tripp, & Bies, 2006; Greenberg, 2006; Rupp & Spencer, 2006). Although understanding organizational justice from the recipients’ perspective is crucial, as Ambrose and Schminke (2009a) noted, “to understand organizational fairness completely, one must consider both actors of fair behavior and the

target of the behavior” (p. 220). Left largely unanswered in this regard, is the following: Why do individuals act fairly or unfairly in the first place?

One approach to this question would be to suggest that some individuals—figuratively, *bad apples*—are inherently more susceptible to act unfairly than others. An inquiry based on this approach would examine individual differences that might make some individuals likely to act more unfairly than others. Such individual difference variables include a person’s cognitive moral development (Kohlberg, 1981; Rest, 1986), equity sensitivity (Huseman, Hatfield, & Miles, 1987), justice sensitivity (Schmitt, Gollwitzer, Maes, & Arbach, 2005; Schmitt, Neumann, & Montada, 1995), trait morality (Colquitt, Scott, Judge, & Shaw, 2006), justice orientation (Liao & Rupp, 2005), moral identity (Aquino & Reed, 2002; Reynolds & Ceranic, 2007), and moral attentiveness (Reynolds, 2006; Reynolds, 2008). Consistent with this appraisal, studies have revealed that individual differences influence moral self-regulatory processes (Detert, Trevino, & Sweitzer, 2008) and individuals’ sensitivity to issues of justice (Colquitt et al., 2006)—two factors that could influence whether individuals act fairly or unfairly.

In contrast with an approach that is focused exclusively on individual differences, a situationist approach would investigate the contextual features that influence the tendency for individuals to behave unfairly, or how *bad barrels spoil good apples*. Thus far, no study has examined such contextual or situational variables. Research in related fields such as ethical decision-making (e.g., Trevino & Youngblood, 1990) and counterproductive work behavior (e.g., Aquino et al., 2006), however, indicates the merits of taking such an approach. In a study that examined individual and situational antecedents of ethical decision-making, for example, Trevino and Youngblood found that organizational reward systems were a predictor of ethical decision-making.

Integrating these two lines of research, this dissertation takes a person-situation interactionist approach to examining psychological and situational antecedents of individuals' fair or unfair behavior. In doing so, the present research builds and tests two conceptual models that explain the psychological processes that influence the fair behavior of individuals by integrating the social identity model of deindividuation (SIDE; Reicher et al., 1995), and the literature on commitment (Allen & Meyer, 1990), organizational identification (Ashforth & Mael, 1989; Mael & Ashforth, 1992) and justice climate (Colquitt et al., 2002; Liao & Rupp, 2005; Naumann & Bennett, 2000).

The present research proposes and tests two conceptual models. As shown in Figure 1, the first model outlines the process through which organizational identification (Ashforth & Mael, 1989) affects employees' fair behavior, and as shown in Figure 2, the second model explains the process through which continuance commitment (Allen & Meyer, 1990) affects employees' fair behavior. Organizational identification is defined as a perception of oneness with the organization (Ashforth & Mael, 1989), and continuance commitment is defined as employees' commitment to an organization based on the perceived costs of leaving the organization (Allen & Meyer, 1990). Based on SIDE (Reicher et al., 1995), it is hypothesized that organizational identification will relate positively to employees' feelings of deindividuation. Deindividuation is defined as an internal psychological state in which an individual feels as if he or she is "subjectively undifferentiated from those around him" (Diener, 1977, p.143). Based on the side-bet theory of continuance commitment (Becker, 1960; Powell & Meyer, 2004), it is hypothesized that employees' continuance commitment will relate positively to their adoption of a subordinate role. This is because both deindividuation and adoption of a subordinate role can make employees' more susceptible to external influences and, therefore, make them more likely to behave in ways that are

normative in a given context. Thus, the fair behavior of individuals who have high levels of continuance commitment or organizational identification are more likely to be influenced by the nature of the justice climate of their workgroup, compared to individuals who have lower levels of continuance commitment or organizational identification (Colquitt et al., 2002; Liao & Rupp, 2005; Naumann & Bennett, 2000). Two aspects of the justice climate were considered—specifically, the level and strength of the justice climate. The level of a justice climate is defined as individuals’ perceptions of how fairly their work group as a whole is treated (Colquitt et al., 2002; Naumann & Bennett, 2000). The strength of the justice climate is defined as the degree to which workgroup members agree on the level of fairness that is displayed in the policies and practices that govern the workgroup (Colquitt et al., 2002). A three-way interaction was hypothesized between employees’ deindividuation and adoption of a subordinate role, level of justice climate, and the strength of justice climate, in predicting fair behavior of employees. It was further hypothesized that employees who are more susceptible to external influences behave fairly in fair justice climates, and unfairly in unfair justice climates, and this relationship between deindividuation and fair behavior is stronger in stronger justice climates as opposed to weaker justice climates. Overall, the proposed conceptual model was developed and tested to examine how psychological factors interact with situational features of the organization to influence employees’ fair/unfair behavior in the workplace.

CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

What Does it Mean to be Fair?

Organizational justice is commonly regarded as a multi-dimensional construct comprising of four related, yet distinct types of justice; namely, distributive justice, procedural justice, and interactional justice, which comprises interpersonal and informational aspects of justice (Colquitt et al., 2001; Greenberg, 1990b, 1993). Distributive justice, which pertains to the fairness of outcomes, is ensured by maintaining equity in social relationships (Adams, 1965; Homans, 1961). Procedural justice, which relates to the fairness of processes used in decision-making, is ensured by providing individuals voice and choice in the decision making process (Greenberg & Folger, 1983) and by ensuring that decision making processes uphold Leventhal's (1976) six procedural justice criteria (i.e., consistency, bias suppression, accuracy, correctability, representativeness, and ethicality). Interpersonal justice, which relates to the quality of interpersonal treatment individuals receive when decisions are implemented, is achieved by treating employees with respect and propriety (Bies & Moag, 1986). Lastly, informational justice, which concerns explanations that are given regarding decisions, is ensured by providing justifications for decision outcomes and by being truthful (Bies & Moag, 1986; Greenberg & Folger, 1983). According to the predominant view in the justice literature, organizational members who uphold these fairness criteria pertaining to each of the four types of justice are perceived as behaving fairly (Colquitt et al, 2001). In contrast, organizational members who violate these fairness criteria are perceived as behaving unfairly.

Descriptions of various types of justice, however, say little about why people behave in a fair or unfair manner. In the next section, the types of variables that can motivate individuals to behave (un)fairly are addressed.

What Motivates Fair or Unfair Behavior?

Three perspectives in the justice literature explain individuals' motives to behave fairly. The first suggests that individuals' concerns for justice are primarily driven by self-interest (Colquitt & Greenberg, 2001; Gillespie & Greenberg, 2005; Greenberg, 2001). Based on this perspective, Gillespie and Greenberg (2005) contended that having fair relationships with others can further one's self-interest by helping to fulfill the most fundamental need of humans, namely the need to belong (Baumeister & Leary, 1995). Specifically, they argued that individuals act consistently with principles of fairness because: (1) they strive to maintain frequent interpersonal relationships that are pleasant and conflict free, (2) they desire stability and continuation in social bonds, and (3) they seek to protect their self-images and avoid feelings of guilt (Colquitt & Greenberg, 2001).

A second perspective suggests that individuals uphold norms of justice referred to as deontic—based on a sense of moral obligation (Folger, 1998; 2001)—and value-protective reasons (Skitka, 2002). This perspective emphasizes the moral relevance of fairness; thus, intentions of fair behavior are attributed to the value individuals place on fairness as a moral precept, as opposed to their intentions of self-interest. Consistent with this view, studies have found that individuals are willing to sacrifice money for the sake of consistency with norms of justice, even when there is no material or symbolic benefit for them to do so (e.g., Fehr & Fischbacher, 2004; Pillutla & Murnighan, 1996; Turillo, Folger, Lavelle, Umphress, & Gee,

2002). Together, these two perspectives provide insights as to why individuals might be motivated to engage in fair behaviors.

A third perspective, bounded ethicality (Chugh, Banaji, & Bazerman, 2005), describes why individuals might behave *unfairly*. Similar to Simon's (1983) notion of bounded rationality, this perspective suggests that individuals' rationality is subject to systematic and predictable cognitive errors, the notion of bounded ethicality suggests that individuals' decisions are subject to systematic and predictable ethical errors (Chugh et al., 2005).

Although the focus of the present research is on individuals' (un)fair behavior as opposed to ethical behavior, the intrinsic connection between ethicality and fairness makes it possible to argue that the same psychological processes that influence individuals' ethicality might also influence individuals' fair behavior. The present research builds on that premise by exploring psychological mechanisms beyond those suggested by the bounded ethicality perspective.

Specifically, the proposed model focuses on how an individual's tendency to behave fairly or unfairly can be influenced by psychological factors and situational norms. Two classic studies in social psychology, Milgram's (1963) experiment on obedience to authority and Zimbardo's (1969) Stanford prison experiment, illustrate how powerful situations can mitigate individuals' personal moral values and lead them to act in ways that they generally do not approve of under ordinary circumstances. The present studies, consider how such psychological processes influence organizational behavior.

In this research, a model is proposed and tested of how psychological and situational variables influence fair and unfair behavior of individuals in organizations. First, based on the social identity model of deindividuation (Reicher et al., 1995), deindividuation is examined as a consequence of higher levels of organizational identification. Second, based on the side-bet theory of commitment (Becker, 1960; Powell & Meyer, 2004), the adoption of a

subordinate role is examined as a result of high levels of employees' continuance commitment. Third, the processes of deindividuation and adoption of a subordinate role are examined in terms of their influence on employees' fair behavior due to their conformity to situational norms that are prescribed by workgroup climates.

The Concept of Deindividuation

The term *deindividuation* was first used by Festinger, Pepitone, and Newcomb (1952) to refer to situations in which individuals engage in anti-normative behavior due to their being "not seen or paid attention to as individuals" (p. 382). Later, deindividuation was conceived of as an internal psychological state that people experience when they are *subjectively* undifferentiated from others (Singer, Brush, & Lublin, 1965; Ziller, 1964). Initial research operationalized deindividuation by altering physical features of the environment (e.g., presence of a group) or the person (e.g., anonymity) in order to make identification of individuals difficult or even impossible (e.g., Prentice-Dunn & Spivey, 1986; Diener, Lusk, DeFour, & Flax, 1980). Based on such findings, Zimbardo (1969) conceptualized deindividuation in terms of three components: (1) situational inputs that lead to deindividuation (e.g., anonymity, arousal, sensory overload, novel or unstructured situations and intoxicants); (2) an internal deindividuated state that consists of feelings of being undifferentiated from one's environment or group, decreased levels of self-awareness and self-evaluation, and a lower level of concern for negative consequences imposed by external parties; and (3) behavioral outcomes that are uninhibited in nature. Although initial results supported the general predictions of Zimbardo's theory of deindividuation, anomalies in

subsequent research on deindividuation led to the development of the social identity model of deindividuation (Reicher et al., 1995).

Social Identity Model of Deindividuation (SIDE)

Initial work on deindividuation focused on the negative behaviors of individuals. A number of studies revealed that deindividuation can also lead to positive outcomes, however, such as lowered levels of aggression (Diener, 1976) and increased levels of affection towards others (Gergen, Gergen, & Barton, 1973). Further, it was found that contextual features could largely influence the type of behavior individuals engage in once they are deindividuated. For example, rather than making participants anonymous by having them wear hooded robes that are reminiscent of the Ku Klux Klan, Johnson and Downing (1979) required participants to appear anonymous by having them wear nurses' uniforms. Consistent with the researchers' predictions, deindividuated participants displayed lower levels of aggressiveness rather than higher levels of aggressiveness that had occurred in previous studies. This led to the finding that deindividuated behavior can be negative or positive depending on environmental features.

Considering these divergent findings, Reicher et al. (1995) developed a social identity model of deindividuation, which proposed that deindividuation is a psychological state whereby a person's social identity gains prominence over a person's individual identity. Thus Reicher and colleagues argued that behaviors of deindividuated individuals are influenced more by situational norms than personal standards of behavior and, therefore, they behave more in accordance with their immediate social cues. This, of course, is in comparison to the earlier view of deindividuation as a state in which individuals lose their inner inhibitions and release anti-normative behavior.

Riecher et al.'s (1995) SIDE model is primarily based on both social identity theory (Tajfel, 1978, 1982; Tajfel & Turner, 1986) and self-categorization theory (Turner, 1991; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). These two theories suggest that individuals define themselves in terms of social categories to which they belong (e.g., race, gender, occupation), and they attempt to construct positive social identities through more favorable definitions of the groups with which they identify. Social identification theory states that a person who strongly identifies with a social group is an individual whose social identity is more salient than his or her personal identity. Such a person, therefore, is less concerned about personal standards of behavior and is more susceptible to social norms of behavior. Reicher et al. described this process in the following manner: "Thus, in becoming part of a group, individuals do not lose all sense of self, rather they shift from the personal to the social level of identification. It follows that, in becoming a group member, individuals do not necessarily lose all bases for the control of behavior. Rather, the criteria for action may shift from the personal to the social categorical level" (p. 177).

The main proposition of the SIDE model was supported in a laboratory experiment by Reicher (1984), which tested competing hypotheses relating to the classic deindividuation paradigm and the SIDE model. Further, a meta-analysis of 60 independent studies on deindividuation found general support for the SIDE model of deindividuation over the older paradigm of deindividuation (Postmes & Spears, 1998). Specifically, meta-analytic results revealed that participants who were deindividuated behaved more in accordance with situational norms than less so. Importantly, this effect was found across different types of deindividuation manipulations and for all dependent variables included in the meta-analysis (e.g., stealing, cheating, and failure to act prosocially when such behavior is expected).

Based on the SIDE model, the following section addresses how organizational identification might lead to deindividuation in organizations.

Organizational Identification and Deindividuation

Organizational identification is a form of social identification whereby individuals perceive a sense of oneness with the organization in which they are employed (Ashforth & Mael, 1989). Individuals are said to perceive a sense of oneness with an organization when their self-concept contains the same attributes as those in the organizational identity (Dutton, Dukerich, & Harquail, 1994). Thus, an organizational member is conceived of as having a high level of organizational identification when (1) his or her identity as an organizational member is stronger than alternative identities, and (2) his or her definition of self contains many of the same characteristics that he or she believes defines the organization (Dutton et al., 1994).

Individuals identify with organizations for a variety of reasons. The main reason that individuals identify with organizations, however, is because it helps them preserve their self-concept in a distinctly positive light (Mael & Ashforth, 1992). Therefore, the distinctiveness and prestige of the organization, the salience of other organizations and positive evaluations of those organizations by external parties, all contribute to an individual's identification with the organization (Ashforth & Mael, 1989; Dutton et al., 1994). Moreover, it has been argued that individuals seek identification with social entities such as organizations in order to find meaning in unfamiliar situations (Ashforth, Harrison, & Corley, 2008), reduce uncertainties in new environments (Hogg & Terry, 2000), and to fulfill basic human needs of safety and affiliation (Pratt, 1998).

Meta-analyses have revealed that organizational identification is positively related to both identity-congruent behavior and support for the organization that embodies the identity (Riketta, 2005; Riketta & van Dick, 2005). High levels of organizational identification, for example, have been linked to positive organizational outcomes such as extra role behavior (Blader & Tyler, 2009; Dukerich, Golden, & Shortell, 2002), task performance (van Knippenberg, 2000), intrinsic motivation (Kogut & Zander, 1996; van Knippenberg & van Schie, 2000), cooperation (Bartel, 2001), job satisfaction (Carmeli, Gilat, & Waldman, 2007), and creativity (Carmeli, Cohen-Meitar, & Elizur, 2007). However, what is particularly important for the present research is the effect that organizational identification has on individuals' sense of self-identity.

By definition, a person who has a high level of organizational identification is an individual, whose identity as an organizational member is stronger than alternative identities, including his or her own personal identity (Dutton et al., 1994). Organizational identification, therefore, is likely to be a precursor of identity-based deindividuation as described in the SIDE model. Hogg and Terry (2000) suggested that at the heart of the organizational identification process is a prototype-based depersonalization¹ of organizational members, and its outcome is that members are no longer “represented as unique individuals but, rather, as embodiments of the relevant prototype” (Hogg & Terry, 2000, p. 123). A prototype of a social entity is “a cognitive representation of features that describe and prescribe attributes of the group” (Hogg & Terry, 2000, p. 123). A prototypical member of an organization is thus a

¹ Note that Hogg and Terry (2000) use the term depersonalization as opposed to deindividuation. The authors suggest that the reason for this is because of the negative connotation associated with the word “deindividuation.” However, in their description of the SIDE model, Reicher et al. (1995) make parallels between their version of deindividuation and the notion of depersonalization as described in the social identity theory.

person who embodies the key attributes of the social identity of the organization—in other words, a member who has high levels of organizational identification.

The process of organizational identification is analogous to the group immersion that is described in the SIDE model as a precursor of deindividuation. High levels of organizational identification, therefore, can be expected to result in a psychological state of deindividuation similar to that which results from group immersion (e.g., Reicher, 1984). Attesting to this, a study by Pratt (2000) showed how the process of organizational identification is orchestrated in organizations through proactive disconfirmation of employees' prior self-identities (i.e., sense breaking) and provision of new organizational identities (i.e., sense giving).

In line with the SIDE model's predictions, employees who feel deindividuated due to high levels of organizational identification are likely to be more willing to voluntarily adhere to situational norms of the organization. Consistent with this idea, Dukerich, Kramer, and McLean Parks (1998) suggested that high levels of organizational identification make organizational members (a) less inclined to question the ethicality of organizational behavior, (b) less inclined to perceive an intervention in questionable organizational behavior is necessary, and (c) more likely to behave unethically on behalf of the organization. In line with this, two studies by Umphress, Bingham and Mitchell (2010) found that individuals who strongly identified with their organization and had strong positive reciprocity beliefs were more likely to engage in unethical behavior to benefit the organization. These studies suggest that a high level of organizational identification can be underscored by feelings of deindividuation, which in turn make individuals more susceptible to organizational norms, and therefore more likely to engage in behaviors that are consistent with organizational norms. For example, if an organization's norm is to tolerate unfairness and to treat

stakeholders unfairly, highly deindividuated individuals maybe more likely to conform to the norm and act unfairly towards others, than are those who are less deindividuated. Conversely, if the norm of an organization is to treat stakeholders fairly and not tolerate unfairness, highly deindividuated individuals are likely to act fairly towards others, relative to those who are less deindividuated. Based on this argument, the following hypothesis was tested:

Hypothesis 1: Organizational identification is positively related to feelings of deindividuation at work.

Continuance Commitment and Adoption of a Subordinate Role

Continuance commitment is a second variable that can make adherence to organizational norms likely (Allen & Meyer, 1990). Continuance commitment refers to prolonged association with an organization because of the costs that are associated with leaving the organization (Allen & Meyer, 1990). The two main antecedents of continuance commitment are (1) the magnitude and/or number of personal investments individuals have made for an organization, and (2) the perceived lack of alternatives (Allen & Meyer, 1990). Therefore, employees who have high levels of continuance commitment are those who remain with an organization because they *need* to, rather than because they *want* to do so.

The concept of continuance commitment is based on Becker's (1960) side-bet theory, which suggests that individuals accumulate "side bets" as a result of investments they make. In order for them to profit from these side bets, they need to engage in "consistent lines of activity" (p. 33) for a prolonged length of time. Powell and Meyer (2004) found seven categories of side bets to be significant predictors of continuance commitment: expectations of others, self-presentation concerns, impersonal bureaucratic arrangements, individual

adjustment, non-work concerns, lack of alternatives, and satisfying conditions. It is important to note that this list of side bets includes both economic and social costs, as well as costs that stem from both within and outside of the organization.

Continuance commitment has been linked to a number of important organizational outcomes (see Meyer, Stanley, Herscovitch, & Topolnytsky, 2002, for a meta analysis). For example, continuance commitment has been found to be negatively related to employees' levels of performance (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989), turnover intentions (Jaros, Jermier, Koehler, & Sincich, 1993; Mayer & Schoorman, 1992; Meyer, Allen, & Smith, 1993), organizational citizenship behavior (Shore & Wayne, 1993), voice and promotability (Shore, Barksdale, & Shore, 1995). Of particular importance to the present research is the relationship between continuance commitment and individuals' susceptibility to external influence.

According to side-bet theory (Becker, 1960), the two factors that underscore continuance commitment, namely, the perceived lack of alternatives and the number and magnitude of side bets, can place individuals in a relatively powerless position of being "stuck" in an organization. As a result, individuals who have high levels of continuance commitment are more dependent on the organization (Wahn, 1993). This heightened dependency can in turn place individuals in a subordinate role of compliance. A study by Wahn (1993) provided direct support for this contention. Hypothesizing that individuals who were more dependent on organizations would be more compliant to unethical behavior, Wahn (1993) found a moderately strong positive relationship between continuance commitment and compliant unethical behavior. This finding suggests that individuals who are dependent on the organization (i.e., individuals with high levels of continuance commitment) are less likely to resist organizational pressures that compromise their personal ethical standards.

Research on the relationship between continuance commitment and locus of control (Rotter, 1966) has also found a positive relationship between continuance commitment and individuals' likelihood to adhere to organizational norms. Locus of control suggests that individuals' "attribute the cause of and control of events either to themselves or to external environment" (Spector, 1982, p. 482). Individuals who attribute control of events to themselves are considered to have an internal locus of control, whereas individuals who ascribe control of events to the external environment are considered to have an external locus of control (Spector, 1982). Individuals who have an external locus of control exert less control over their environments than individuals with an internal locus of control (Phares, 1986), and they display higher levels of conformity to external forces (Crowne & Liverant, 1963).

In one of the most replicated findings in the commitment literature is the positive relationship between continuance commitment and an external locus of control (e.g., Coleman, Irving, & Cooper, 1999; Irving, Coleman, & Cooper, 1997). Because perceived lack of control over situations is characteristic of individuals who have an external locus of control, it has been argued that individuals who have an external locus of control are more likely to perceive fewer alternatives to a given cause of action, and therefore more likely to develop continuance commitment towards their organizations (Spector, 1982). Although studies that have established a connection between external locus of control and continuance commitment have considered locus of control as an antecedent of continuance commitment, none of these studies have tested this relationship using a longitudinal design. Therefore, these results can also be explained by suggesting that individuals who have high levels of continuance commitment develop an external locus of control due to their perceived lack of alternatives and an inability to leave the organization. Nonetheless, the positive association

between external locus of control and continuance commitment provides further support that individuals with high levels of continuance commitment are more likely to be susceptible to external influences, such as organization specified norms of behavior.

Unlike the type of susceptibility individuals were argued to display due to deindividuation (i.e., a shift in criteria for action from the personal to the social categorical level), it is likely that individuals' with continuance commitment are susceptible to external cues. This is due to a perceived lack of choice and power and their adoption of a subordinate role. Hence, the second hypothesis:

Hypothesis 2: Continuance commitment is positively related to adoption of a subordinate role at work.

The Level of Justice Climate as a Moderator

Organizational norms and normative behavior are central to the ideas that have been proposed thus far based on deindividuation and subordination. Norms can be conceptualized as mental representations of associations between environments and expected behavior in those environments (Aarts & Dijksterhuis, 2003). In organizations, norms are often dictated by the climate of an organization. A climate of an organization is defined as employees' shared perceptions regarding the work environment and its influence on them (Schneider, 1975). It is considered a reflection of organizational values and expected and appropriate behavior of employees (Reichers & Schneider, 1990). Climate is a perceptual variable (Schneider & Reichers, 1983). It is based on the level at which it is operationalized. Thus it can be conceived of as the psychological climate of an individual, or the organizational climate of a group of individuals (Kuenzi & Schminke, 2009).

Despite the traditional view of organizational justice as an individual level phenomenon, several conceptual developments and related empirical research point to the existence of norms of fairness at a group level. Some of the early conceptual work on justice, for example, recognized the viability of considering justice as a contextual phenomenon. Sheppard, Lewicki and Minton (1993) asserted that organizational justice is partially a product of organizational structures, and that certain structures are systematically fairer than others. Similarly, Greenberg (1993) argued that organizations can contextualize justice by having distributive and procedural justice “built in” to organizational systems. In the first study to test the tenability of conceptualizing justice as a contextual variable, Mossholder, Bennett and Martin (1998) found support for these initial theoretical assertions regarding the existence of norms of procedural fairness in certain contexts.

In a subsequent study, Naumann and Bennett (2000) introduced the concept of a *justice climate*, which they defined as “a distinct group-level cognition about how a work group as a whole is treated” (p. 882). They found two contextual antecedents, namely, group perceptions of cohesion and the visibility of supervisors, to be fundamental in the development of justice climates. It must be noted, however, that the focus of this study was on organizational climate, which was operationalized as an aggregation of individuals’ psychological climates with their work group as the referent.

Justice climates that manifest at various levels within organizations have been found to influence a number of important organizational outcomes. In Naumann and Bennett’s (2000) study, procedural justice climate was found to be predictive of individuals’ helping behavior beyond individual level justice perceptions. Similar relationships between justice climates and employee outcomes were reported by Liao and Rupp (2005). They adopted a multi-foci framework in examining effects of justice climate on employees’ attitudes towards

supervisors and the organization. More recently, a study by Erdogan and Bauer (2010) tested the effects of justice climate as a moderator in the relationship between differentiated leader-member exchange relationships and the work attitudes of employees who worked in teams. Their results showed that justice climate acted as a buffer to curb the negative effects of differentiated leadership on employees' withdrawal behaviors.

Moving beyond individual level outcomes, a study by Colquitt et al. (2002) examined the effects of team level procedural justice climate on team level outcomes. Their findings showed that team level procedural justice climate was a significant predictor of team level performance and absenteeism. Moreover, these relationships were found to be stronger when the climate strength was high rather than low. In another study, Simons and Roberson (2003) found that department level procedural justice climate and individual level procedural justice had unique relationships with department level employee affective commitment and satisfaction with supervision. Similarly, Ehrhart (2004) found a significant positive relationship between procedural justice climate and unit-level organizational citizenship behavior. Overall, these and other studies have demonstrated that justice can be conceived of as a contextual feature, and that certain work contexts have different justice climates, which have implications on individual as well as group level outcomes.

It is important to note that the main focus of justice climate research thus far has been on individuals' *reactions* to justice climate. Not many studies have examined direct or indirect effects of justice climate on individuals' fair behavior (see Aquino et al., 2006 and Erdogan & Bauer, 2010 for exceptions). Despite this, there are reasons to believe that justice climate impacts individuals' fair behavior in several different ways. For example, Ambrose and Schminke (2009a) argued that individuals' perceptions regarding the level of fairness that is displayed in their respective workgroups can inform them of the level of priority that they

should give to demands of justice when competing demands arise. Also, such perceptions can influence individuals' awareness of justice issues in a work environment by making fairness a salient or a minor aspect of work life. Moreover, a justice climate can influence individuals' judgments regarding the need to use different justice norms such as equality, voice, and participation.

In the context of the present theoretical framework, justice climate is hypothesized to inform individuals of their expected behaviors in terms of fairness. For example, in an organization with a negative justice climate, the collective norm might dictate that it is necessary and even appropriate to tolerate unfairness, or engage in unfair behaviors in circumstances where the fairness motive conflicts with the profit motive. In such a context, individuals who are highly deindividuated are likely to succumb to the norms of unfairness because their criteria for action exist at the work group level as opposed to the personal level. On the other hand, individuals who have lower levels of deindividuation are less likely to succumb to organizational norms of expected behavior if they conflict with their personal standards of behavior, as their criteria for action is at the individual level as opposed to the work group level. This same argument is applicable to organizational climates with high levels of fairness. Employees who are highly deindividuated are more likely to engage in norms of fairness and engage in fair behavior in fair organizational climates. Fair behaviors of employees who are less deindividuated are less likely to be influenced by organizational norms prescribed by the justice climate.

In contrast to deindividuation, employees with high levels of continuance commitment might comply with expectations to engage in fair or unfair behavior prescribed by the justice climate due to their perceived lack of choice and powerlessness. Individuals with low levels of continuance commitment, on the other hand will be unlikely to conform to

the norms prescribed by the justice climate if they conflict with personal standards of behavior. Based on this discussion, the following hypotheses were tested:

Hypothesis 3a: Deindividuation mediates the relationship between organizational identification and individuals' fair behavior depending on the level of justice climate. Specifically, the relationship between deindividuation and fair behavior is positive in high justice climates (i.e., climates with high levels of fairness), and negative in low justice climates (i.e., climates with low levels of fairness).

Hypothesis 3b: Adoption of a subordinate role mediates the relationship between continuance commitment and individuals' fair behavior depending on the level of justice climate. Specifically, the relationship between adoption of a subordinate role and fair behavior is positive in high justice climates, and negative in low justice climates.

The Role of Climate Strength

Even though members of a workgroup might hold similar perceptions regarding the norms of the workgroup, there still can be variance among group members' perceptions. This variance provides meaningful information about the strength of the workgroup climate (Lindell & Brandt, 2000; Schneider, Salvaggio, & Subirats, 2002). Therefore, while climate level reflects the extent to which a certain attribute is present (e.g., fairness), climate strength reflects the extent to which members in a workgroup agree that the attribute is indeed characteristic of the workgroup (Lindell & Brandt, 2000; Schneider et al., 2002). From this perspective, justice climate is the extent to which there is agreement in a workgroup regarding the level of fairness of practices and policies that govern the workgroup. Strength

of climate is important because it influences the manner in which the level of climate influences organizational outcomes (Colquitt et al, 2002; Schneider et al., 2002).

The notion of justice climate is based on Mischel's (1976) construct of *situational strength*. Situational strength refers to the relative power of situations to control individual behavior and promote conformity. Mischel argued that strong situations lead individuals to have similar perceptions regarding events, form similar expectations about appropriate behavior, and develop necessary skills to engage in those behaviors. Weak situations facilitate variance in individual behavior, whereas strong situations restrict the range of behaviors that individuals typically perform, thereby limiting the influence of individual differences on actual behavior.

Building on Mischel's (1976) perspective, Schneider et al. (2002) argued that a strong climate produces uniform perceptions, expectations, and behavior in a particular setting. A weak climate, in contrast, is less reliable in generating the same degree of uniformity. To this end, strong climates are expected to lead to greater levels of consistency in behaviors than weak climates. Therefore, whatever the attributes are that characterize a climate—whether they are positive or negative—they tend to have a stronger influence on individuals' behavior in stronger climates than in weaker climates. This suggests that the strength of a climate moderates the influence of climate attributes on outcomes.

Evidence from several empirical studies suggests that climate strength moderates the influence that climate level has on numerous organizational outcomes. Colquitt et al. (2002), for example, found that climate strength moderated the relationship between procedural justice climate level and both team-level performance and absenteeism. Similarly, Gonzalez-Roma, Peiro, and Tordera (2002) found that climate strength moderated the relationship between innovation climate level and unit-level work satisfaction and organizational

commitment. In the same study, they found that climate strength moderated the relationship between climate level for goal orientation and customers' ratings of service quality. Moreover, Schneider et al. (2002) found that the strength of climate moderated the relationship between the level of service climate and customer rated service quality. Importantly, the pattern of interactions between climate level and climate strength in each of these studies was such that the relationships between the level of climate and outcomes were stronger when the strength of the climate was high. Together, these findings suggest that a strong climate enhances the relationships between the level of climate and outcome variables.

In the aforementioned studies, organizational climate was considered as an independent variable and the strength of climate was considered as a moderator of the relationship between the climate level and outcome variables. In the present study, justice climate was considered as a moderator variable; therefore the focus was on the extent to which climate strength influences the moderating effect of climate level on the relationships between fair behavior and either deindividuation or the adoption of a subordinate role.

Based on climate strength literature, the moderating effect of the level of justice climate (i.e., the fairness or unfairness of the justice climate) likely varies based on the level of climate strength. Specifically, individuals who are highly susceptible to external influences likely behave in ways that are in line with the attributes of the climate, when the climate is strong. Individuals who are susceptible to external influences are, therefore, expected to behave more fairly when they are in a high justice climate that is strong as opposed to weak in climate strength. In a similar vein, such individuals are expected to behave less fairly when they are in a low justice climate that is strong as opposed to weak in climate strength.

Analytically, this suggests a three-way interaction between individuals' susceptibility to external influence (i.e., deindividuation and adoption of a subordinate role), level of justice

climate, and strength of justice climate in predicting individuals' fair behavior. Based on this, the following two hypotheses were tested:

Hypothesis 4a: There is a three-way interaction between deindividuation, level of the justice climate, and strength of the justice climate. Specifically, the relationship between deindividuation and fair behavior is positive and stronger when the climate level is positive and the climate strength is high, as compared to when the climate level is positive and the climate strength is weak. In contrast, the relationship between deindividuation and fair behavior is negative and stronger when the climate level is negative and the climate strength is high, as compared to when the climate level is negative and the climate strength is low.

Hypothesis 4b: There is a three-way interaction between adoption of a subordinate role, level of the justice climate, and the strength of the justice climate. Specifically, the relationship between adoption of a subordinate role and fair behavior is positive and stronger when the climate level is positive and the climate strength is high, as compared to when the climate level is positive and the climate strength is weak. In contrast, the relationship between adoption of a subordinate role and fair behavior is negative and stronger when the climate level is negative and the climate strength is high, as compared to when the climate level is negative and the climate strength is low.

The hypotheses were tested in three studies. Studies 1 and 2 were laboratory experiments, and Study 3 was a survey. Study 1 tested the causal relationship between organizational identification and supervisors' fair behavior (Hypotheses 1 and 3a). Study 2 tested the causal relationship between continuance commitment and supervisors' fair behavior (Hypotheses 2 and 3b). In both studies 1 and 2, the level of justice climate was experimentally manipulated (e.g., fair vs. unfair justice climate). Therefore, the conditions for fair and unfair justice climates had to be sufficiently strong for the justice climate level

manipulation to be successful. This means that the fair and unfair justice climate conditions in the two laboratory experiments had high levels of climate strength (hence justice level and strength were confounded in the two laboratory experiments). For this reason, Hypotheses 4a and 4b were not tested in these two experiments. On the other hand, Study 3, a survey, tested the complete model utilizing a sample of workgroups from actual organizations. The purpose of experiments 1 and 2 was to establish internal validity of the causal links proposed in the model. The purpose of Study 3 was to assess the external validity of the model. Overall, the methodological triangulation provided a robust test of the proposed model than the use of one study alone.

CHAPTER 3: EXPERIMENT 1

The purpose of the experiment was to examine the effects of organizational identification on individuals' fair behavior in a laboratory setting.

Participants and Design

A laboratory experiment was conducted using a 2 (high vs. low identification) x 2 (high vs. low justice climate) between-participants design. One hundred and fifty five senior level students in a business school (70 male and 85 female) in a large Southeastern university participated in this study in exchange for partial course credit. The majority of them (74%) were employed full- or part-time at the time of the experiment. They had an average of 2.58 ($SD = 3.29$) years in their present job.

Procedure

Participants were told that they were taking part in a business simulation that a certain organization had developed in conjunction with the university, and that the simulation was for the organization's training and development program. All participants were given a link to a website to access the simulation. Participants were informed that they had to complete the simulation in an allotted period of time. This was done to ensure that all participants completed the simulation at the same time, and diffusion did not occur. The business simulation was as an in-basket exercise that required participants to assume the role of a senior manager of a company, to read a number of memos and emails that they received from upper management and colleagues, and to respond to queries and requests.

A business simulation was used as the context for this experiment because: (1) business simulations, and in-basket exercises in particular, have been found to have high levels of criterion related validity in relation to participants' actual performance in real organizations (Schippmann, Prien, & Katz, 1990; Thornton & Byham, 1982); (2) business simulations have been found to be effective in creating a context in which an organization's climate can be manipulated effectively (e.g., Gaertner, 1991), (3) a business simulation provides a better opportunity to increase both mundane and experimental realism in comparison to a scenario study, and (4) introducing the study to participants as a business simulation as opposed to a research study decreases the potential threat of a subject-expectancy effect (Trevino, 1992).

Participants' responses for the measures utilized in this study were scored on a 7-point Likert-type scale with higher values representing higher levels of the measured construct.

Manipulation of Identification

Participants' identification with the organization was manipulated by varying the extent to which the organization was affiliated with the participants' university (high identification condition) vs. a rival university (low identification condition). Information regarding the organization was provided at the start of the simulation. All participants were told that the simulation was based on real business scenarios of a particular organization. Participants in the high identification condition were told that the organization, which the simulation was based on, was affiliated with the university; it promoted the school's identity with its products and services, and had been extremely supportive of the business school's events. Participants in the low identification condition were told that the simulation was conducted in conjunction with an organization that was closely affiliated with a school that

had been a longstanding rival of the participants' school. Further, participants in the low identification condition were told that the organization embodied the school spirit of the rival school, and the reason that the simulation was tested on the participants was because the organization was saving the rival school's senior business students to test run the final and complete version of the simulation (for the full version of the manipulation, see Appendix C). Results from a pilot test showed that the manipulation was effective in changing respondents' levels of organizational identification, as measured by Mael and Ashforth's (1992) organizational identification scale.

Manipulation of Justice Climate

Subsequent to reading the introductory material, participants were informed that they would be taking the role of a senior manager of the company. Participants were then given four different decision-making tasks in the form of memos and emails. Following Gaertner (1991), the justice climate manipulation was administered through the content of the memos and emails simulation (for the full version of the manipulation, see Appendix E). The results of a pilot test revealed that the set of tasks were effective in manipulating participants' perceptions of the justice climate of the organization as measured by the three organization-focused items of Ambrose and Schminke's (2009b) overall justice measure.

Fairness

The participants' levels of fairness were measured by their responses to a decision-making task. Specifically, participants were given a decision-making task that they received in the form of an email from an upper level manager. The email informed the participants that the company was going through a tough financial situation, and as a result, the company

needed to cut costs immediately. The participants were told that there were two options at the company's disposal. The first option would be to demote three mid-level managers to a junior manager level. If this option were chosen, the three managers would still have to do the same type of work as they had been doing before, for the same amount of hours, but with lower salaries, and fewer fringe benefits. The second option would be to reduce the company's marketing budget by 20%. If this option were chosen, the company would have to conduct its new marketing campaign on a much smaller scale, which might not help the company's ability to increase the market share. Participants were told to decide on an appropriate option given that they had been working with the company on a number of important issues, and they were aware of how the company operated, and what the company's priorities were (for the full version of the manipulation, see Appendix E). A six-item measure was used to assess the extent to which participants thought each option (1) was appropriate, (2) would solve the company's problems, and (3) was likely to be exercised by the participant. Responses for each item were rated on a 7-point Likert type scale, with higher scores indicating higher levels of the assessed attribute. The Cronbach's alpha of this scale was .89.

The decision-making task, which was used to measure individuals' levels of fairness, was tested on a different sample of senior business students ($n = 46$) to determine which one of the two choices was considered as the fairer option. Therefore, rather than asking the participants which option they would choose if they were the senior manager, participants were asked to rate the fairness of each option. The results of the pilot study revealed that the option of reducing the marketing budget was considered as significantly fairer than the option of demoting the three mid-level managers ($t = 5.40, p < .001$). Therefore, participants who rated the option of reducing the marketing budget as relatively more appropriate, better, and

more likely to be exercised, were considered as demonstrating higher levels of fairness in decision-making.

Deindividuation

The highest loading eight items from Prentice-Dunn and Rogers's (1982) deindividuation scale were used to measure participants' levels of deindividuation (Cronbach's $\alpha = .82$). A sample item from this scale is: "To what extent did you feel a sense of togetherness with the company?" Responses for each item were rated on a 7-point Likert type scale.

Manipulation Check for Identification

A 6-item measure of identification adapted from Mael and Ashforth's (1992) organizational identification scale was used as a manipulation check for the identification manipulation (Cronbach's $\alpha = .89$). A sample item from this scale was: "If I work in this organization, and if someone criticized this organization, it would feel like a personal insult."

Manipulation Check for Justice Climate

The three organization-focused items from Ambrose and Schminke's (2009b) overall justice scale was used to check the justice manipulation (Cronbach's $\alpha = .81$). A sample item from this scale is: "In general, the treatment people receive at United Knights/Alpha Inc. is fair."

Participant Awareness and Suspicion

At the end of the experiment, the participants were asked to complete a funneled debriefing questionnaire, which checked for awareness or suspicion of the purpose of the

experiment. Two participants were removed from the final sample based on the results of this questionnaire. Thus the final sample involved 153 participants.

Results

Manipulation Checks

A 2×2 ANOVA on the manipulation check for organizational identification yielded only a main effect of organizational identification [$F(1, 147) = 74.98, p < .001$]. Participants in the high organizational identification condition reported significantly high levels of identification on Mael and Ashforth's (1992) organization scale ($M = 5.38, SD = 1.03$) than did participants who were in the low identification condition ($M = 3.90, SD = 1.06$).

Similarly, a 2×2 ANOVA on the manipulation check for justice climate yielded only a main effect of justice climate [$F(1, 147) = 35.91, p < .001$]. Participants in the positive justice climate reported significantly higher scores ($M = 5.13, SD = 1.29$) on the three organization focused items of Ambrose and Schminke's (2009b) overall fairness measure, compared to the participants in the negative justice climate ($M = 3.85, SD = 1.28$).

Test of Hypotheses

Descriptive statistics and correlations between the experimental variables are shown in Table 1. The purpose of the experiment was to test hypotheses 1 and 3a. Hypothesis 1 stated that higher levels of organizational identification lead participants to feel higher levels of deindividuation. Hypothesis 3a stated deindividuation mediates the relationship between organizational identification and individuals' fair behavior depending on the level of an organization's justice climate. Specifically, individuals with high levels of deindividuation

were hypothesized to engage in more fair behaviors in a more positive justice climate than in a more negative justice climate, and more unfair behaviors in a more negative justice climate than in a more positive justice climate.

To test the hypotheses, the nonparametric bootstrap analysis of mediated moderation, suggested by Preacher, Rucker and Hayes (2007), was used. This procedure allows for the test of a conditional indirect effect, which can be described as the “magnitude of an indirect effect at a particular value of a moderator (or at particular values of more than one moderator)” (Preacher et al., 2007, p.186). The procedure consists of three steps. The first two steps involve conventional regression analyses. In the first step, the mediator variable is regressed on the independent variable, which should be a significant predictor of the mediator. In the second step, the dependent variable is regressed on the independent variable, the mediator, the moderator, and the multiplicative term of the mediator and moderator. The results of this analysis should yield a significant interaction effect. The third test calculates percentile-based, bias-corrected, and bias-corrected and accelerated bootstrap confidence intervals for the conditional indirect effect of mediation at certain values of the moderator variable. This third step was conducted using 5,000 bootstrap resamples.

As shown in Table 2, the results of the first step show that organizational identification significantly increased deindividuation. Thus hypothesis 1 was supported. The second step yielded a significant interaction between deindividuation and justice climate in predicting fairness. This suggests that the relationship between deindividuation and fairness is contingent upon the level of the justice climate. The significant interaction effect was plotted according to the recommendations of Aiken and West (1991). As shown in Figure 3, the pattern of the interaction was as hypothesized. Simple effect tests of the interaction effect

revealed that deindividuation was affected by supervisor fairness in the fair justice climate, and negatively affected by supervisor fairness in the unfair justice climate. The tests of conditional indirect effects showed that the indirect effect of organizational identification on fairness is negative when the justice climate is negative. This effect is positive, when the justice climate is positive. The statistical significance of the indirect effects at different levels of the moderator was tested by estimating bias-corrected and accelerated bootstrap confidence intervals. As shown in Table 2, the upper and lower values of the 95% CI of the indirect effect in both positive and negative justice climate conditions did not include a 0. This suggests that the indirect effects of organizational identification on fairness in both positive and negative climate conditions were statistically significant. Thus, hypothesis 3a was supported.

Discussion

This experiment tested the causal relationship between organizational identification, deindividuation, and fairness as a function of the justice climate in an organization. It was hypothesized that (1) organizational identification leads to deindividuation, (2) deindividuation leads to high levels of fairness in a fair justice climate, and (3) it leads to low levels of fairness in an unfair justice climate. Thus, the indirect effect between organizational identification and fairness was expected to be positive in a positive justice climate, and negative in a negative justice climate.

The results revealed that participants who were asked to take the role of a senior business manager of a company have more deindividuated when they identified strongly with the organization. Further, deindividuation and individuals' fairness was found to be affected

by the positive justice climate and negatively related in the negative justice climate. As expected, the indirect effect between organizational identification and fair behavior was found to be positive in the positive justice climate condition and negative in the negative justice climate condition. The results, therefore, support the hypothesized moderated mediation model, demonstrating that the direction of the indirect effect was contingent upon the level of the justice climate.

CHAPTER 4: EXPERIMENT 2

The purpose of the second experiment was to examine the effects of continuance commitment on individuals' fair behavior.

Participants and Design

A laboratory experiment was conducted using a 2 (high vs. low continuance commitment) x 2 (high vs. low justice climate) between-subjects design. One hundred and eleven senior business students (54 male and 57 female) from a large Southeastern university participated in this experiment in exchange for 10 points course credit. One participant had to be removed from the experiment due to awareness of the purpose of the experiment. Further, nine participants had to be removed from the experiment due to them not completing a majority of the tasks in the simulation. Thus the final sample consisted of 101 participants. The majority of them (74.30%) were employed full- or part-time. They had an average of 2.73 ($SD = 2.24$) experience in their present job.

Procedure

Similar to the first experiment, a business simulation that took the form of an "in-basket" exercise was used. In order to counter any demand effects, participants were not informed that they would be taking part in a research study, instead they were informed that they would be taking part in an online business simulation conducted by a group of researchers in conjunction with a set of companies. Although all participants were given the full amount of extra credit at the outset of the experiment, participants were told that the

amount of extra credit they received would depend on their performance in the simulation.

All participants read the following introductory information regarding the simulation.

Thank you for taking part in this business simulation. This simulation is conducted in conjunction with a business-consulting firm, which has been a longstanding supporter of our business school and has employed many of our former business students.

Currently, this particular company is in the process of designing a managerial simulation for their training and development program, and the company has requested the help of our senior students to test run part of their simulation.

The simulation provides you with the option of working in one of three different business environments, which have been modeled based on contexts and events of three different organizations. The simulation uses a new text recognition and coding system that is being used in assessment centers in order to assess the quality of your performance on various tasks. Overall, your performance will be evaluated based on what successful managers of these different companies have done in similar situations. Please note that your performance on the simulation tasks will be channeled back to the company's management. You will be given 10 credit points based on the quality of your performance.

Manipulation of Continuance Commitment

After reading the instructions, participants received the manipulation for continuance commitment. In the high continuance commitment condition, individuals read the following information:

You can start the exercise by selecting any one of the three companies listed below and clicking "Next." The credit point amount you receive will depend on how well

you perform on the tasks that are given to you. If you are unhappy with your organization or if you have doubts regarding your performance, you will be given a chance to quit the organization and join another organization for a second session. You will see a question on the screen asking you whether you would like to quit your organization and join another organization for a second session before the end of your first session. If you do indicate that you would like to start a second session at another organization, you will be given the option to select one of the two remaining organizations for your second session at the end of your first session. However, please note that restarting a second session at another organization will cost you 3 credit points. Also, before you start the second session, you must check with the administrative staff to see whether there is enough network capacity to start a second session with the organization of your choice (only a limited amount of students can access the simulation at a given point, the sooner you contact the administrative staff the greater are your chances of securing a slot). Note that a student can only do a maximum of two sessions, and the highest score of the two sessions will be recorded for credit points. Also, note that if you received the full score on your first session, you will not be able to start a second session.

Alternatively, participants in the low continuance commitment condition read the following information:

You can start the exercise by selecting any one of the three companies listed below and clicking “Next.” The credit point amount you receive will depend on how well you perform on the tasks that are given to you. If you are unhappy with your organization or if you have doubts regarding your performance, you will be given a chance to quit the organization and join another organization for a second session.

You will see a question on the screen asking you whether or not you would like to quit your organization and join another organization for a second session before the end of your first session. If you do indicate that you would like to start a second session at another organization, you will be given the option to select one of the two remaining organizations for your second session at the end of your first session. There is no penalty or cost involved in starting a second session. However, before you start the second session, you must check with the administrative staff to see whether there is enough network capacity to start a second session with the organization of your choice (this however, is only a formality, we typically have enough capacity to hold a large number of students at any given time). Note that a student can only do a maximum of two sessions, and the highest score of the two sessions will be recorded for credit points. Also, note that if you received the full score on your first session, you will not be able to start a second session.

Before conducting the experiment, the continuance commitment manipulation was pretested ($n = 56$) to examine whether participants who are allocated to the low continuance commitment condition would actually chose to leave more than the participants who are allocated to the high continuance commitment condition. The results showed that 28% of the participants chose to leave the organization when allocated to the low continuance commitment condition and only 7% of the participants chose to leave when allocated to the high continuance commitment condition, $\chi^2 (1, n = 56) = 4.38, p < .05, \phi = .28$. This suggested that the continuance commitment manipulation had the desired effect.

Manipulation of Justice Climate

Similar to the first experiment, participants were informed that they would be taking the role of a senior manager of the company. Participants were then given four different

decision-making tasks in the forms of memos and emails. These decision-making tasks were similar to the ones that were used in the previous experiment.

Participants' responses for the measures utilized in this study were scored on a 7-point Likert-type scale with higher values representing higher levels of the measured construct.

Fairness

Participants' fair behavior was assessed using the same decision-making task that was used in the first experiment.

Adoption of a Subordinate Role

Subsequent to that, participants were asked to complete a measure of adoption of a subordinate role. A 7-item scale that was created specifically for this experiment was used to measure this variable. Items for this scale can be found in Appendix A. A pilot survey of 303 supervisors (Mean age = 38.27, $SD = 10.79$; Mean organizational tenure = 8.53 years, $SD = 6.82$; Male = 50.3%) was conducted to test the psychometric properties of the scale. The results of the pilot tests yielded an acceptable reliability coefficient of .89, and the results of the present study yielded a reliability coefficient of .87 for the same scale.

Manipulation Check for Continuance Commitment

After reading the task, a manipulation check for continuance commitment was administered. Four items adapted from Allen and Meyer's (1990) continuance commitment scale were used as a manipulation check for the continuance commitment manipulation (Cronbach's alpha = .78). A sample item from this scale is: "It wouldn't be too costly for me to leave this organization now."

In order to examine whether participants who were allocated to the low commitment condition actually chose to leave the organization more than the participants who were allocated to the high commitment condition, a chi-square test was performed. The results showed that 30% of the participants chose to leave the organization when allocated into the low continuance commitment condition and only 10% of the participants chose to leave when allocated into the high continuance commitment, $\chi^2(1, n = 101) = 6.01, p < .05, \phi = .24$. The continuance commitment manipulation, therefore, had the desired effect on the participants.

Manipulation Check for Justice Climate

The three organization-focused items from the overall justice measure by Ambrose and Schminke (2009b) were used to check the justice manipulation (Cronbach's alpha = .87). A sample item from this scale is: "In general, the treatment people receive at United Knights/Alpha Inc. is fair."

Awareness and Suspicion

At the end of the experiment, participants were asked to complete a funneled debriefing questionnaire, which checked for their awareness or suspicion of the purpose of the experiment, and whether they believed the cover story for the simulation.

Results

Manipulation Checks

A 2×2 ANOVA on the manipulation check for continuance commitment yielded only a main effect of continuance commitment $F(1, 100) = 35.29, p < .001$. Participants in the high continuance commitment condition reported higher levels of commitment on Allen

and Meyer's (1990) continuance commitment scale ($M = 4.91, SD = 0.76$) than did participants who were in the low continuance commitment condition ($M = 3.84, SD = 1.02$). Similarly, a 2×2 ANOVA on the manipulation check for justice climate yielded only a main effect of justice climate $F(1, 101) = 28.82, p < .001$. Participants in the positive justice climate reported higher scores ($M = 5.39, SD = 1.28$) on the three organization focused items of Ambrose and Schminke's (2009b) overall fairness measure compared to participants in the negative justice climate ($M = 3.87, SD = 1.57$).

Test of Hypotheses

Descriptive statistics and correlations between the study's variables are given in Table 3. The purpose of the experiment was to test hypotheses 2 and 3b. Hypothesis 2 stated that higher levels of continuance commitment lead individuals to adopt a subordinate role. Hypothesis 3b stated that adoption of a subordinate role mediates the relationship between continuance commitment and individuals' fair behavior depending on the level of an organization's justice climate. Specifically, individuals with high as compared to low levels of continuance commitment were hypothesized to engage in more fair behaviors in more positive justice climates than in more negative justice climates, and more unfair behaviors in more negative justice climates than in more positive justice climates.

Similar to the first experiment, the hypotheses of the present experiment were tested utilizing Preacher et al.'s (2007) bootstrap analysis of mediated moderation. The bias-corrected and accelerated bootstrap confidence intervals for the conditional indirect effects of mediation were calculated using 5,000 bootstrap resamples. As shown in Table 4, the results of the first step of moderated mediation analysis revealed that continuance commitment significantly predicted adoption of a subordinate role. Thus the second hypothesis was

supported. The second step of the analysis yielded a significant interaction between subordination and justice climate in predicting fairness. The significant interaction effect suggested that the relationship between subordination and fairness was contingent upon the level of the justice climate. In order to examine the nature of the interaction, it was plotted consistent with the recommendations of Aiken and West (1991). As shown in Figure 4, the pattern of the interaction was consistent with the hypothesis. Simple slope tests of the interaction effect, however, revealed that the positive relationship between individuals' adoption of a subordinate role and fair behavior in the fair justice climate condition was not statistically significant. In comparison, the negative relationship between adoption of a subordinate role and supervisor behavior in the unfair justice climate condition was statistically significant. The significance levels of the conditional indirect effects of continuance commitment on fair behavior at different levels of the justice climate (i.e., fair climate vs. unfair climate) was examined by constructing bias-corrected and accelerated bootstrap confidence intervals for the indirect effects using 5,000 bootstrap resamples. As shown in Table 2, the results of this analysis revealed a significantly negative indirect effect of continuance commitment on fairness when the justice climate was negative. In the positive justice climate condition, the indirect effect of continuance commitment on fairness did not reach statistical significance. Thus, hypothesis 3b was only partially supported.

Discussion

The second experiment tested the causal relationship between individuals' continuance commitment, adoption of a subordinate role, and fairness as a function of the justice climate in an organization. It was hypothesized that continuance commitment leads to subordination, which in turn leads to fairness in a fair justice climate, and leads to less

fairness in an unfair justice climate. Thus, the indirect effect between continuance commitment and fairness was expected to be positive in a positive justice climate, and negative in a negative justice climate.

The results of the study revealed that participants who were in the high continuance commitment condition (i.e., the condition in which it was more costly and risky to switch between organizations) reported higher levels of subordination compared to those who were in the low continuance commitment condition. As hypothesized, the indirect effect of continuance commitment on fair behavior was positive in the high justice climate; however, this effect was not statistically significant. As expected, the indirect effect of continuance commitment on fair behavior was negative in the unfair climate, and this relationship was statistically significant. This suggests that individuals who experienced high levels of continuance commitment demonstrated lower levels of fairness in a negative justice climate due to their adoption of a subordinate role; however, adoption of a subordinate role did not lead to higher levels of fairness in a fair justice climate.

The non-significant indirect effect of continuance commitment on individuals' fairness in the high justice climate deserves attention. There are a number of methodological, statistical, and theoretical reasons that might explain the non-significant effect. For example, it might have been due to a ceiling effect in the high justice climate. A ceiling effect occurs when participants' responses cluster near the highest score of a dependent variable, so that further increases are difficult to obtain (Shadish, Cook, & Campbell, 2002). A ceiling effect, thus, restricts the range of responses one can obtain by manipulating a particular variable. According to the pattern of the interaction effect shown in Figure 4, it appears that participants' responses in the high justice climate do indeed cluster around the highest point of the justice scale. That is, there was a tendency for choosing the fairer option even among

those who had lower levels of subordination in the high justice climate. This might have imposed a range restriction on the increase in fairness due to subordination.

Secondly, the experiment was conducted with a relatively small sample size of 101 participants, with approximately 25 participants in each of the four conditions. The small sample size might not have given enough statistical power to detect a relatively weak effect. The results of a power analysis revealed that in order to detect an effect size of .27 with a .05 significance level, a sample size of 30 is needed. An indirect effect that is of lower magnitude, therefore, might have gone undetected given the rather restrictive size of the sample.

From a theoretical standpoint, the concept of continuance commitment is underscored by individuals' feelings of being "stuck" in an organization either due to a lack of alternatives or high costs of departure. Individuals who have high levels of continuance commitment are, therefore, argued to engage in activities because they have to, rather than because they want to. Continuance commitment was therefore argued to lead to feelings of powerlessness and subordination. The reason that continuance commitment did not influence individuals' fair behavior in the positive justice climate condition could be because, fairness in such a climate might be due to individuals' intrinsic motivation to act fairly as opposed to feelings of subordination or powerlessness. That is, participants who were in the fair climate might have acted fairly because they wanted to, rather than because they felt like they had to.

Nonetheless, it is worth noting that the general pattern of results was consistent with the hypothesis.

CHAPTER 5: STUDY 3

The purpose of this study was to test the hypothesized model in a field setting. Further, this study attempted to replicate the results of the previous two experiments with justice climate operationalized as a group-level construct (i.e., work-group justice climate) as opposed to an individual level construct (i.e., supervisor's psychological climate).

Participants and Procedure

Data for this study were collected from employee workgroups that consisted of a supervisor and at least two subordinates. The data collection used a snowball sampling strategy (Biernacki & Waldorf, 1981). Specifically, the author approached an undergraduate student cohort at a large Southeastern university and asked the students to arrange for a workgroup of at least three individuals (i.e., a supervisor and two subordinates), or if possible, four individuals (i.e., a supervisor and three subordinates) to complete a set of surveys. Only individuals who had part-time or full-time employment were asked to complete the survey. Therefore, all participants who responded to the survey were employed for at least 20 hours a week. All four surveys were administered online. Students were given course credit in exchange for their participation in the research.

A total of 820 employees nested in 205 workgroups responded to the survey. The average group size was 3.84 ($SD = 0.37$) employees per group. All supervisors in the sample were full-time employees with an average 5.45 years ($SD = 5.45$) of tenure in their current position. Further, 57% supervisors were male. Of the subordinates, 83% were full-time employees with an average 3.09 years ($SD = 0.49$) of tenure in their current position. On

average, subordinates were working 33 hours a week at the time of the survey. Of the total number of subordinates, 43% were male.

Measures

All responses were scored on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree) unless specified otherwise.

Supervisor Fairness

The fairness of a supervisor's behavior was measured by assessing their level of interactional justice towards their subordinates. Unlike distributive and procedural forms of justice, which can be largely influenced by sources outside a supervisor's control (e.g., organizational policies and practices), interactional justice is under a supervisor's direct control. Additionally, interactional justice is mainly centered on the exchange between an employee and a supervisor, whereas procedural and distributive types of justice concern the exchanges between an employee and the organization (Cropanzano, Prehar, & Chen, 2002). Interactional justice was, therefore, considered as a more reflective indicator of supervisors' fair behavior as compared to other facets of organizational justice.

The two facets of interactional justice (i.e., interpersonal justice and informational justice) were measured by Colquitt's (2001) 4-item measure of interpersonal justice and 5-item measure of informational justice. A composite score of both interpersonal and informational justice items were utilized as a measure of supervisor's interactional justice towards employees (Cronbach's alpha = .93). A minimum of 2 and a maximum of 3 subordinates rated each supervisor on his or her interactional justice (ICC[1] = .38, ICC[2] =

.65). Following Bono, Foldes, Vinson, and Muros (2007), an average score of interactional justice was calculated for each supervisor based on the scores provided by the subordinates.

Organizational Identification

Supervisors' organizational identification was assessed using Mael and Ashforth's (1992) 6-item scale for organizational identification (Cronbach's alpha = .90). A sample item from this scale was: "When someone criticizes my organization, it feels like a personal insult."

Continuance Commitment

Supervisors' continuance commitment was measured by Allen and Meyer's (1990) 6-item scale (Cronbach's alpha = .84). A sample item from this measure was: "Right now, staying with my organization is a matter of necessity as much as desire."

Deindividuation

Similar to the first experiment, supervisors' deindividuation at work was measured by items adapted from Prentice-Dunn and Rogers's (1982) deindividuation scale. The Cronbach's alpha of the scale was .84.

Adoption of a Subordinate Role

Adoption of a subordinate role was measured by the same 7-item scale that was used in the second experiment (Cronbach's alpha = .83).

Justice Climate Level

Justice climate was measured at the individual level with the group as the referent, but was expected to have an acceptable degree of consensus at the group level to form a "shared

unit property”, which in the current study is conceptualized as a situational characteristic (Kozlowski & Klein, 2000). The level of justice climate was measured using the three organization-focused items from Ambrose and Schminke’s (2009b) overall justice measure. These items were reworded to have the workgroup as the referent. A sample item from this scale is: “Usually, the way things work in this workgroup are not fair.” The Cronbach’s alpha of this scale was .93.

In order to test the proposed model, employees’ perceptions of workgroup’s justice climate had to be aggregated at the workgroup level. Therefore, in order to ensure whether a justice climate construct exists at the group level, within-group agreement of justice climate perceptions was assessed. Two complementary approaches were used to assess within-group agreement (Kozlowski & Klein, 2000): a consistency-based approach (computation of interclass correlation coefficients [1] and [2], or ICC[1] and ICC[2]) and a consensus-based approach (computation of the average deviation index, or ADM[J]).

The ICC(1) compares the variance between units of analysis (workgroups) to the variance within units of analysis using the individual scores, whereas ICC(2) assesses the relative status of between and within variability using average scores of respondents within each workgroup (Bartko, 1976; Shrout & Fleiss, 1979). Although there are no agreed standards of acceptability for either ICC(1) or ICC(2) values, a value of .12 or above for ICC(1), and a value of .60 or above for ICC(2) have been recommended as indicative of sufficient agreement for data aggregation (Schneider, White, & Paul, 1998).

In the present study, the calculated ICC(1) value for justice climate was .31 and the ICC(2) value was .64. These values, therefore, conformed to the recommended ICC values of group-level constructs reported in the organizational literature. Further, the one-way analysis of variance results which provided the information to calculate ICC values yielded a

significant between-group effect, [$F(205, 815) = 2.93, p < .001$]. This suggests there was statistically significant between-units discrimination in average justice climate perceptions that support the validity of an aggregate justice climate measure (Chan, 1998).

The within-group average deviation was calculated using an average deviation index (ADM[J] index) proposed by Burke, Finkelstein, and Dusig (1999). The ADM(J) index was used instead of James, Demaree, and Wolf's (1984) inter-rater agreement index ($rwg[j]$) for two reasons. First, the ADM(J) index only requires an a priori specification of a null response distribution, and unlike with $rwg(j)$, the ADM(J) index does not require modeling the random or null response distribution. Second, the ADM(J) index is easier to interpret because it provides estimates of the inter-rater agreement in the metric of the original response scale. It must be noted, however, that the results based on ADM(J) values are unlikely to differ from results based on $rwg(j)$ values substantially because of the high correlation between these two scores (Burke et al. 1999). For Likert-type response scales with seven options, for example, Burke et al. (1999) reported correlations between ADM(J) and $rwg(j)$ values that ranged between -.81 and -.90.

Taking into account the number of scale options, Burke and Dunlap (2002) provided a number of threshold values to assess the statistical significance level of within-unit agreement as measured by ADM(J) values. For a seven-point scale with a sample size of 13 or more, an ADM(J) value of or below 1.17 was suggested to indicate within-unit agreement that is significant ($p < .05$). In the present study, therefore, ADM(J) values were computed for each work group, and the within-group agreement was concluded if the average ADM(J) across all 205 workgroups was below 1.17. The mean ADM(J) for justice climate was 1.12 ($SD = 0.51$). Taking these results into account, the within-unit agreement in the study's workgroups

was sufficient to aggregate justice climate scores to the workgroup level. Justice climate level was, therefore, operationalized by averaging the justice climate scores of each workgroup.

Justice Climate Strength

Justice climate strength was operationalized as the degree of within-group agreement in climate perceptions. From the different multi-level composition models that Chan (1998) described, the dispersion model provides the theoretical basis for operationalizing climate strength. The dispersion model suggests that “given an adequate composition theory, the degree of within-group agreement of scores from the lower level units or attributes potentially could be conceptualized as a focal construct as opposed to merely a statistical prerequisite for aggregation” (Chan, 1998, p. 239). That is, instead of considering within-group variance as error variance, it can be considered as an operationalization of a focal construct.

Consistent with this logic, in the organizational climate literature, justice climate strength has been operationalized as the within-group agreement of individual scores of the focal attribute of the climate that is measured (e.g., Gonzales-Roma et al., 2002; Schneider et al., 2002). Consequently, justice climate strength was operationalized using the computed AMD(J) scores of each group. Because this index is a direct measure of within-unit variability, prior to testing the hypotheses, the values provided by the ADM(J) index regarding each climate scale were multiplied by -1 , so that higher scores represented higher within-unit agreement and higher climate strength.

Control Variables

Supervisors' moral disengagement was included as a control variable, because this too has been found to serve as a precursor to unethical or immoral behavior (Detert et al., 2008). Organizational structure was included as a control variable because it could potentially confound the effects of justice climate (Schminke, Ambrose, & Cropanzano, 2000; Schminke, Cropanzano, & Rupp, 2002). Individual's justice internalization (Liao & Rupp, 2005) was also controlled because it is an individual difference variable that could potentially influence individuals' fair behavior (Ambrose & Schminke, 2009a).

Level of Analysis Issues

All the variables of the proposed model existed at the group level. The level of justice climate and climate strength were conceptualized as psychological properties of the workgroup. They were operationalized at the workgroup level by calculating an average score for each group. The supervisors' psychological variables (i.e., the predictor variables and the mediating variables of the model) were conceptualized and measured at the individual level. However, because there was only one supervisor per group, these variables did not have any within group variance, and were therefore situated at the group level of analysis. Each supervisor's fairness was measured by calculating an average score of the subordinates' ratings of the supervisor. Therefore, this variable too was at the group level of analysis. Because all variables were at the same level of analysis, the hypotheses were tested using standard ordinary least square regression procedures.

Results

Measurement Model Results

The means, standard deviations, and correlations for all variables are shown in Table 5. Prior to hypothesis testing, a series of confirmatory factor analyses (CFA) were conducted to assess the extent to which the data fit the factor structure of the study's variables. Specifically, the fit of three different factor structures was compared. The first was a five-factor model with organizational identification, continuance commitment, deindividuation, adoption of a subordinate role, and justice climate represented as separate factors. The second was a four-factor model with organizational identification and deindividuation items loading on a single factor and the remaining items loading on their respective factors. The third was a three-factor model with organizational identification and deindividuation loading on a single factor, continuance commitment and adoption of a subordinate role loading on a second factor, and justice climate items loading on a third factor. The five-factor model displayed acceptable fit [$X^2(395, N=205) = 1075.82, X^2/df = 2.72, IFI = .82, CFI = .82, RMSEA = .09$], (Arbuckle & Wothke, 1996; Bagozzi & Yi, 1988; Browne & Cudeck, 1993). Further, the five-factor model was a better fit than either the four-factor model [$X^2(399, N = 205) = 1532.15, X^2/df = 3.84, IFI = .70, CFI = .70, RMSEA = .12; X^2_{\text{difference}} = 456.33, p < .001$], or the three-factor model [$X^2(420, N = 205) = 1912.15, X^2/df = 4.76, IFI = .60, CFI = .60, RMSEA = .14; X^2_{\text{difference}} = 380.00, p < .001$].

Test of Hypotheses

The two conceptual models, depicted in Figures 1 and 2, were tested separately utilizing the highly versatile statistical modeling tool, PROCESS (Hayes, forthcoming), which uses an ordinary least square-based path analytical framework for estimating direct,

indirect, and conditional indirect effects of complex models with multiple mediator and moderator variables. PROCESS was particularly appropriate for the present study as it allows for the direct testing of moderated mediation models with three-way interactions. Furthermore, PROCESS allows for the use of bootstrap methods to estimate conditional indirect effects.

Analytically, the two conceptual models of the study were similar to Model 3 in Preacher et al.'s (2007) study, except that the two models in the present study included an additional moderator. Therefore, both models consisted of a three-way interaction rather than a two-way interaction as in Preacher et al.'s Model 3. To account for this, the regression equation to test the Model 3 of Preacher and colleagues' paper was adjusted to reflect a three-way interaction effect. Specifically, the mediated moderation procedure involves three steps. In the first step, the mediator variable is regressed on the predictor variable. In order to find support for the mediation hypothesis, this analysis should find the predictor variable to be significantly related to the mediator. In the second step, the criterion variable is regressed on the predictor variable, the mediator, the moderators, all possible two-way multiplicative terms between the mediator and the two moderator variables, and the three-way multiplicative term between of the mediator and the two moderators. The results of this analysis should yield a significant three-way interaction effect. The third test calculates bootstrap confidence intervals for the conditional indirect effect of mediation at +1 and -1 standard deviations from the mean of the two moderator variables. This third step was conducted using 5,000 bootstrap resamples. The three control variables in this study (i.e., supervisor's moral disengagement, justice internalization and organizational structure) were included in step 2 of the mediated moderation analyses of both models. Additionally, continuance commitment was entered as a control variable in the analysis pertaining to organizational identification and vice versa, in

order to examine the unique effects of the two predictor variables. The results of the analyses for hypotheses predicting the relationship between organizational identification and fairness (i.e., Hypotheses 1, 3a and 4a) are given in Table 6, and the results of the analyses for hypotheses predicting the relationship between continuance commitment and adoption of a subordinate role (Hypotheses 2, 3b, and 4b) are given in Table 7. All hypothesized interactions that reached levels of statistical significance were plotted consistent with the recommendations of Aiken and West (1991).

Hypothesis 1 stated that employees' organizational identification is related to their deindividuation at work. Hypothesis 2 stated employees' continuance commitment would be related to their adoption of a subordinate role at work. The results of the first step of the moderated mediation analyses provided support for these two hypotheses. Hypothesis 3a predicted that deindividuation mediate the relationship between organizational identification and supervisors' fair behavior depending on the level of the organization's justice climate. Specifically, individuals with high as compared to low levels of organizational identification were hypothesized to engage in more fair behaviors in high justice climates than in low justice climates, and less fair behaviors in low justice climates than in high justice climates. Extending hypothesis 3a, hypothesis 4a predicted a three-way interaction between deindividuation, level of the justice climate, and strength of the justice climate. Specifically, the relationship between deindividuation and fair behavior was expected to be positive and stronger when the climate level was positive and the climate strength was high, as compared to when the climate level was positive and the climate strength was low. In contrast, the relationship between deindividuation and fair behavior was expected to be negative and stronger when the climate level was negative and the climate strength was high, as compared to when the climate level was negative and the climate strength was low.

The test of Hypotheses 3a and 3b occurred in the second and third steps of the mediated moderation analysis for organizational identification. As shown in Table 6, a significant two-way interaction effect was found between deindividuation and the level of justice climate, consistent with hypothesis 3a. Additionally, a significant three-way interaction effect was found between deindividuation, level of justice climate and climate strength, consistent with hypothesis 4a. As shown in Figure 5, the pattern of the two-way interaction between deindividuation and the level of justice climate was consistent with the predictions of hypothesis 3a. The results of simple slope tests of the two-way interaction effect revealed that the relationship between deindividuation and supervisor fairness was significantly positive in the positive justice climate, and significantly negative in the negative justice climate. Results of the bootstrap analysis of conditional indirect effects between organizational identification and supervisor fairness revealed that this relationship was positive when the justice climate was high, and negative when the justice climate was low. Hypothesis 3a was, therefore, supported. Nonetheless, because a higher order three-way interaction effect was present, the two-way interaction should be interpreted with caution.

Simple slope tests of the three-way interaction, as shown in Figure 5, revealed that the positive relationship between deindividuation and supervisor fairness reached statistical significance only when the climate strength was high. Similarly, the negative relationship between deindividuation and supervisor fairness in a low justice climate was significant only when the climate strength was high. When the climate strength was low, the relationship between deindividuation and supervisor fairness was not statistically significant regardless of the level of the justice climate.

In order to test hypothesis 4a, a series of slope difference tests (Dawson & Richter, 2006) probing the significant three-way interaction were conducted. The tests assessed

whether the positive relationship between deindividuation and supervisor fairness was significantly stronger when the justice climate level was high and the climate strength was also high compared to when the justice climate level was high and the climate strength was low. Similarly, it was assessed whether the negative relationship between deindividuation and supervisor fairness was significantly stronger when the justice climate level was low and the climate strength was high, compared to when the justice climate level was low and the climate strength was also low. The results of the slope difference tests revealed that the positive relationship between deindividuation and supervisor fairness was significantly stronger, as expected, when the justice climate level was high and the climate strength was also high, compared to when the justice climate level was high and the climate strength was low ($t = 2.16, p < .05$). Contrary to expectations, there was no significant difference in the strength of the relationship between deindividuation and supervisor fairness when the justice climate level was low and the climate strength was high, compared to when the justice climate level was low and the climate strength was also low. Therefore, Hypothesis 4a was only partially supported.

Consistent with the simple slope tests of the three-way interaction, the results of the bootstrap analysis of conditional indirect effects between organizational identification and supervisor's fairness, at +1 and -1 standard deviations from the mean of the two moderator variables, revealed that the indirect relationship between organizational identification and supervisor fairness was significantly positive only when the justice climate was high and the climate strength was also high. The conditional indirect effects between organizational identification and supervisor fairness, on the other hand, was significantly negative when the justice climate was low and the climate strength was high, as well as when the justice climate was low and the climate strength was low. It must be noted, however, that the effect size of

the indirect effect of organizational identification on supervisor fairness when both the justice climate level and the climate strength were low, was considerably smaller in comparison to the indirect effect when the justice climate was low and the climate strength was high.

Hypothesis 3b predicted that adoption of a subordinate role mediates the relationship between supervisors' continuance commitment and their fair behavior depending on the level of the organization's justice climate. Specifically, individuals with high as compared to low levels of continuance commitment were hypothesized to engage in more fair behaviors in high justice climates than in low justice climates, and fewer fair behaviors in low justice climates than in high justice climates. Building on hypothesis 3b, hypothesis 4b predicted that the indirect relationship between continuance commitment and fair behavior that is mediated through adoption of a subordinate role would be stronger when the justice climate was strong than when it was weak. The test of these two hypotheses occurred in the second and third steps of the mediated moderation analysis for continuance commitment (see Table 7). Consistent with hypothesis 3b, a significant two-way interaction effect was found between adoption of a subordinate role and the level of justice climate. However, in contrast to hypothesis 4b, the three-way interaction between supervisors' adoption of a subordinate role, justice climate level and climate strength did not reach statistical significance. Hypothesis 4b was, therefore, not supported.

The plot of the significant two-way interaction is given in Figure 7. The pattern of the interaction was different to what was expected. Specifically, the relationship between adoption of a subordinate role and supervisor fairness was expected to be positive when the justice climate was high, and negative when the justice climate was low. In contrast, results of the simple slope analysis revealed that the relationship between adoption of a subordinate role and supervisor fairness was non-significant when the justice climate was high. However,

as expected, this relationship was significantly negative when the justice climate was low. Consistent with these results, results of the bootstrap analysis of conditional indirect effects between continuance commitment and supervisor fairness yielded a non-significant effect when the justice climate was positive and a significantly negative effect when the justice climate was negative. Thus, hypothesis 3b was only partially supported.

It must be noted that the above results are from separate analyses of the two conceptual models depicted in Figures 1 and 2. By analyzing the effects of the two psychological processes separately, one can understand whether each one of the two processes affect fair behavior independent of the other. To this end, the above results suggest deindividuation and adoption of a subordinate role are predictive of supervisors' fair behavior as two independent processes.

Combined Analyses of the Two Models

In addition to testing the two models separately, supplementary analyses were conducted to test the combined effects of the two psychological processes on supervisors' fair behavior. The results of simultaneous analysis of the two models are reflective of the unique variance of one process, after controlling for the unique variance of the other process, and any shared variance accounted for by both the processes. By testing the two processes simultaneously in a single analysis, it is possible to examine whether one process masks the effects of the other on fair behavior, or whether the two processes predict supervisor fair behavior in uniquely differently ways. Therefore, in order to examine the combined influence of the two processes, variables of both models were simultaneously regressed on the criterion variable in a single regression equation when conducting the second step of the moderated mediation analysis. The results of the analysis are given in Table 8.

The results of the simultaneous analysis of the two models were, in most part, similar to the results of the separate analyses of the two models. The results relating to hypotheses 1 and 2 were identical to the results of the previous analyses. Consistent with hypothesis 3a, the simultaneous analysis of the two models yielded a significant two-way interaction between deindividuation and justice climate. The pattern of the two-way interaction was similar to the interaction depicted in Figure 5. Furthermore, results of simple slope analyses and test of indirect effect were consistent with the previous results concerning hypothesis 3a.

Consistent with the results of the individual analysis of the organizational identification model, a three-way interaction was found between deindividuation, justice climate, and climate strength. However, in contrast to the previous results, the positive relationship between deindividuation and supervisor fairness was not found to be significantly stronger when the justice climate level was high and the climate strength was also high, compared to when the justice climate level was high and the climate strength was low. Similar to the previous results, there was no significant difference in the strength of the relationship between deindividuation and supervisor fairness when the justice climate level was low and the climate strength was high, compared to when the justice climate level was low and the climate strength was also low. The simultaneous analysis of the two models, therefore, did not provide support for hypothesis 4a.

However, consistent with the results of the separate analysis of the organizational identification model, the test of indirect effects revealed that the indirect relationship between organizational identification and supervisor fairness was significantly positive when the justice climate was high and the climate strength was also high. This relationship was non-significant when the justice climate was high and the climate strength was low. The conditional indirect effects between organizational identification and supervisor fairness, on

the other hand, was significantly negative when the justice climate was low and the climate strength was high. In contrast to the results of the separate analysis of the model, this relationship was non-significant when the justice climate was low and the climate strength was also low. Although slope difference tests did not provide support for hypothesis 4a, the results of conditional indirect effects provide some support for this notion. This is because the indirect effects of organizational identification on fair behavior in high as well as low justice climates were only significant when the climate strength was also high.

In relation to continuance commitment and adoption of a subordinate role, the analysis of the combined model revealed a significant interaction effect consistent with hypothesis 3b. The pattern of the interaction was similar to that depicted in Figure 7. The results of simple slope analyses and the test of indirect effects were consistent with previous results and hypothesis 3b. The analysis did not yield a significant three-way interaction between adoption of a subordinate role, level of justice climate, and climate strength. Although this finding is not supportive of hypothesis 4b, it is consistent with the results of the separate analysis of the continuance commitment model.

Discussion

The purpose of Study 3 was to test the effects of organizational identification and continuance commitment on supervisors' fair behavior in a field setting. In doing so, Study 3 attempted to replicate the laboratory findings of Study 1 and Study 2, and establish the external validity of the hypothesized model. Further, Study 3 attempted to replicate the results of the two previous studies with justice climate operationalized as a group-level

construct as opposed to an individual level construct. In addition, Study 3 tested hypotheses 4a and 4b, which were not tested in the two laboratory experiments.

Overall, Study 3 replicated the findings of the two previous experiments. Consistent with the results of experiments 1 and 2, the results of Study 3 found supervisors' levels of organizational identification to be positively related to their levels of deindividuation at work, and their levels of continuance commitment to be positively related to their adoption of a subordinate. Both deindividuation and adoption of a subordinate role were, in turn, found to be related to supervisors' fairness towards their subordinates, depending on the nature of the level of the workgroup's justice climate.

In terms of deindividuation, the results revealed that fair behavior of supervisors who reported high levels of deindividuation were more influenced by the level of justice climate, regardless of whether the justice climate was positive or negative. As evidenced by the pattern of the significant three-way interaction, stronger justice climates did amplify the moderating effect the level of justice climate had on the relationship between deindividuation and supervisors' fair behavior; however, this effect was only marginal as reflected by the non-significant simple slope tests. Considering the results of the indirect effects, Study 3 revealed that organizational identification was associated with higher levels of supervisor fairness in workgroups with high justice climates, and lower levels of fairness in workgroups with low justice climates.

The relationship between adoption of a subordinate role and supervisor fairness was different to what was expected. Similar to the relationship between deindividuation and supervisor fairness, the relationship between adoption of a subordinate role and supervisor fairness was expected to be positive in a positive justice climate and negative in a negative justice climate. Further, the moderating effect of the level of justice climate on the

relationship between adoption of a subordinate role and supervisor fairness was expected to be stronger when the climate strength was strong rather than weak. Although supervisors' adoption of a subordinate role was associated with lower levels of fairness in low justice climates, no relationship was found between adoption of a subordinate role and supervisor fairness when the justice climate was high. In regard to the indirect effect of continuance commitment, Study 3 revealed that supervisors' continuance commitment was associated with lower levels of supervisor fairness in workgroups with low justice climates, but it was not related to supervisor fairness in workgroups with high justice climates. Although these findings provided only partial support for hypothesis 3b, they were consistent with the findings of Study 2. As mentioned before, the reason why adoption of a subordinate role was only predictive of fairness in low justice climates might be because subordination, due to a perceived lack of choice and powerlessness, is only predictive of behaviors individuals engage in despite their own interests. This is most likely the reason why adoption of a subordinate role is a predictor of individuals' unfairness in unfair climates and not fairness in fair climates.

Another reason why adoption of a subordinate role was only predictive of fair behavior in low justice climates might be because in high justice climates, individuals do not have to adopt a subordinate role. A study by Moon, Kamdar, Mayer, and Takeuchi (2009), for example, found that employees are more likely to take charge in work environments with high levels of procedural justice. Therefore, there might have been a range restriction on the extent to which individuals' adopted a subordinate role in fair climates, which in turn might have affected the extent to which adoption of a subordinate role predict individuals' behavior in fair justice climates (Johns, 1991).

In terms of the two hypotheses relating to climate strength, the separate test of the two models provided partial support for hypothesis 4a, and no support for hypothesis 4b. Considering that the three-way interaction relating to deindividuation was significant, and the general pattern of the interaction was consistent with hypothesis 4a, the cause for the non-significant slope difference test for low justice climate level could be because of a lack of statistical power due to a relatively small sample size (Cohen & Cohen, 1975), as opposed to a theoretical reason. The three-way interaction relating to adoption of a subordinate role did not reach statistical significance. The reason for this could again be a lack of statistical power, or the inherent multicollinearity issues in moderated regression that make it difficult to detect significant interaction effects (Johnston, 1972). Alternatively, it could be that adoption of a subordinate role puts an individual in a strong situation similar to that created by a strong climate, so that adoption of a subordinate role mitigates the moderating effect of climate strength. Because an employee with high continuance commitment is aware of the costs associated with leaving the organization, and the relative lack of alternative options, his or her actions might be highly evaluative and deliberate. This makes adoption of a subordinate role a highly cognitive exercise. Individuals who are in such a state of subordination, therefore, might try to be aware of social norms of the workgroup in a proactive manner and incorporate them into their behaviors. Thus at high levels of subordination, individuals are likely to be conscious of social norms despite the strength of the social norms. As such, climate level is likely to have an effect on employees' behavior regardless of climate strength when employees feel high levels of subordination. This is different to when employees feel high levels of deindividuation. Deindividuation is an affect-laden state with lower levels of self-awareness. Employees who are highly deindividuated,

therefore, might only become aware of social norms and behave accordingly when the social norms are highly salient, such as in a strong climate.

It must be noted that the combined analysis of both the models did not provide support for either hypothesis 4a or 4b, whereas the test of separate models provided partial support for hypothesis 4a. Specifically, the separate analysis of the organizational identification model revealed that the positive relationship between deindividuation and fair behavior is significantly stronger when the climate strength is high as opposed to low. When the two models were simultaneously analyzed, this effect disappeared. The reason why this effect disappeared was mainly because the relationship between deindividuation and fair behavior became stronger compared to before in the high justice, low climate condition when the two models were analyzed together. This reduced the slope difference between high justice, low climate condition and high justice, high climate condition. The improvement in the relationship between deindividuation and fair behavior in the high justice, low climate condition after controlling for the effect of continuance commitment and subordination suggests that these two processes capture two different subsets of the fairness motivation.

CHAPTER 6: DISCUSSION AND CONCLUSION

A common basis by which individuals assess the quality of their social interactions with others is the extent to which such interactions uphold norms of fairness (Adams, 1965; Homans, 1961). Research on organizational justice suggests that individuals' attitudinal, behavioral, and even physiological reactions take adverse forms when expected standards of fairness are not met (Aquino et al., 2004; Barling & Philips, 1993; Folger & Skarlicki, 1997; Greenberg, 1990a; Pinder & Harlos, 2001). Despite the well-known deleterious consequences of unfairness, it is unclear why individuals at times fail to act fairly towards others. Because the main focus of organizational justice has thus far been on individuals' reactions to perceived justice, the critical question of why individuals behave fairly or unfairly has been left largely unanswered. Nevertheless, understanding why individuals behave fairly or unfairly is of crucial importance because it is fundamental in finding methods through which individuals can be motivated to behave fairly.

The present research is one of the first attempts to predict and influence individuals' fair behavior. In a series of three studies, which involved two laboratory experiments and a multi-source survey study, the present research examined how psychological and situational determinants interactively influence individuals' levels of fairness. The primary contribution of the present research is that it identified two different antecedents, namely, organizational identification and continuance commitment as well as related processes (i.e., deindividuation and subordination) that influence individuals' fairness towards others. The way in which the findings of the present research inform organizational justice research and the theories on which the research was based is next explained.

Implications for Organizational Justice

Overall, the present results suggest that individuals' fairness is influenced by the justice climate of their workgroup, to the extent that they are in a state that makes them susceptible to external influences. Two psychological factors, namely, organizational identification and continuance commitment, were examined as antecedents of two different mindsets that make individuals more susceptible to external influences. Organizational identification was associated with a sense of deindividuation at work. Deindividuation, which is a state of mind characterized by a reduced self-awareness and altered experience, decreases an individual's attention to personal standards for appropriate behavior (Postmes & Spears, 1998). In a deindividuated state, an individual derives the standards for appropriate behavior from the norms that are prevalent in the immediate context of the individual (Riecher et al., 1995). The present research found fair behavior of individuals who reported high levels of deindividuation to be in line with the norms of the justice climate of the workgroup. Specifically, individuals who reported high levels of deindividuation were found to behave more fairly in climates with high levels of fairness and less fairly in climates with low levels of fairness.

The present findings on organizational identification's effects on individual fairness are consistent with the previous findings that suggest individuals who have high levels of organizational identification are less likely to question the ethicality of organizational behavior (Dukerich et al., 1998) and more likely to behave unethically on behalf of the organization, especially when they have high levels of reciprocity beliefs (Umphress et al., 2010). The contribution of the present study, however, goes beyond these previous studies in at least four different ways.

First, although ethicality and fairness are related constructs, individuals' fairness has not been examined as an outcome of organizational identification and deindividuation in previous studies. The present research examined the relationship between organizational identification and two forms of justice, namely, distributive (Studies 1 and 2) and interactional justice (Study 3). In addition, the findings replicated the same pattern of results in relation to both the forms of justice. Second, in assessing fairness, the present study measured fairness in terms of the fairness of the decisions individuals' made regarding others (Study 1 and 2), and their *actual* behavior towards subordinates (Study 3). This differentiates the present study from previous studies, which have assessed individuals' ethicality in terms of their *willingness* to engage, or not engage in ethical or unethical behaviors (e.g., Dukerich et al., 1998; Umphress et al., 2010). Third, the focus of previous studies has been on the relationship between organizational identification and *negative* behaviors. By contrast, the present research explains *when* and *why* organizational identification is associated with positive behaviors (i.e., high levels of fairness), and when it is associated with negative behaviors (i.e., low levels of fairness). Organizational identification is, therefore, not considered as a precursor of unfair behaviors per se, but as an antecedent that can influence fair behavior in a positive or a negative manner depending on the situational norms. Importantly, the present research examined the mediating mechanism, or the mindset that individuals operate on when they have high levels of organizational identification. This is a fourth contribution of the present research.

Although deindividuation and adoption of a subordinate role were hypothesized to have similar effects on individuals' fair behavior, the results of Study 2 and 3 were contradictory to that prediction. Although subordination was found to be associated with lower levels of supervisor fairness in less fair climates as expected, findings of Study 2 and 3

were consistent in showing that subordination was not significantly associated with supervisor fairness in climates with high levels of fairness. As mentioned before, the reason for such an effect can be statistical, such as insufficient power to detect a relatively small effect size, or methodological, such as in the case with a ceiling effect. Nonetheless, the replication of the same pattern of results in two different studies that utilized very different methods, participants, and measures of dependent variables raises the possibility that the effect could primarily be due to a theoretical reason.

Unlike deindividuation, which is underscored by an increased tendency to *conform* to situational norms, adoption of a subordinate role is underscored by an increased tendency to *comply* with situational norms due to a lack of power or alternatives. Therefore, it stands to reason that adoption of a subordinate role is more predictive of compliant behavior. The reason that adoption of a subordinate role did not predict individuals' fairness in climates with high levels of fairness could be because fair behavior in such climates is not a product of compliance, but is instead a product of individuals' internalized standards of appropriate behavior towards others. By contrast, adoption of a subordinate role was associated with lower levels of fairness in less fair climates, and this might be because the lack of fairness in such climates was most likely underscored by compliance as opposed to individuals' internal standards of appropriate behavior.

Moreover, individuals who work in climates with high levels of fairness are less likely to be in situations in which they have to engage in behaviors of which they do not approve (Moon et al., 2009). Therefore, they might not have the necessity to adopt a role of subordination. As such, adoption of a subordinate role might be a low base rate phenomenon with a restricted range in climates with high levels of justice, thus making it a weak predictor of the dependent variable, fair behavior (Johns, 1991).

Overall, the differential mediating effects of deindividuation and adoption of a subordinate role highlight that deindividuation, which is underscored by conformity, can have both positive as well as negative associations with fairness depending on situational norms, whereas compliance is mainly associated negatively with fairness when situational norms are negative. These results and the largely consistent results of the simultaneous analysis of the two models, suggest that organizational identification and continuance commitment influence fair behavior in uniquely different ways.

Implications for Deindividuation and SIDE Theory

The present research provided a partial test of Riecher and colleagues' (1995) SIDE model. Initial research on deindividuation considered it primarily as a psychological predictor of individuals' disinhibited behavior, such as interpersonal aggression (e.g., Zimbardo, 1969). Subsequent research, however, found that deindividuation not only leads to negative behavior, but also to positive behavior, such as increased affection (Gergen et al., 1973). More importantly, dispelling the initial notion that deindividuation dissipates the influence of situational factors on individuals' behavior, a considerable number of studies that have manipulated contextual features have shown situational factors are crucial in determining the effects of deindividuation on individuals' behavior (Carver, 1973; Diener & Wallbom, 1976; Scheier, Fenigstein, & Buss, 1974).

Considering these later developments in deindividuation research, Riecher and colleagues (1995) proposed SIDE model as a basis on which the divergent findings on deindividuation can be consolidated. The SIDE model differentiates itself from the previous notions of deindividuation through its focus on deindividuation as a result of social

identification. According to SIDE, behaviors that result from deindividuation are mainly reflective of the types of behavior that are considered as appropriate by the particular social category the individual identifies with. This view is different from previous conceptualizations of deindividuation as a subjective state in which individuals lose all bases for self-control, and therefore engage in anti-normative or disinhibited behavior.

The present research, which is one of the very first studies to examine *both* positive and negative behaviors that result from deindividuation in the same setting, provides support for the SIDE model. As deindividuation was found to be associated with both high as well as low levels of fairness depending on the nature of the justice climate, the results of the present research supports SIDE model's notion that deindividuation heightens as opposed to mitigates individuals' susceptibility to social norms. The present results are also consistent with the meta-analytic findings of Postmes and Spears (1998), which suggested that individuals who are in a state of deindividuation conform more to situation-specific norms.

The present results, if viewed in conjunction with the propositions of the SIDE model, might render some insights as to why certain studies failed to find deindividuation as a mediating mechanism between deindividuation-inducing cues and anti-normative behavior (e.g., Deiner, 1976). Because deindividuated individuals are more likely to adopt behavioral standards of the social category with which they identify, deindividuation is more likely to result in normative as opposed to anti-normative behavior. It is necessary to understand that deindividuation only leads to anti-normative behavior by societal standards, if such behavior is the norm of the social category with which they identify. If the norms of the social category are consistent with the societal norms, then deindividuation is not likely to result in anti-normative behavior. This might be a reason why some studies have failed to find a connection between deindividuation and anti-normative behavior.

Another aspect that must be noted is the research methods used to test deindividuation in the present research. Although deindividuation was first observed and conceptualized in relation to individuals' submergence in large social groups (Festinger et al., 1952), subsequent studies have mainly examined the phenomenon in far more isolated laboratory settings, raising concerns about the external validity of deindividuation research (Postmes & Spears, 1998). The findings of the present research address these external validity concerns of deindividuation research to some extent through replication of laboratory findings in a field setting. Moreover, this is one of the few examinations of deindividuation effects on organizational behavior. Findings of the present research are, therefore, important insofar as they point to the occurrence of deindividuation in organization settings.

Implications for Research on Continuance Commitment

The present study is the first to consider continuance commitment as an antecedent of individuals' fairness. The majority of research on continuance commitment has examined its effects on organization-focused outcomes such as withdrawal, turnover intentions, job attendance, job performance, and organizational citizenship behavior (Meyer et al., 2002). Only recently have researchers begun to examine the effects of organizational commitment on the individual's self and his or her behavior towards others (e.g., Gil, Meyer, Lee, Shin, & Yoon, 2011). The findings of the present research, therefore, contribute to this recent line of research.

For the most part, research on commitment has found weak or negative relationships between continuance commitment and positive outcomes, such as performance (Meyer et al., 1989), organizational citizenship behavior (Shore & Wayne, 1993), and promotability (Shore

et al., 1995). On the other hand, continuance commitment has been to found have significant positive correlations with negative behaviors such as, counterproductive and deviant workplace behavior (Gil et al., 2011). In a study by Gil and colleagues' (2011), for example, a modest positive correlation was found between continuance commitment and deviant workplace behavior. Interestingly, the authors found this correlation to be weak and non-significant after they controlled for the type of organization from which the participants were recruited. This finding indicated that continuance commitment shared common variance with the type of organization in predicting workplace deviance. Further, continuance commitment was greater among employees who were recruited from an insurance industry compared to those who were recruited from a government agency. Although the authors were not certain of the specific conditions present in the insurance company that strengthened the relationship between continuance commitment and deviant workplace behavior, they highlighted the importance of understanding contextual features and their moderating effect on the relationship between continuance commitment and workplace deviance.

Findings of the present studies corroborate Gil et al.'s (2011) results and the general pattern of findings reported in the literature on continuance commitment. First, the present research did not find a positive relationship between continuance commitment and fair behavior in fair justice climates. This is consistent with previously reported findings on weak relationships between continuance commitment and positive behavior (Snape & Redman, 2003). In contrast, the present research found a negative relationship between continuance commitment and fair behavior of individuals in unfair justice climates. The present findings are, therefore, consistent with the notion that continuance commitment is a better predictor of negative than to positive behaviors. Further, the findings regarding the moderating role of

justice climate attests to Gil et al.'s (2011) claim that the effects of continuance commitment on outcomes are best assessed in combination with contextual features of an organization.

In discussing future avenues of commitment research, Meyer and Allen (1991) emphasized the importance of understanding the mindsets that different types of commitments create in individuals as a basis of understanding organizational behavior that result from them. To this end, an important contribution of the present study is its examination of the mindset that underscores continuance commitment. Although studies have implied the existence of a subordinate mentality in individuals with high levels of continuance commitment (e.g., Wahn, 1993), thus far, no study has directly assessed the existence of such a mindset empirically. The mediating effect of individuals' adoption of a subordinate role found in the present research is, therefore, particularly insightful in understanding the type of motivation that underscores the actions of individuals who have high levels of continuance commitment.

Practical Implications

The importance of organizational justice for effective management of individuals and organizations is rarely explained. Even a cursory review of the justice literature reveals a plethora of organizational outcomes to which perceptions of justice has been linked. Task performance (Ball et al., 1994), organizational citizenship behavior (Skarlicki & Latham, 2006), and taking-charge behavior (Moon et al., 2009) are among the many outcomes that perceived justice has been found to positively influence. Perceived *injustice*, on the other hand, has been associated with a multitude of negative behaviors, such as absenteeism (Colquitt et al. 2002), retaliation (Skarlicki & Folger, 1997), and theft (Greenberg 1990a,

1993). Beyond the individual level, organizational justice has also been found to have far reaching effects on workgroup and unit level outcomes (Colquitt et al., 2002; Ehrhart, 2004; Simon & Roberson, 2003). Given the profound influence of organizational justice on people and institutions, the present research provides a number of practical implications for managers that strive to create fairer work environments.

First, findings of this research suggest that fair behavior is a function of both the person and the situation. The majority of the efforts to increase individuals' fairness have concentrated on justice training, which primarily focuses on the individual (Greenberg, 2006; Skarlicki & Latham, 1996, 2005). Although this approach has been useful in producing desired effects, an alternative way of enhancing fair behavior, which might prove to have longer lasting effects would be to ensure that organizations have fair justice climates. As findings of the present research shows, employees who strongly identify with the employing company are more likely to incorporate espoused values of the organization into their own behavior. This highlights the possibility for organizations to enhance the levels of fairness that employees display by ensuring organizational policies, practices, and routine communications emphasize the importance of fairness. Findings of this research indicate that such efforts to highlight the precedence of fairness will be more effective on employees with high levels of organizational identification.

As much as this research highlights the benefits of having a positive justice climate, it also exposes the dangers of having a negative justice climate. The present results suggests that individuals who are more susceptible to external influences because of deindividuation or adoption of a subordinate role are more likely to behave less fairly in unfair justice climates. It is particularly important to note the quickness of which participants in the two laboratory experiments became susceptible to fairness norms, and in most part, were willing to make

decisions in line with those adopted norms. These results are informative of the extent to which individuals can be influenced through contextual information in a relatively short span of time to behave in fair or unfair ways. Despite a possible lack of external validity, findings of these two laboratory experiments provide important insights into the basic psychological processes of deindividuation and subordination, and the subsequent impact they have on fair behavior that might be generalizable to a variety of other contexts.

Research on justice climate suggests that organizations can proactively take steps to develop positive justice climates in workgroups. A study by Colquitt et al. (2002), for example, found teams that are smaller in size, and are more homogenous in terms of member diversity, experience more positive justice climates. Therefore, in addition to training individuals to behave fairly, another step that organizations can take to ensure employees behave fairly is to configure structural and contextual elements of the work environment in a way that promotes fair climates. In sum, the present research suggests that although it might be hard for managers to change individuals in the short term, they might still be able to influence individuals' fair behavior by changing the contextual features of the work environment.

Limitations and Future Research

In keeping with Brunswick's (1947) call for methodological diversity, this research tested the hypothesized conceptual model with three different samples, using two different methodologies, and employing different operationalizations of individuals' fairness and justice climate. The fact that highly consistent results emerged despite the different methodological approaches attests to the robustness of the findings, as well as the ability of

the conceptual model to account for them. Nevertheless, each of the three studies has limitations. While acknowledging these limitations, it must be noted that the weakness in each study were compensated for by the strengths in others. For example, the manipulations of organizational identification, continuance commitment and justice climate used in the laboratory experiments, although successful in creating the desired mindsets in participants, cannot be equated with the manner in which these phenomena evolve and operate in work settings. However, the replication of the results of these studies in a field setting is reassuring. The cross sectional nature of the field study only pertains to generalizations regarding the relationships between the study's variables; it does not allow an inference of causality. However, this limitation is offset by the multi-source nature of the field data, and the high internal validity associated with the two laboratory experiments (Spencer, Zanna, & Fong, 2005). The lack of external validity of the two laboratory results, on the other hand, is compensated by the findings of the field study.

Individuals' susceptibility to external influences was a focal concept that underscored the present research and its findings. The results of this research are, therefore, informative of individuals' fair behavior when they are under conditions of increased susceptibility to external forces. Future research should extend this line of enquiry. Factors that explain behavior when individuals have low susceptibility to external influences should be examined. Naturally, such determinants will be internal conditions of the individual, such as the extent to which an individual considers justice as a moral value (Folger, 1998; 2001). Such a line of inquiry would complement the results of the present research, and it would help lead to a fuller understanding of the individual's fairness motive.

Another avenue for future research on the fairness motive could involve an examination of individuals' decision-making process that precede fair or unfair behavior.

Based on the findings relating to deindividuation, it is clear that fair behavior might not always result from a highly cognitive evaluation of choices. In fact, highly deindividuated individuals might not even be aware of the fairness aspects of a decision. Even if awareness is present, such individuals might not recognize the alternative courses of actions they could take instead of behaving unfairly. As highlighted in a number of studies on bounded ethicality (e.g., Kern & Chugh, 2009) one of the main reasons why individuals engage in unethical acts is their lack of awareness of the ethicality of the situation (Bazerman & Tenbrunsel, 2011). Given the relatedness of ethics to fairness, it might be that unfair behavior too is a product of such a lack of awareness (Ambrose & Schminke, 2009a). Future research should examine these judgment and decision-making processes that precede fairness, especially in order to understand why individuals behave *unfairly* when they are *not* under any social pressures to behave so.

The cross-sectional nature of the present study does not allow for a longitudinal examination of the effects of organizational identification and continuance commitment on fair behavior. Longitudinal research on continuance commitment suggests that in the long run, accumulation of side-bets and continued investments can lead individuals to engage in a dissonance reduction process of self-justification, which might ultimately turn their continuance commitment into more of an affective commitment towards the organization (Meyer, Allen, & Gellatly, 1990). If this is indeed the case, long-term effects of prolonged continuance-commitment might differ substantially from the results found in these studies. Future research should examine such longitudinal effects of psychological and situational antecedents on fair behavior.

APPENDIX A: FIGURES

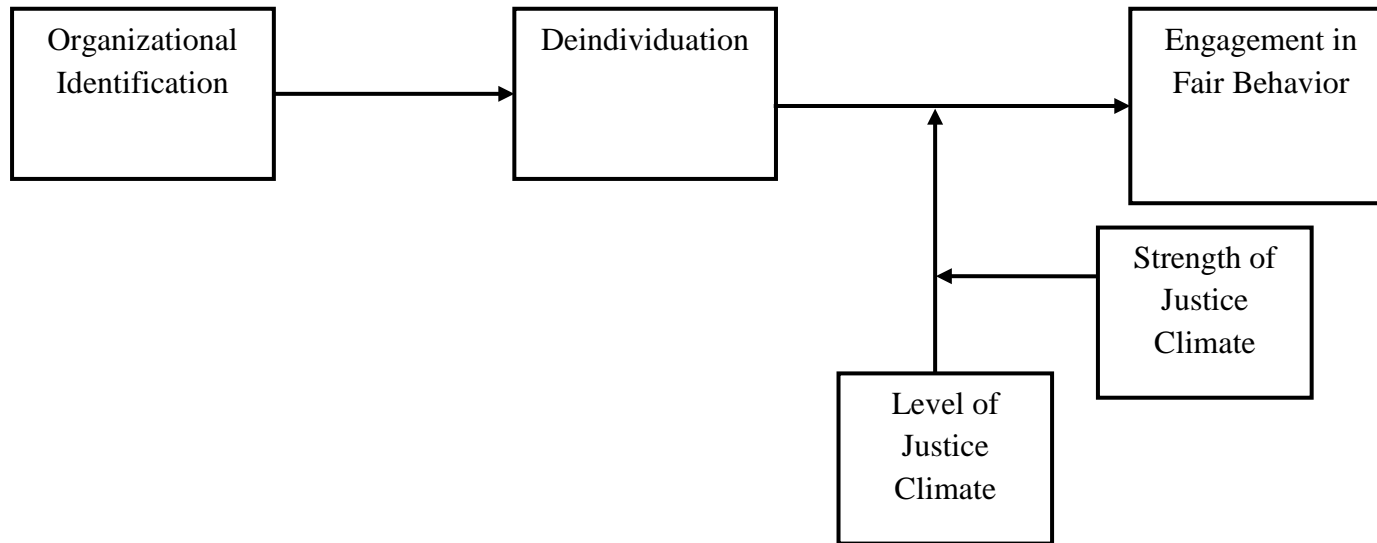


Figure 1: The Relationship between Organizational Identification and Fair Behavior

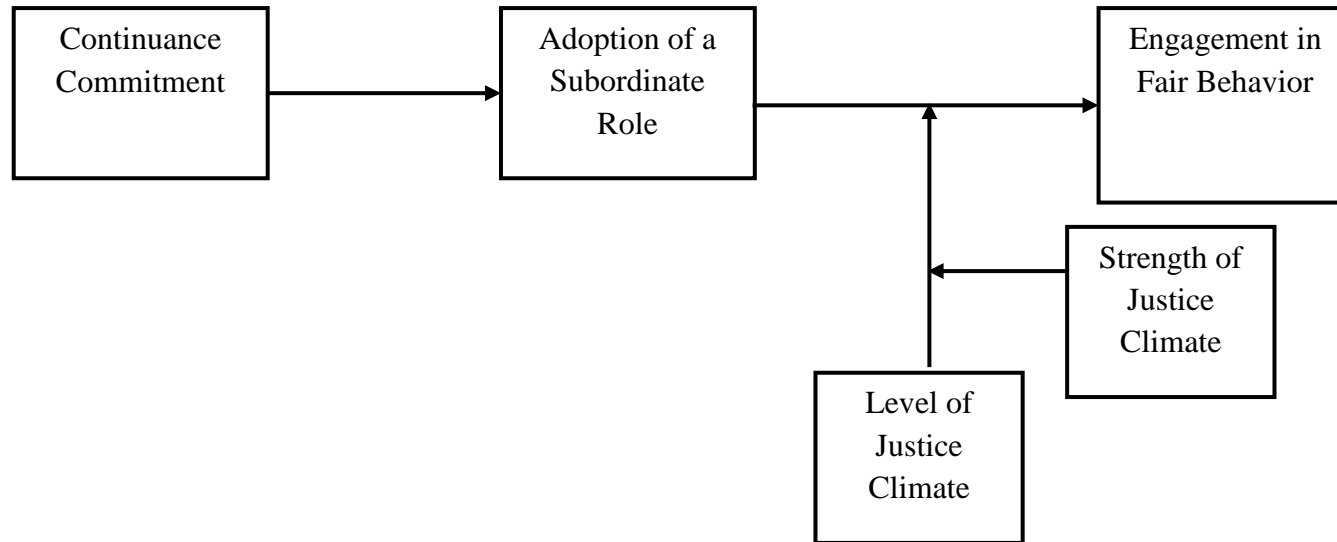


Figure 2: The Relationship between Continuance Commitment and Fair Behavior

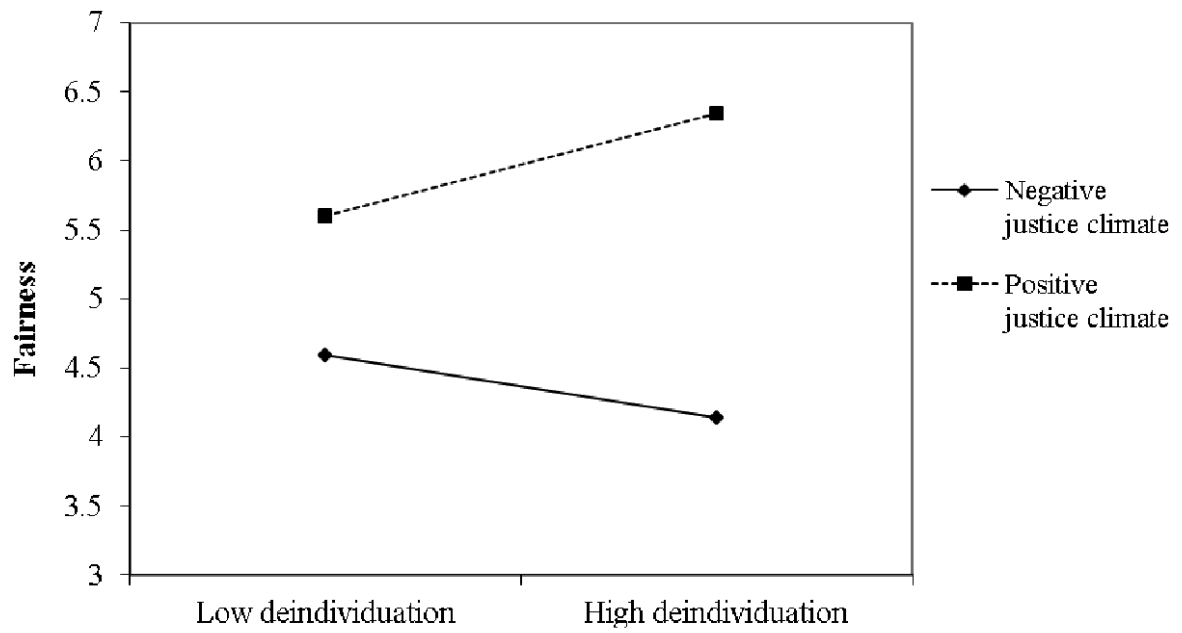


Figure 3-The Interaction between Deindividuation and Justice Climate in Predicting Fairness (Experiment 1)

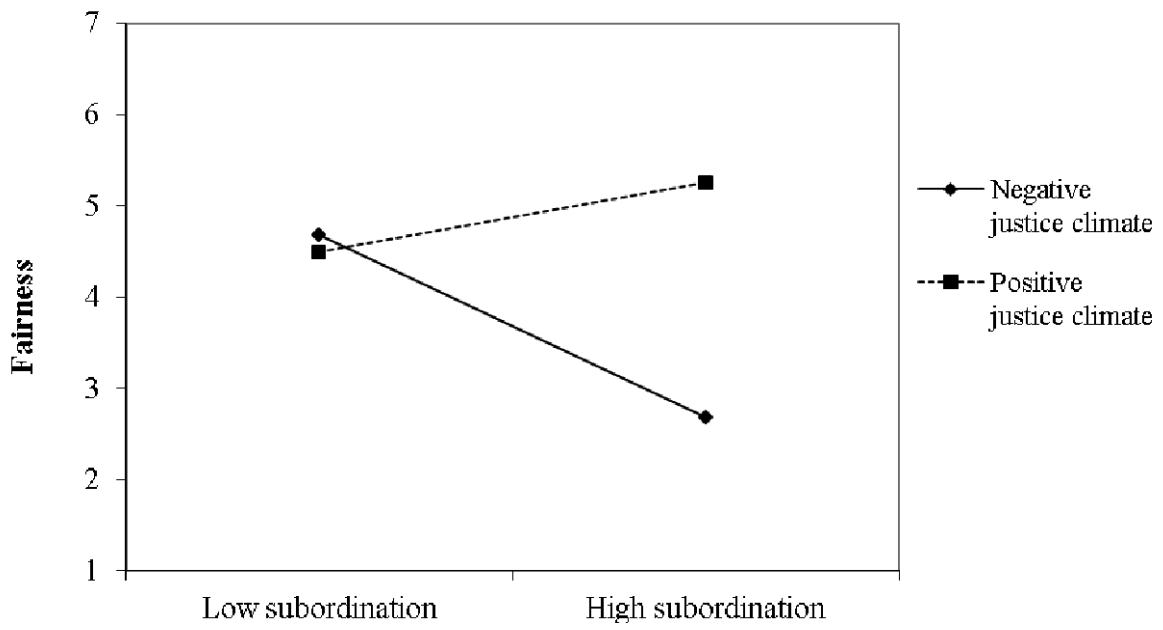


Figure 4-The Interaction between Adoption of a Subordinate Role and Justice Climate in Predicting Fairness (Experiment 2)

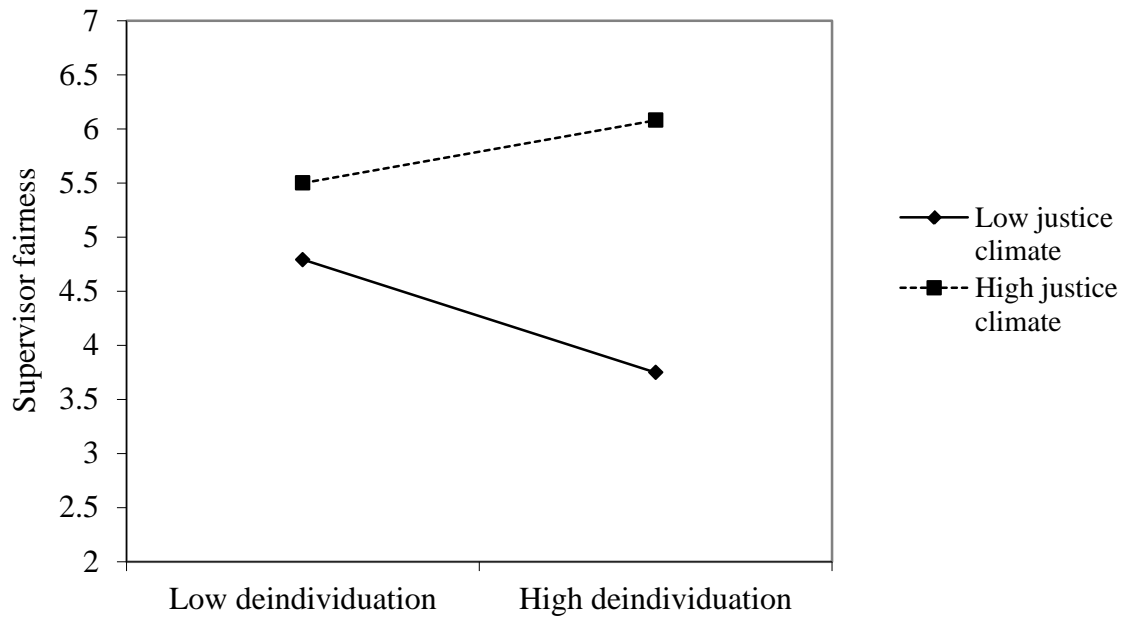


Figure 5-The Interaction between Deindividuation and Justice Climate in Predicting Supervisor Fairness (Study 3)

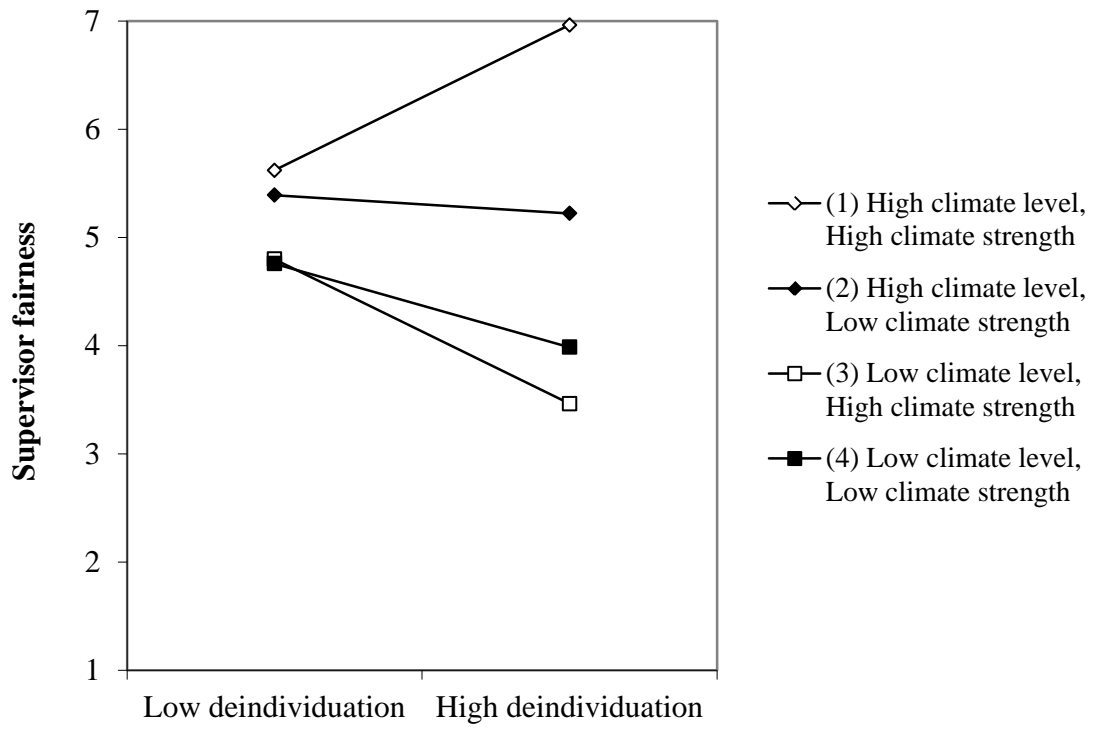


Figure 6-The Three-way Interaction between Deindividuation, Justice Climate, and Climate Strength in Predicting Supervisor Fairness (Study 3)

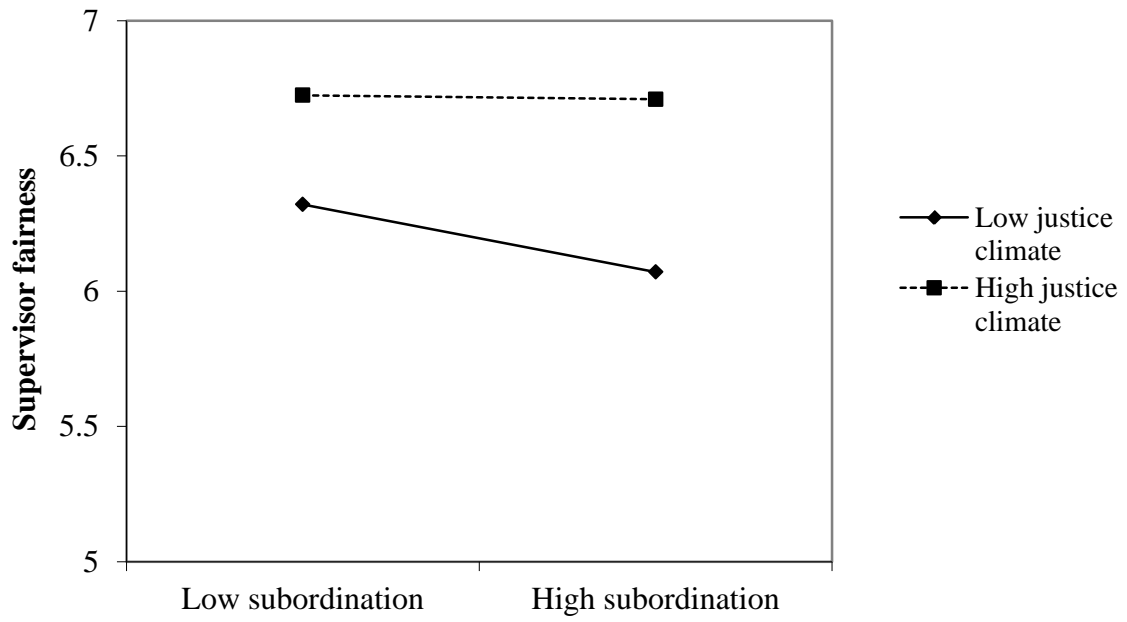


Figure 7-The Interaction between Adoption of a Subordinate Role and Justice Climate in Predicting Fairness (Study 3)

APPENDIX B: TABLES

Table 1-Summary of Correlations across Experiment 1 Variables

Measure	Grand Mean	SD	Organizational identification	Justice climate	Deindividuation
Organizational identification	-	-	-	-	-
Justice climate	-	-	0.02	-	-
Deindividuation	4.55	0.96	0.34**	0.02	-
Fairness	5.41	1.12	0.06	0.69**	0.09

Note. $N = 153$. Organizational identification was coded as 0 = low identification and 1 = high identification. Justice climate was coded as 0 = negative justice climate and 1 = positive justice climate. ** $p < .01$, two-tailed.

Table 2-Results of Moderated Mediation Analysis of Experiment 1

Variable	b	SE b	t	R ²
Mediator variable model (Step 1): Deindividuation				
Organizational identification	0.67	0.15	4.42***	0.12***
Dependent variable model (Step 2): Fairness				
Organizational identification	0.12	0.15	0.83	
Deindividuation	-0.23	0.10	-2.29*	
Justice climate	-1.22	0.66	-1.83	
Deindividuation × Justice climate	0.62	0.14	4.38***	0.47***
Level of justice climate		Indirect	95% Accelerated and	
Bootstrap conditional indirect effects		Effect	bias corrected CI	
			<i>Upper</i>	<i>Lower</i>
High justice climate	0.26	0.09	0.46	0.13
Low justice climate	-0.16	0.08	-0.02	-0.37

Note. N = 153. * p <.05, two-tailed. ** p <.01, two-tailed. *** p <.001, two-tailed.

Table 3: Summary of Correlations across Experiment 2 Variables

Measure	Grand Mean	SD	Continuance commitment	Justice climate	Subordination
Continuance commitment	-	-	-	-	-
Justice climate	-	-	-0.01	-	-
Subordination	4.94	1.20	0.20*	-0.45***	-
Fairness	5.41	1.12	-0.07	0.28**	-0.09

Note. $N = 101$. Continuance commitment was coded as 0 = low continuance commitment and 1 = high continuance commitment. Justice climate was coded as 0 = negative justice climate and 1 = positive justice climate. * $p < .05$, two-tailed. ** $p < .01$, two-tailed. *** $p < .001$, two-tailed.

Table 4: Results of Moderated Mediation Analysis of Experiment 2

Variable	b	SE b	t	R ²
Mediator variable model (Step 1): Subordination				
Continuance commitment	0.48	0.24	2.01*	0.04*
Dependent variable model (Step 2): Fairness				
Continuance commitment	0.15	0.28	0.55	
Subordination	-0.82	0.17	-4.88***	
Justice climate	-4.40	1.30	-3.37**	
Subordination × Justice climate	1.13	0.25	4.42***	0.28***
Level of justice climate		Indirect	95% Accelerated and	
Bootstrap conditional indirect effects		Effect	bias corrected CI	
			<i>Upper</i>	<i>Lower</i>
High justice climate	0.15	0.13	-0.03	0.52
Low justice climate	-0.39	0.21	-0.82	-0.03

Note. $N = 101$. * $p < .05$, two-tailed. ** $p < .01$, two-tailed. *** $p < .001$, two-tailed.

Table 5: Summary of Correlations across Study 3 Variables

Measure	Mean	SD	Supervisor fairness	Org. identification	Cont. commitment	Deindivi -duation	Subordi nation	Climate level	Climate strength	Org. structure	Justice intern.
Supervisor fairness	5.31	0.99	-								
Org. identification	5.31	1.03	.13	-							
Cont. commitment	4.14	1.22	-.17*	.06	-						
Deindividuation	4.35	0.89	.06	.54**	.07	-					
Subordination	3.24	1.03	-.53**	-.12	.33**	-.08	-				
Climate level	5.43	0.95	.45**	.27**	-.25**	.34**	-.49**	-			
Climate strength	-1.12	0.51	.24**	.09	-.15*	.23**	-.33**	.60**	-		
Org. structure	3.95	1.07	-.04	-.05	.05	-.00	.04	-.01	.07	-	
Justice intern.	4.96	1.05	.01	.05	.20**	.06	.01	-.13	-.10	.09	-
Moral disengagement	2.05	0.73	-.18*	-.02	.22**	-.08	.25**	-.27**	-.06	.04	.01

Note. $N = 205$. * $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Results of Moderated Analysis of Study 3-Organizational Identification

Variable	b	SE b	t	R ²
Mediator variable model (Step 1): Deindividuation				
Organizational identification	0.38	0.04	8.68***	.29***
Dependent variable model (Step 2): Supervisor fairness				
Continuance commitment	-0.05	0.06	-0.84	
Justice internalization	0.06	0.06	0.73	
Moral disengagement	0.09	0.07	0.84	
Organizational structure	-0.04	0.06	-0.74	
Organizational identification	-0.07	0.06	-1.18	
Deindividuation	-0.13	0.10	-1.22	
Justice climate level	0.80	0.10	7.93***	
Climate strength	0.36	0.20	1.79	
Deindividuation × Justice climate level	0.48	0.10	4.71***	
Deindividuation × Climate strength	0.26	0.24	1.09**	
Justice climate level × Climate strength	0.62	0.15	4.08***	
Deindividuation × Justice climate × Climate strength	0.60	0.18	3.43**	.49***
Bootstrap conditional indirect effects: Two-way interaction				
		Indirect Effect	95% Accelerated and bias corrected CI	
			<i>Upper</i>	<i>Lower</i>
High justice climate	0.12	0.04	0.22	0.05
Low justice climate	-0.17	0.05	-0.06	-0.31
Bootstrap conditional indirect effects: Three-way interaction				
High justice climate, high climate strength	.29	.08	.46	.15
High justice climate, low climate strength	-.03	.09	.12	-.22
Low justice climate, high climate strength	-.32	.09	-.14	-.52
Low justice climate, low climate strength	-.18	.07	-.05	-.33

Note. $N = 205$. * $p < .05$, two-tailed. ** $p < .01$, two-tailed. *** $p < .001$, two-tailed.

Table 6: Results of Moderated Mediation Analysis of Study 3-Continuance Commitment

Variable	b	SE b	t	R ²
Mediator variable model (Step 1): Subordination Continuance commitment	0.25	0.05	4.70**	.11***
Dependent variable model (Step 2): Supervisor fairness				
Organizational identification	-0.05	0.05	-1.03	
Justice internalization	-0.02	0.06	-0.32	
Moral disengagement	0.13	0.08	1.56	
Organizational structure	-0.02	0.06	-0.43	
Continuance commitment	0.01	0.01	0.48	
Subordination	-0.39	0.16	-2.44*	
Justice climate level	0.08	0.08	0.09	
Climate strength	-2.70	2.67	-1.01	
Subordination × Justice climate level	0.06	0.03	2.00*	
Subordination × Climate strength	-0.04	0.09	-0.48	
Justice climate level × Climate strength	0.65	0.54	1.20	
Subordination × Justice climate level × Climate strength	0.01	0.02	0.04	.54***
Level of justice climate		Indirect	95% Accelerated and	
Bootstrap conditional indirect effects		Effect	bias corrected CI	
			<i>Upper</i>	<i>Lower</i>
High justice climate	-0.01	.01	-0.03	0.01
Low justice climate	-0.02	.01	-0.01	-0.04

Note. $N = 205$. * $p < .05$, two-tailed. ** $p < .01$, two-tailed. *** $p < .001$, two-tailed.

Results of Moderated Mediation Analysis of Study 3-Regression Results of the Combined Model

Variable	b	SE b	t	R ²
Mediator variable model (Step 1): Deindividuation				
Organizational identification	0.38	0.04	8.68***	.29***
Mediator variable model (Step 1): Subordination				
Continuance commitment	0.25	0.05	4.70**	.11***
Dependent variable model (Step 2): Supervisor fairness				
Justice internalization	-0.02	0.06	-0.32	
Moral disengagement	0.12	0.09	1.38	
Organizational structure	-0.03	0.06	-0.45	
Organizational identification	-0.07	0.06	-1.24	
Continuance commitment	0.02	0.05	-0.47	
Deindividuation	-0.02	0.10	-0.24	
Adoption of a subordinate role	-0.20	0.09	-2.31*	
Justice climate level	0.72	0.10	6.93***	
Climate strength	0.06	0.19	0.30	
Deindividuation × Justice climate level	0.33	0.10	3.37**	
Deindividuation × Climate strength	0.23	0.21	1.07	
Adoption of a subordinate role × Justice climate level	0.39	0.11	3.59***	
Adoption of a subordinate role × Climate strength	-0.18	0.22	-0.85	
Climate level × Justice climate	0.63	0.16	3.84***	
Deindividuation × Justice climate × Climate strength	0.37	0.17	2.21*	
Adoption of a sub. role × Justice climate × Climate strength	0.04	0.13	0.30	.60***

Note. $N = 205$. * $p < .05$, two-tailed. ** $p < .01$, two-tailed. *** $p < .001$, two-tailed.

Table 7: Results of Moderated Mediation Analysis of Study 3- Indirect Effect Tests of the Combined Model

Bootstrap conditional indirect effects: Two-way interaction (Continuance commitment)	Indirect Effect		95% Accelerated and bias corrected CI	
	<i>b</i>	<i>SE</i>	<i>Upper</i>	<i>Lower</i>
High justice climate	-0.04	.04	0.04	-0.16
Low justice climate	-0.13	.04	-0.06	-0.22
Bootstrap conditional indirect effects: Two-way interaction (Organizational identification)		Indirect Effect	95% Accelerated and bias corrected CI	
			<i>Upper</i>	<i>Lower</i>
High justice climate	0.15	0.05	0.24	0.06
Low justice climate	-0.10	0.06	-0.04	-0.25
Bootstrap conditional indirect effects: Three-way interaction (Organizational identification)				
High justice climate, high climate strength	.19	.08	.35	.06
High justice climate, low climate strength	.09	.07	.24	-.07
Low justice climate, high climate strength	-.20	.09	-.04	-.34
Low justice climate, low climate strength	.01	.07	.19	-.13

APPENDIX C: ORGANIZATIONAL IDENTIFICATION MANIPULATION

High identification condition

Thank you for taking part in this business simulation. This simulation is conducted in conjunction with an organization called United Knights that is run by UCF students as part of UCF Business Services. United Knights is a printing company that embodies the UCF spirit and strives to promote the UCF identity through its business. The company, for example, provides special discount rates on their products and services to UCF staff and students. Further, it retains minimal profits on orders placed by UCF's student organizations. It must be noted that United Knights has been a longstanding supporter of our business school. For example, United Knights sponsored three of the five major business competitions, which were held in the last two years. Moreover, since recently, United Knights has started to offer internships to our senior business students. Overall, this particular company has contributed a lot to the university, and to the business school in particular. What is remarkable about United Knights is that their continuous support of our business school is fundamentally driven by a sense of school pride and identity, as opposed to anything else.

Currently, United Knights is in the process of designing a managerial simulation for their training and development program, and the company has requested the help of our senior students to test run part of their simulation.

This simulation will provide you with an opportunity to get some real-time insights into how a business works. In this exercise, you are given the role of a senior manager at United Knights. The tasks and information you will be given are based on real-time decisions and issues facing United Knights. Your performance on these tasks will be channeled back to United Knight's management. Not only will this exercise give you an opportunity to use your managerial expertise as a senior business student, it will also provide United Knights, a company run by UCF students like yourself, an opportunity to benefit from our business students.

Low identification condition

Thank you for taking part in this business simulation. This simulation is conducted in conjunction with an organization called Alpha Inc. Alpha Inc. is a printing company situated in Gainesville, Florida. Alpha Inc. has been a longstanding supporter of University of Florida (UF). In fact, it embodies the Gator spirit and strives to promote the UF identity through its business. The company, for example, provides special discount rates on their products and services to UF staff and students. Further, it retains minimal profits on orders placed by UF's student organizations. Since recently, Alpha Inc. has started to offer internships to UF's senior business students. Alpha Inc. takes great pride in its affiliation with UF and its support for the university is fundamentally driven by a sense of identity with the school, as opposed to anything else.

Alpha Inc. is in the process of designing a managerial simulation for their training and development program and the company has requested the help of our senior students to test run part of their simulation. The reason that UCF students were chosen for this task was because the company is hoping to test run the final version of the simulation with senior business student at UF, and therefore, they could not be recruited for this initial test run of the simulation.

This simulation will provide you with an opportunity to get some real-time insights into how a business works. In this exercise, you are given the role of a senior manager at Alpha Inc. The tasks and information you will be given are based on real-time decisions and issues facing Alpha Inc. Your performance on these tasks will be channeled back to Alpha

Inc.'s management. Not only will this exercise give you an opportunity to use your managerial expertise, it will also provide Alpha Inc. an opportunity to benefit from your business skills.

APPENDIX D: CONTINUANCE COMMITMENT MANIPULATION

Thank you for taking part in this business simulation. This simulation is conducted in conjunction with a business-consulting firm, which has been a longstanding supporter of our business school and has employed many of our former business students. Currently, this particular company is in the process of designing a managerial simulation for their training and development program, and the company has requested the help of our Capstone students to test run part of their simulation.

The simulation provides you with the option of working in one of three different business environments, which have been modeled based on contexts and events of three different organizations. The simulation uses a new text recognition and coding system that is being used in assessment centers in order to assess the quality of your performance on various tasks. Overall, your performance will be evaluated based on what successful managers of these different companies have done in similar situations. Please note that your performance on the simulation tasks will be channeled back to the company's management. You will be given 10 credit points based on the quality of your performance.

High Continuance Commitment Manipulation

You can start the exercise by selecting any one of the three companies listed below and clicking "Next". The credit point amount you receive will depend on how well you perform on the tasks that are given to you. If you are unhappy with your organization or if you have doubts regarding your performance, you will be given a chance to quit the organization and join another organization for a second session. You will see a question on the screen asking you whether or not you would like to quit your organization and join another organization for a second session before the end of your first session. If you do indicate that you would like to start a second session at another organization, you will be given the option to select one of the two remaining organizations for your second session at the end of your first session. However, please note that restarting a second session at another organization will cost you 3 credit points. Also, before you start the second session, you must check with the administrative staff to see whether there is enough network capacity to start a second session with the organization of your choice (only a limited amount of students can access the simulation at a given point, the sooner you contact the administrative staff the greater are your chances of securing a slot). Note that a student can only do a maximum of two sessions, and the highest score of the two sessions will be recorded for credit points. Also, note that if you received the full score on your first session, you will not be able to start a second session.

Low Continuance Commitment

You can start the exercise by selecting any one of the three companies listed below and clicking "Next". The credit point amount you receive will depend on how well you perform on the tasks that are given to you. If you are unhappy with your organization or if you have doubts regarding your performance, you will be given a chance to quit the organization and join another organization for a second session. You will see a question on the screen asking you whether or not you would like to quit your organization and join another organization for a second session before the end of your first session. If you do indicate that you would like to start a second session at another organization, you will be given the option to select one of the two remaining organizations for your second session at the end of your first session. There is no penalty or cost involved in starting a second session. However, before you start the second session, you must check with the administrative staff to

see whether there is enough network capacity to start a second session with the organization of your choice (this however, is only a formality, we typically have enough capacity to hold a large number of students at any given time). Note that a student can only do a maximum of two sessions, and the highest score of the two sessions will be recorded for credit points. Also, note that if you received the full score on your first session, you will not be able to start a second session.

(All the students were told that they obtained perfect scores from the simulation exercise; therefore none of the students were given an option to start a second session.)

**APPENDIX E: JUSTICE CLIMATE MANIPULATION AND THE
MEASURE OF JUSTICE**

High Justice Climate

Memo 1a

To: Senior Managers
From: Juliet Cullen (Executive Manager)
Date: 05/09/2011
Re: Changes to company mission statement

United Knights/Alpha Inc. takes great pride in the way we treat people who have dealings with us, such as employees, customers, suppliers and shareholders. We are particularly committed to ensuring that all parties that we interact with are treated fairly. In order to emphasize our commitment to fairness, we have made changes to the company mission statement. The new company mission statement reads as follows:

We strive to deliver high-quality, cost-effective projects on schedule by employing and supporting motivated, flexible, and focused teams. We value the importance of our relationships and will continue to remain fair and true in our dealings with all employees, clients, vendors, and partners. Our clients count on our dependability, our drive, and our integrity. We take great pride in our accomplishments and build on them every day.

Juliet Cullen
Executive Manager
United Knights/Alpha Inc.

Task 1a

To: Senior Manager
From: Juliet Cullen (Executive Manager)
Date: 10/09/2011
Re: Recruitment of a new senior manager

Senior Manager,

We are in the process of hiring a new senior manager to oversee our customer relations and sales. After, our initial interview sessions, the selection committee has narrowed down to two candidates. I was supposed to have lunch with one of the candidates today, whose name is John Sanders. However, due to a conflict with another meeting, I will not be able to take John out for lunch. Will you please take John out for lunch today and talk to him about our company? It is important that John understands the culture of our company before he begins his work here. I think you might find our newly crafted mission statement helpful in explaining to John what we value in this company.

Juliet Cullen
Executive Manager
United Knights/Alpha Inc.

Please use the space below to craft the main points about United Knight's/Alpha Inc.'s culture you will communicate to John Sanders.

Task 2a

To: Senior Manager
From: Juliet Cullen (Executive Manager)
Date: 10/09/2011
Re: Employee bonuses

Senior Manager,

As you know, we weren't able to meet our target profit margins last quarter. Due to this, we are unable to provide the bonus that we promised our sales and administrative staff. We truly regret that we have to ask you to communicate this information to your staff, but the tough economic conditions in the past two years made this decision inevitable. To be fair to our lower level staff, the executive management team has decided that the salary increase that was scheduled for the executive staff and senior managers will also be postponed until financial conditions improve. Please communicate the information regarding the freeze on bonuses to your staff members at your earliest convenience.

Juliet Cullen
Executive Manager
United Knights/Alpha Inc.

Draft your message to your subordinates in the space given below.

Task 3a

To: Senior Manager
From: Tracy Vo (Senior Manager)
Date: 05/09/2011
Re: New paper

Senior Manager,

We will start using a new type of paper called Zesta-A for all our poster printings starting tomorrow, because our regular paper supplier has gone out of business. Zesta-A is cheaper than QD-5, which is what we are currently using; and it is only slightly inferior to QD-5 in terms of quality. We will have to use Zesta-A for all the current orders that we have taken for QD-5. However, because we are giving our customers a slightly inferior product, I'm hoping to provide a 10% discount on the orders that we have already taken for QD-5. The top management always stresses how important it is to treat people fairly, so I think they'll love the idea. What do you think?

Tracy Vo
Senior Manager
United Knights/Alpha Inc.

Please provide your views about this decision in the space given below.

Task 4a

To: Senior Manager
From: Juliet Cullen (Executive Manager)
Date: 10/09/2011
Re: New IT system

Senior Manager,

We will be introducing a new point of sale (POS) system that will reduce the customer wait time substantially. It is been used in a number of stores with great success and I think we can really benefit from it. However, I do sense that our sales staff might resist this initiative because they would have to spend extra time to learn it and their routines will change substantially.

One of the executives suggested that we do a swift implementation of the POS system without giving employees much advance notice. His reasoning was that such a move would reduce the time employees will have to resist the change. However, I think such a move would go against our company's values of fairness and integrity. Personally I think the best approach would be to give employees sufficient advance notice and get their input into configuring the system. This way, employees will feel as if they are part of the change and they will be less likely to resist. On top of that, we can provide some extra compensation for the extra time employees have to put into learning the system. I'm aware that such a process might prolong the implementation process and would also be more costly for us. However, I think it is more important in the long run to treat our employees fairly. Anyhow, it is up to you come up with the final implementation plan. Think about how you want to proceed and let me know.

Thank you.
Juliet Cullen
Executive Manager

Please use the space given below to write your thoughts about how you would implement the new POS system.

Low Justice Climate

Memo 1b

To: Senior Managers
From: Juliet Cullen (Executive Manager)
Date: 05/09/2011
Re: Changes to company mission statement

At United Knights/Alpha Inc. our main purpose is to ensure that we maintain a solid return on investment for our shareholders. We are particularly committed to ensuring that our sales targets are met and our market share grows overtime. In order to emphasize our commitment to performance and our aggressive approach towards our competitors, we have made changes to the company mission statement. The new company mission statement reads as follows:

We strive to deliver high-quality, cost-effective projects on schedule by employing and supporting motivated, flexible, and focused teams. We are committed to ensuring that our shareholders gain solid returns on their investments. We will continue to grow and will become the market leader through our uncompromising culture of performance. We take great pride in our accomplishments and build on them every day.

Juliet Cullen
Executive Manager
United Knights/Alpha Inc.

Task 1b

To: Senior Manager
From: Juliet Cullen (Executive Manager)
Date: 10/09/2011
Re: Recruitment of a new senior manager

Shannon,

We are in the process of hiring a new senior manager to oversee our customer relations and sales. After, our initial interview sessions, the selection committee has narrowed down to two candidates. I was supposed to have lunch with one of the candidates today, whose name is John Sanders. However, due to a conflict with another meeting, I will not be able to take John out for lunch. Will you please take John out for lunch today and talk to him about our company. It is important that John understands the culture of our company before he begins his work here. I think you might find our newly crafted mission statement helpful in explaining to John what we value in this company.

Juliet Cullen
Executive Manager
United Knights/Alpha Inc.

Please use the space below to craft the main points about United Knight's/Alpha Inc.'s culture you will communicate to John Sanders.

Task 2b

To: Senior Manager
From: Juliet Cullen (Executive Manager)
Date: 10/09/2011
Re: Employee bonuses

Senior Manager,

As you know, we weren't able to meet our target profit margins last quarter. Due to this, we are unable to provide the bonus that we promised our sales and administrative staff. The tough economic conditions in the past two years made this decision inevitable. However, you will be happy to know that this freeze on employee bonuses will not affect the scheduled salary increases for the executive and senior management. Please communicate the

information regarding the freeze on bonuses to your staff members at your earliest convenience.

Juliet Cullen
Executive Manager
United Knights/Alpha Inc.

1) Draft your message to your subordinates in the space given below.

Task 3b

To: Senior Manager
From: Tracy Vo (Senior Manager)
Date: 05/09/2011
Re: New paper

Shannon,

We will start using a new type of paper called Zesta-A for all our poster printings starting tomorrow, because our regular paper supplier has gone out of business. Zesta-A is cheaper than QD-5, which is what we are currently using; and it is only slightly inferior to QD-5 in terms of quality. My plan is to use Zesta-A for all the current orders that we have taken for QD-5. I don't think giving customers a slightly inferior product makes much difference. It won't be noticeable. I'm sure the upper management wouldn't mind this because it would definitely help us achieve our target profit margins. Let me know what you think.

Tracy Vo
Senior Manager
United Knights/Alpha Inc.

Please provide your views about this decision in the space given below.

Task 4b

To: Senior Manager
From: Juliet Cullen (Executive Manager)
Date: 10/09/2011
Re: New IT system

Senior Manager,

We will be introducing a new point of sale (POS) system that will reduce the customer wait time substantially. It is been used in a number of stores with great success and I think we can really benefit from it. However, I do sense that our sales staff might resist this initiative because they would have to spend extra time to learn it and their routines will change substantially. On top of that, we are unable to compensate them at a higher rate for the extra hours they would have to spend learning the new technology, because we are committed to showing an increase in profit margins this quarter to our shareholders.

One of the executives suggested that we get our sales staff's input in configuring the POS system. His reasoning was that if the employees feel like they are part of the change, they are less likely to resist. My concern with this is, if we get the staff to participate, it would prolong the implementation and make the process more complicated. I'm leaning towards a swift change. This is how I implemented the change to the employee rostering system when I was in charge of the sales division. Some thought it was unfair, but we didn't have the time to get employees' input, and we wanted to have the system up and running before the peak season. The top management really liked the quick implementation, so it didn't hurt my performance evaluation either. Anyhow, the final implementation is up to you. Think about how you want to proceed and let me know.

Thank you.
Juliet Cullen
Executive Manager

Please use the space given below to write your thoughts about how you would implement the new POS system.

Justice Measure

Task 5

To: Senior Manager
From: Juliet Cullen (Executive Manager)
Date: 10/09/2011
Re: Tough decision

Senior Manager,

As you know, United Knights/Alpha Inc. is going through a tough financial situation. As a result, we need to cut some costs immediately. We have two options at our disposal. First option is to demote three mid level managers into junior manager level. After the demotions, these individuals will have to do the same type of work as they have been doing before, for the same amount of hours, but with lower salaries, and lesser fringe benefits. The second option is to reduce our marketing budget by 20%. If we choose this option, we will have to conduct our new marketing campaign at a much smaller scale, which may not help our ability to increase our market share. It is a tough choice to make. Given that you have been working with our company on a number of important issues and you are aware of how we operate and what our priorities are, we would appreciate it if you could think about this issue and let us know which option you would like us to go ahead with.

Thank you.

Yours Sincerely,
Juliet Cullen
Executive Manager

Please answer the following questions in relation to the given financial issue. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. Given the circumstances, to what extent do you think demoting the mid-level managers is the appropriate action to take?
2. Given the circumstances, to what extent do you think cutting the marketing budget is the appropriate action to take?
3. To what extent do you think demoting the mid-level managers would better resolve the company's problems?
4. To what extent do you think cutting the marketing budget would better resolve the company's problems?
5. To what extent are you willing to demote the mid-level managers?
6. To what extent are you willing to cut the marketing budget?

APPENDIX F: EXPERIMENT 1 MEASURES

Manipulation Check for Identification (*adapted from Mael & Ashforth, 1992*)

You have been working as a senior manager at United Knights/Alpha Inc., and during this period of time you have come to know the company to some extent. In this section we are interested in knowing how you feel about the company, so far into your work. Please indicate the extent to which you agree or disagree with each statement.

1. I would be interested in what others think about United Knights/Alpha Inc.
2. If I were to really work at Alpha Inc./United Knights, and if someone were to criticize United Knights/Alpha Inc., it would feel like a personal insult.
3. If I were to really work at Alpha Inc./United Knights, and if a story in the media criticized United Knights/Alpha Inc., I would feel embarrassed.
4. If I were to really work at Alpha Inc./United Knights, and if someone were to praise United Knights/Alpha Inc. it would feel like a personal compliment.
5. If I were to really work at United Knights, I would feel like United Knight's/Alpha Inc.'s successes are my successes.
6. If I were to really work at Alpha Inc./United Knights, I would say "we" rather than "they" when I talk about the company with outsiders.

Manipulation Check for Justice Climate (*adapted from Ambrose & Schminke, 2009*)

In this section we are interested in knowing what you think about United Knights/Alpha Inc. Please indicate the extent to which you agree or disagree with each statement.

1. For the most part, United Knights/Alpha Inc. treats its employees fairly.
2. Most of the people who work at United Knights/Alpha Inc. would say they are often treated unfairly.
3. Usually, the way things work at United Knights/Alpha Inc. is not fair.

Deindividuation (*adapted from Prentice-Dunn & Rogers, 1982*)

In this section we are interested in knowing how you feel at this stage of your work. Please indicate the extent to which you agree or disagree with each statement.

1. To what extent did you feel a sense of togetherness with United Knights/Alpha Inc.?
2. To what extent did you feel active and energetic?
3. To what extent did you feel as if time went quickly?
4. To what extent did you feel jubilant?
5. To what extent were your thoughts concentrated on the moment?
6. To what extent did you feel glad when you were completing the tasks?
7. To what extent were you aware of the way your mind was working when you completed the tasks?
8. To what extent were you alert to changes in your mood?

APPENDIX G: EXPERIMENT 2 MEASURES

Manipulation Check for Commitment (*adapted from Allen & Meyer, 1990*)

Considering the given tasks, please indicate the extent to which you agree or disagree with each statement. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. I am not afraid of what might happen if I leave this organization now without having another slot lined up.
2. It would be very hard for me to leave this organization right now, even if I wanted to.
3. I feel like too much would be disrupted if I decide I want to leave this organization now.
4. It wouldn't be too costly for me to leave this organization now.
5. Right now, staying with this organization is a matter of necessity as much as desire.
6. I feel that I have too few options to consider leaving this organization.
7. One of the serious consequences of opting to leave this organization would be the scarcity of available alternatives.
8. One of the major reasons for me to opt to stay with this organization is that leaving would require considerable personal sacrifice — joining another organization may not payoff as much.

Do you want to leave [Company A/Company B/Company C] and join another organization?

Option 1-Yes, I want to leave [Company A/Company B/Company C] and join another organization.

Option 2-No, I do not want to leave [Company A/Company B/Company C].

If you chose Option 1, please select the company you would like to join?

Company A

Company B

Company C

Manipulation Check for Justice Climate (*adapted from Ambrose & Schminke, 2009*)

In this section we are interested in knowing what you think about United Knights/Alpha Inc. Please indicate the extent to which you agree or disagree with each statement.

1. For the most part, [Company A/Company B/Company C] treats its employees fairly.
2. Most of the people who work at [Company A/Company B/Company C] would say they are often treated unfairly.
3. Usually, the way things work at [Company A/Company B/Company C] is not fair.

Adoption of a Subordinate Role

In this section we are interested in knowing how you felt about completing the tasks/making the decisions that you just did. Please indicate the extent to which you agree or disagree with each statement. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. To what extent did you feel compelled to follow directions of your organization, even if you didn't approve of them?
2. To what extent did you comply with procedures that you didn't personally like?
3. To what extent did you go along with the organization's way of making decisions, even if you didn't personally agree with it?
4. To what extent did you go along with the organization's way of making decisions in order to not lose points?
5. To what extent did you do things according to the "company's way of doing things" in order to not lose points?

6. To what extent did you feel required to follow your organization's instructions, even if you didn't think they were correct?
7. To what extent did you feel required to make decisions regarding employees according to your organization's prescribed ways, even if you didn't agree with them?

APPENDIX H: STUDY 3 MEASURES

Organizational Identification (*Mael & Ashforth, 1992*)

In this section we are interested in knowing how you feel about your company. Please select the response after each statement that best describes how you feel about your company. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. When someone criticizes my organization, it feels like a personal insult.
2. I am interested in what others think about my organization.
3. When I talk about my organization, I say “we” rather than “they.”
4. The organizations’ successes are my successes.
5. When someone praises my organization, it feels like a personal compliment.
6. If a story in the media criticized my organization, I would feel embarrassed.

Continuance Commitment (*Allen & Meyer, 1990*)

In this section we are interested in knowing how you feel about your company. Please select the most suitable response for each statement. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. Right now, staying with my organization is a matter of necessity as much as desire.
2. It would be very hard for me to leave my organization right now, even if I wanted to.
3. Too much of my life would be disrupted if I decided I wanted to leave my organization now.
4. I feel that I have too few options to consider leaving this organization.
5. If I had not already put so much of myself into this organization, I might consider working elsewhere.
6. One of the few negative consequences of leaving this organization would be the scarcity of available alternatives.

Deindividuation (*Prentice-Dunn & Rogers, 1982*)

In this section we are interested in knowing your attitudes and behaviors at work. Please select a response after each statement. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. To what extent do you feel a togetherness among your workgroup?
2. To what extent do you feel active and energetic at work?
3. To what extent do you feel as if time goes quickly when you are at work?
4. To what extent do you feel jubilant at work?
5. To what extent are your thoughts concentrated on the moment when you are at work?
6. To what extent do you feel glad when you are at work?
7. To what extent are you aware of the way your mind is working when you are at work?
8. To what extent are you alert to changes in your mood when you are at work?

Adoption of a Subordinate Role

In this section we are interested in knowing your attitudes and behaviors at work. Please select a response after each statement that best indicates the extent to which you agree or disagree with each statement. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. To what extent do you feel compelled to follow directions of your organization, even if you don’t approve of them?
2. To what extent do you comply with your organization’s procedures that you don’t personally like?
3. To what extent do you go along with your organization’s decisions, even if you don’t agree with them personally?

4. To what extent do you support your organization's decisions just to keep your job?
5. To what extent do you do things according to the "company's way of doing things" in order to avoid any negative consequences?
6. To what extent do you feel required to follow your organization's instructions, even when you don't think they are correct?
7. To what extent do you feel required to treat your employees according to your organization's prescribed ways, even when you do not agree with them?

Justice Climate (*Ambrose & Schminke, 2009*)

Listed below is a series of statements that represent feelings that individuals might have about the company or organization for which they work. With respect to your own feelings about the particular organization for which you are now working, please indicate the degree of your agreement or disagreement with each statement by selecting the appropriate response. (1 = *To a very small extent*; 7 = *To a very large extent*)

1. Usually, the way things work in this organization are not fair.
2. For the most part, this organization treats its employees fairly.
3. Most of the people who work here would say they are often treated unfairly.

Moral Disengagement (*Detert, Trevino, & Sweitzer, 2008*)

For the following: Please read each statement and indicate how accurate you believe the statement to be by selecting a response on the scale.

1. It is alright to fight to protect your friends.
2. It's ok to steal to take care of your family's needs.
3. It's ok to attack someone who threatens your family's honor.
4. Sharing test questions is just a way of helping your friends.
5. Talking about people behind their backs is just part of the game.
6. Looking at a friend's homework without permission is just "borrowing it."
7. Damaging some property is no big deal when you consider that others are beating up people.
8. Stealing some money is not too serious compared to those who steal a lot of money.
9. Compared to other illegal things people do, taking some things from a store without paying for them is not very serious.
10. If people are living under bad conditions, they cannot be blamed for behaving aggressively.
11. If someone is pressured into doing something, they shouldn't be blamed for it.
12. People cannot be blamed for misbehaving if their friends pressured them to do it.
13. A member of a group or team should not be blamed for the trouble the team caused.
14. If a group decides together to do something harmful, it is unfair to blame any one member of the group for it.
15. You can't blame a person who plays only a small part in the harm caused by a group.
16. People don't mind being teased because it shows interest in them.
17. Teasing someone does not really hurt them.
18. Insults don't really hurt anyone.
19. If someone leaves something lying around, it's their own fault if it gets stolen.
20. People who are mistreated have usually done things to deserve it.
21. People are not at fault for misbehaving at work if their managers mistreat them.
22. Some people deserve to be treated like animals.

23. It is ok to treat badly someone who behaved like a “worm.”
24. Someone who is obnoxious does not deserve to be treated like a human being.

Justice Internalization (*Rupp, Byrne, & Wadlington, 2003*)

For the following: Please read each statement and indicate how accurate you believe the statement to be by selecting a response on the scale.

1. I wish I could make amends for every single injustice I have ever committed.
2. I hurt for people who are treated unfairly, whether I know them or not.
3. Our nation needs to care less about success and more about justice.
4. People should care less about getting ahead and more about being fair.
5. No one is free as long as one person is oppressed.
6. People are happier when they are fair to others.
7. It makes me sick to think about all of the injustice in the world.
8. All of us need to take responsibility when others are treated unfairly.

Organizational Structure (*Khandwalla, 1976/1977*)

The following pairs of statements describe different management philosophies. For each pair, circle the number that best describes the management philosophy in your department. For example, a “1” means the left-hand statement perfectly describes your department. A “7” indicates that the right-hand statement perfectly describes your department. A “4” indicates that your department is balanced between the two views. In general, the management philosophy in my department favors . . .

- | | | |
|---|---------------|--|
| 1. Highly structured channels of communication and a highly restricted access to important financial and operating information. | 1 2 3 4 5 6 7 | Open channels of communication with important financial and operating information flowing quite freely throughout the business unit. |
| 2. A strong insistence on a uniform managerial style throughout the business unit. | 1 2 3 4 5 6 7 | Managers’ operating styles allowed to range freely from the very formal to the very informal. |
| 3. A strong emphasis on giving the most say in decision making to formal line managers. | 1 2 3 4 5 6 7 | A strong tendency to let the expert in a given situation have the most say in decision making even if this means a temporary bypassing of formal line authority. |
| 4. A strong emphasis on holding fast to tried and true management principles despite any changes in business | 1 2 3 4 5 6 7 | A strong emphasis on adapting freely to changing circumstances without too much concern for past |

conditions.

5. A strong emphasis on always getting personnel to follow the formally laid down procedures.

1 2 3 4 5 6 7

6. Tight formal control of most operations by means of sophisticated control and information systems.

1 2 3 4 5 6 7

7. A strong emphasis on getting line and staff personnel to adhere closely to formal job descriptions.

1 2 3 4 5 6 7

practice.

A strong emphasis on getting things done even if it means disregarding formal procedures.

Loose, informal control; heavy dependence on informal relationships and the norm of cooperation for getting things done.

A strong tendency to let the requirements of the situation and the individual's personality define proper on-job behavior.

APPENDIX I: IRB APPROVAL FOR STUDY 1



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Deshani Ganegoda**

Date: **October 05, 2011**

Dear Researcher:

On October 5, 2011, the IRB approved the following human participant research until 10/4/2012 inclusive:

Type of Review: UCF Initial Review Submission Form
Expedited Review Category #7
This approval includes a Waiver of Written Documentation of
Consent and an Alternation of the Consent process
Project Title: Organizational identification as an antecedent of fair behavior
Investigator: Deshani Ganegoda
IRB Number: SBE-11-07685
Funding Agency: None

The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

If continuing review approval is not granted before the expiration date of 10/4/2012, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., CF IRB Chair, this letter is signed by:

Signature applied by Janice Turchin on 10/05/2011 11:51:13 AM EDT

IRB Coordinator

APPENDIX J: IRB APPROVAL FOR STUDY 2



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Office of Research & Commercialization
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Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: UCF Institutional Review Board #1
FWA00000351, IRB00001138
To: Deshani Ganegoda
Date: September 30, 2011

Dear Researcher:

On September 30, 2011, the IRB approved the following human participant research until 9/29/2012 inclusive:

Type of Review: UCF Initial Review Submission Form
Expedited Review Category #7
This approval includes a Waiver of Written Documentation of
Consent and an Alteration of the Consent Process
Project Title: Continuance commitment as an antecedent of fair behavior
Investigator: Deshani Ganegoda
IRB Number: SBE-11-07684
Funding Agency: None

The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

If continuing review approval is not granted before the expiration date of 9/29/2012, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., CF IRB Chair, this letter is signed by:

Signature applied by Janice Turchin on 09/30/2011 03:59:57 PM EDT

IRB Coordinator

APPENDIX K: IRB APPROVAL FOR STUDY 3



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Approval of Exempt Human Research

From: UCF Institutional Review Board #1
FWA00000351, IRB00001138

To: Deshani Ganegoda

Date: March 28, 2011

Dear Researcher:

On 3/28/2011, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination
Project Title: An examination of situational perceptions of freewill as an antecedent of organizational injustice
Investigator: Deshani Ganegoda
IRB Number: SBE-11-07565
Funding Agency:
Grant Title:
Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Kendra Dimond Campbell, MA, JD, UCF IRB Interim Chair, this letter is signed by:

Signature applied by Joanne Muratori on 03/28/2011 01:56:23 PM EST

A handwritten signature in black ink that reads "Joanne Muratori".

IRB Coordinator

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